HALLIBURTON

SAFETY DATA SHEET

MO-IV BREAKER

This safety data sheet was created pursuant to the requirements of: This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision date 19-Mar-2024 **Revision Number** 12

1. Identification

Product identifier

Product Name MO-IV BREAKER
Product Code(s) HM003246
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Breaker
Restrictions on use No information available

Details of the supplier of the safety data sheet

Manufacturer/Supplier
Halliburton Energy Services, Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Telephone: 1-281-871-6107

Prepared By Chemical Stewardship
e-mail: fdunexchem@halliburton.com

Emergency telephone number

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962 (accessible 24 hours a day / 7 days a week)
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazard(s) identification

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Hazard statements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other information
No information available.

3. Composition/information on ingredients

Substance
Chemical Family Metal oxide.

The product contains no substances which at their given concentration, are considered to be hazardous to health.

4. First-aid measures

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Ingestion Rinse mouth.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media All standard fire fighting media.
Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical No information available.

None known.

Explosion data
Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, dry location. Store in a cool well ventilated area. Product has a shelf life of 6 months.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Appropriate engineering controls

Engineering controls Use in a well ventilated area.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses or goggles to protect against exposure.

Hand protection Normal work gloves.

Skin and body protection Normal work coveralls.

Respiratory protection Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Dust/mist respirator. (N95, P2/P3).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Other protective equipment None known.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	No information available
Color	White
Odor	Odorless
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	10.5	None known
Melting point / freezing point	No data available	
Initial boiling point and boiling range		
Flash point	No data available	None known
Evaporation rate	No data available	
Flammability	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	
Relative vapor density	No data available	
Relative density	3.81	
Water solubility	Insoluble in water	
Solubility(ies)	No data available	
Partition coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature		
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	

Other information

Pour Point	No data available
Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	40.32 g/mol
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity Stable under normal conditions.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid None known based on information supplied.

Incompatible materials None known.

Hazardous decomposition products None known.

11. Toxicological information

Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation, Ingestion, Skin contact, Eye contact, Inhalation

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target organ effects Respiratory system, Eyes.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Persistence and degradability No information available

Bioaccumulation No information available.

Mobility No information available

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. Regulatory information

US Federal Regulations

TSCA All components listed on inventory or are exempt
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

TSCA Section 5(a) Does not contain any substances listed in this regulation

TSCA Section 5(e) Consent Orders Does not contain any substances listed in this regulation

EPA SARA Title III Extremely Hazardous Substances Complies
TSCA Section 12(b) Export Regulations Does not contain any substances listed in this regulation.

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
None.

EPA RCRA Hazardous Waste Classification
If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

Chemical Facility Anti-Terrorism Standards (CFATS)
This product does not contain any Chemicals of Interest regulated by the Department of Homeland Security under the Chemical Facility Anti-Terrorism Standards. See 6 CFR Part 27, including Appendix A.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40

CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

US State Regulations
California Proposition 65 This product does not contain any Proposition 65 chemicals

International Inventories
DSL All components listed on inventory or are exempt
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. Other information

NFPA Ratings: Health 1, Flammability 0, Reactivity 0

Key or legend to abbreviations and acronyms used in the safety data sheet
ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road
bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EN 149 - European standard on filtering halfmasks to protect against particles
FFP - Filtering Facepieces
h - hour
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LL50 – Lethal Loading 50%
d - day
Derived No Effect Level (DNEL)
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
IATA/ICAO - International Air Transport Association / International Civil Aviation Organization
IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
VOC – Volatile Organic Carbon
UN – United Nations
VLA-EC - short-time excursion limits [Spain valores límite ambientales para la exposición de corta duración]

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation

Key literature references and sources for data used to compile the SDS
Acute Exposure Guideline Level(s) (AEGL(s))
European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)

Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Revision date	19-Mar-2024
Reason for revision	Update to Format

Disclaimer

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information isobtained from various sources including the manufacturer and other third party sources. The information may not be validunder all conditions nor if this material is used in combination with other materials or in any process. Final determination ofsuitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

HALLIBURTON

SAFETY DATA SHEET

Product Trade Name: **MO-85M**

Revision Date: 26-Feb-2019 **Revision Number:** 19

1. Identification

1.1. Product Identifier

Product Trade Name: MO-85M
Synonyms None
Chemical Family: Ester
Internal ID Code HM005396

1.2 Recommended use and restrictions on use

Application: Gelling Agent
Uses advised against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier
Halliburton Energy Services, Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Telephone: 1-281-871-6107

Halliburton Group Canada
645 - 7th Ave SW Suite 1800
Calgary, AB, T2P 4G8, Canada
Telephone: 1-403-231-9300

Prepared By Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962 (accessible 24 hours a day / 7 days a week)
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

Skin Corrosion / Irritation	Category 1 - H314
Serious Eye Damage/Irritation	Category 1 - H318

2.2. Label Elements

Hazard Pictograms

Signal Word: Danger

Hazard Statements
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

Precautionary Statements

Prevention
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection

Response
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Storage
P405 - Store locked up

Disposal
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

2.3 Hazards not otherwise classified
None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Alkyl esters	Proprietary	60 - 100%	Skin Corr. 1 (H314) Eye Dam. 1 (H318)

The specific chemical identity of the composition has been withheld as proprietary. The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First Aid Measures

4.1. Description of first aid measures

Inhalation
If inhaled, move victim to fresh air and seek medical attention.

Eyes
Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

Skin
In case of contact, immediately flush skin with plenty of soap and water for at least 30 minutes and remove contaminated clothing, shoes and leather goods immediately. Get medical attention immediately.

Ingestion
Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed
Causes severe eye irritation which may damage tissue. Causes severe skin irritation with tissue destruction.

4.3. Indication of any immediate medical attention and special treatment needed
Notes to Physician Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media
Suitable Extinguishing Media
Water fog, carbon dioxide, foam, dry chemical.
Extinguishing media which must not be used for safety reasons
None known.

5.2 Specific hazards arising from the substance or mixture
Special exposure hazards in a fire
Decomposition in fire may produce harmful gases.

5.3 Special protective equipment and precautions for fire-fighters
Special protective equipment for firefighters
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.
See Section 8 for additional information.

6.2. Environmental precautions
Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove.

7. Handling and storage

7.1. Precautions for safe handling
Handling Precautions
Use appropriate protective equipment. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse.
Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities
Storage Information
Store away from alkalis. Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 24 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Alkyl esters	Proprietary	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)

Hand Protection Impervious gloves Manufacturer's directions for use should be observed because of great diversity of types.

Skin Protection Rubber apron.

Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Odor: Alcohol
Color Clear colorless to pale yellow
Odor Threshold: No information available

Property Remarks/ - Method	Values
pH:	2.3 (5%)
Freezing Point / Range	No data available
Melting Point / Range	No data available
Pour Point / Range	No data available
Boiling Point / Range	100 °C / 212 °F
Flash Point	> 100 °C (PMCC)
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	< 1
Vapor Pressure	1
Vapor Density	< 1
Specific Gravity	1.049
Water Solubility	Insoluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.1. Reactivity
Not expected to be reactive.

10.2. Chemical stability
Stable

10.3. Possibility of hazardous reactions
Will Not Occur

10.4. Conditions to avoid
None anticipated

10.5. Incompatible materials
Strong oxidizers.

10.6. Hazardous decomposition products
Oxides of phosphorus. Carbon monoxide and carbon dioxide.

11. Toxicological Information

11.1 Information on likely routes of exposure
Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics
Acute Toxicity

Inhalation	Causes severe respiratory irritation.
Eye Contact	Causes severe eye irritation May cause eye burns.
Skin Contact	Causes severe skin irritation. May cause skin burns.
Ingestion	Causes burns of the mouth, throat and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Alkyl esters	Proprietary	No data available	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Alkyl esters		Causes severe skin irritation with tissue destruction.

Substances	CAS Number	Serious eye damage/irritation
Alkyl esters		Causes severe eye irritation which may damage tissue.

Substances	CAS Number	Skin Sensitization
Alkyl esters		Not applicable due to corrosivity of the substance.

Substances	CAS Number	Respiratory Sensitization
Alkyl esters		Not applicable due to corrosivity of the substance.

Substances	CAS Number	Mutagenic Effects
Alkyl esters		No information available

Substances	CAS Number	Carcinogenic Effects
Alkyl esters		No information available

Substances	CAS Number	Reproductive toxicity
Alkyl esters		No information available

Substances	CAS Number	STOT - single exposure
Alkyl esters		No information available

Substances	CAS Number	STOT - repeated exposure
Alkyl esters		No information available

Substances	CAS Number	Aspiration hazard
Alkyl esters		Not applicable

12. Ecological Information

12.1. Toxicity

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Alkyl esters	Proprietary	No information available	No information available	No information available	No information available

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Alkyl esters	Proprietary	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Alkyl esters	Proprietary	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Alkyl esters	Proprietary	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal methods Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number UN3265
UN proper shipping name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Phosphate Esters)
Transport Hazard Class(es): 8
Packing Group: III

Environmental Hazards: Not applicable
NAERG: NAERG 153

Canadian TDG
UN Number UN3265
UN proper shipping name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Phosphate Esters)
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Not applicable

IMDG/IMO
UN Number UN3265
UN proper shipping name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Phosphate Esters)
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Not applicable
EMS: EmS F-A, S-B

IATA/ICAO
UN Number UN3265
UN proper shipping name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Phosphate Esters)
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable
Special Precautions for User None

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2	TSCA Section 5(E) Consent Orders
Alkyl esters	Proprietary	Not applicable	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Alkyl esters	Proprietary	Not applicable

EPA SARA (311,312) Hazard Class
Skin Corrosion or Irritation
Serious eye damage or eye irritation

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Alkyl esters	Proprietary	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Alkyl esters	Proprietary	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:

Corrosivity D002

California Proposition 65

Substances	CAS Number	California Proposition 65
Alkyl esters	Proprietary	Not applicable

U.S. State Right-to-Know Regulations

Substances	CAS Number	MA Right-to-Know Law	NJ Right-to-Know Law	PA Right-to-Know Law
Alkyl esters	Proprietary	Not applicable	Not applicable	Not applicable

NFPA Ratings: Health 2, Flammability 1, Reactivity 0
HMIS Ratings: Health 2, Flammability 1, Reactivity 0

Canadian Regulations

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

16. Other information

Preparation Information

Prepared By
Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

Revision Date: 26-Feb-2019

Reason for Revision SDS sections updated:
2

Additional information
For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms used in the safety data sheet
bw – body weight
CAS – Chemical Abstracts Service
d - day
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
h - hour
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
mg/m^3 - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program

OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
w/w - weight/weight

Key literature references and sources for data
www.ChemADVISOR.com/

Disclaimer Statement
This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

HALLIBURTON

SAFETY DATA SHEET

Product Trade Name: **MO-86M**

Revision Date: 25-Jul-2019 **Revision Number:** 25

1. Identification

1.1. Product Identifier

Product Trade Name: MO-86M
Synonyms None
Chemical Family: Amine
Internal ID Code HM005397

1.2 Recommended use and restrictions on use

Application: Gelling Agent
Uses advised against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier
Halliburton Energy Services, Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Telephone: 1-281-871-6107

Halliburton Group Canada
645 - 7th Ave SW Suite 1800
Calgary, AB, T2P 4G8, Canada
Telephone: 1-403-231-9300

Prepared By Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962 (accessible 24 hours a day / 7 days a week)
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

Acute Oral Toxicity	Category 4 - H302
Skin Corrosion / Irritation	Category 1 - H314
Serious Eye Damage/Irritation	Category 1 - H318
Acute Aquatic Toxicity	Category 2 - H401
Chronic Aquatic Toxicity	Category 3 - H412

2.2. Label Elements

Hazard Pictograms

Signal Word: Danger

Hazard Statements

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H401 - Toxic to aquatic life
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

Prevention

P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Ferric sulfate	10028-22-5	30 - 60%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Corr. 1 (H318)
Ethanolamine	Proprietary	5 - 10%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Aquatic Acute 3 (H402) Flam. Liq. 3 (H226)
Dibutylaminoethanol	102-81-8	5 - 10%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Corr. 1C (H314) Eye Corr. 1 (H318) STOT SE 3 (H335)

			Aquatic Acute 3 (H402) Flam. Liq. 4 (H227)
n-Polyethoxylated oleyl amine	26635-93-8	1 - 5%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Aquatic Acute 1 (H400)
Ethoxylated alkyl amines	Proprietary	1 - 5%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First Aid Measures

4.1. Description of first aid measures

Inhalation If inhaled, move victim to fresh air and seek medical attention.

Eyes Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

Skin In case of contact, immediately flush skin with plenty of soap and water for at least 30 minutes and remove contaminated clothing, shoes and leather goods immediately. Get medical attention immediately.

Ingestion Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

Causes severe eye irritation which may damage tissue. Causes severe skin irritation with tissue destruction. May cause respiratory irritation. Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases.

5.3 Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove.

7. Handling and storage

7.1. Precautions for safe handling

Handling Precautions

Use appropriate protective equipment. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Store away from alkalis. Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 24 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Ferric sulfate	10028-22-5	Not applicable	TWA: 1 mg/m^3
Ethanolamine	Proprietary	TWA: 10 ppm TWA: 50 mg/m^3	TWA: 2 ppm
Dibutylaminoethanol	102-81-8	Not applicable	TWA: 0.5 ppm
n-Polyethoxylated oleyl amine	26635-93-8	Not applicable	Not applicable
Ethoxylated alkyl amines	Proprietary	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection Not normally necessary.

Hand Protection Impervious rubber gloves.

Skin Protection Rubber apron.

Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	**Color**	Brown
Odor:	Mild amine	**Odor**	No information available

	Threshold:
Property Remarks/ - Method	Values
pH:	1.7 (100%)
Freezing Point / Range	No data available
Melting Point / Range	No data available
Pour Point / Range	No data available
Boiling Point / Range	No data available
Flash Point	No data available
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.351
Water Solubility	Insoluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of phosphorus. Oxides of nitrogen. Carbon monoxide and carbon dioxide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation May cause mild respiratory irritation.

Eye Contact Causes severe eye irritation May cause eye burns.

Skin Contact Causes severe skin irritation. May cause skin burns.

Ingestion Harmful if swallowed. Causes burns of the mouth, throat and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ferric sulfate	10028-22-5	500 mg/kg (Rat) 500-2000 mg/kg (Rat)	No data available	No data available
Ethanolamine	Proprietary	1300 mg/kg (Rat) 1320 mg/kg (Rat)	1260 mg/kg (Rabbit) 1100 mg/kg (Rabbit)	4.6 mg/L (Rat) 4h
Dibutylaminoethanol	102-81-8	1070 mg/kg (Rat) >550 <680 mg/kg (Rat)	1680 µL/kg (Rabbit) 1680 mg/kg (Rabbit)	No data available
n-Polyethoxylated oleyl amine	26635-93-8	No data available	No data available	No data available
Ethoxylated alkyl amines	Proprietary	1200 mg/kg-bw (rat) (similar substance)	> 1260 mg/kg (rabbits) (similar substance)	No data available

Substances	CAS Number	Skin corrosion/irritation
Ferric sulfate	10028-22-5	Skin, rabbit: Causes moderate skin irritation. (similar substances)
Ethanolamine		Causes severe skin irritation with tissue destruction.
Dibutylaminoethanol	102-81-8	Skin, rabbit: Causes severe skin irritation with tissue destruction.
n-Polyethoxylated oleyl amine	26635-93-8	Causes skin irritation. (similar substances)
Ethoxylated alkyl amines		Causes moderate skin irritation. (similar substances)

Substances	CAS Number	Serious eye damage/irritation
Ferric sulfate	10028-22-5	Eye, rabbit: Causes eye burns
Ethanolamine		Causes severe eye irritation which may damage tissue.
Dibutylaminoethanol	102-81-8	Eye, rabbit: Causes severe eye irritation. Will damage tissue.
n-Polyethoxylated oleyl amine	26635-93-8	Causes serious eye damage
Ethoxylated alkyl amines		Causes severe eye irritation. Will damage tissue. (similar substances)

Substances	CAS Number	Skin Sensitization
Ferric sulfate	10028-22-5	Did not cause sensitization on laboratory animals (mouse)
Ethanolamine		Did not cause sensitization on laboratory animals (guinea pig)
Dibutylaminoethanol	102-81-8	No information available
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines		No information available

Substances	CAS Number	Respiratory Sensitization
Ferric sulfate	10028-22-5	No information available
Ethanolamine		No information available
Dibutylaminoethanol	102-81-8	No information available
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines		No information available

Substances	CAS Number	Mutagenic Effects
Ferric sulfate	10028-22-5	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Ethanolamine		In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Dibutylaminoethanol	102-81-8	Not regarded as mutagenic.
n-Polyethoxylated oleyl	26635-93-8	No information available

amine		
Ethoxylated alkyl amines		In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)

Substances	CAS Number	Carcinogenic Effects
Ferric sulfate	10028-22-5	Did not show carcinogenic effects in animal experiments (similar substances)
Ethanolamine		Did not show carcinogenic effects in animal experiments (Rat)
Dibutylaminoethanol	102-81-8	No information available
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines		No information available

Substances	CAS Number	Reproductive toxicity
Ferric sulfate	10028-22-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Ethanolamine		Did not show teratogenic effects in animal experiments.
Dibutylaminoethanol	102-81-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines		No data of sufficient quality are available.

Substances	CAS Number	STOT - single exposure
Ferric sulfate	10028-22-5	No significant toxicity observed in animal studies at concentration requiring classification.
Ethanolamine		May cause respiratory irritation.
Dibutylaminoethanol	102-81-8	May cause respiratory irritation.
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines		No information available

Substances	CAS Number	STOT - repeated exposure
Ferric sulfate	10028-22-5	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Ethanolamine		No significant toxicity observed in animal studies at concentration requiring classification.
Dibutylaminoethanol	102-81-8	No significant toxicity observed in animal studies at concentration requiring classification.
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines		No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Ferric sulfate	10028-22-5	Not applicable
Ethanolamine		Not applicable
Dibutylaminoethanol	102-81-8	Not applicable
n-Polyethoxylated oleyl amine	26635-93-8	Not applicable
Ethoxylated alkyl amines		No information available

12. Ecological Information

12.1. Toxicity

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Ferric sulfate	10028-22-5	EC50 (15d) 20 mg Fe/L (Anabaena doliolum)	LC50 (96h) >100 mg/L (Oncorhynchus mykiss)	EC50 (24h) 182 umol/L (Photobacterium phosphoreum) (similar substance)	LC50 (48h) 11.5 mg Fe/L (Daphnia longispina) NOEC (21d) 1.7 mg Fe/L (Daphnia longispina)
Ethanolamine	Proprietary	EC50 (72h) 44 mg/L (Desmodesmus subspicatus)	LC50 (96h) 147 mg/L (Leuciscus idus) LC50 (96h) 1780 mg/L (Pemephales promelas)	EC20 (30m) >1000 mg/L (Activated sludge, domestic)	EC50 (48h) 83.6 mg/L (Daphnia magna) EC50 (48h) 165 mg/L (Daphnia magna)
Dibutylaminoethanol	102-81-8	EC50 (72h) 21 mg/L	LC50 (96h) 29 mg/L	No information available	EC50 (48h) > 110 mg/L

		(Pseudokirchnerella subcapitata)	(Leuciscus idus)		(Daphnia magna) EC50 (21d) 9.9 mg/L (Daphnia magna)
n-Polyethoxylated oleyl amine	26635-93-8	No information available	No information available	No information available	No information available
Ethoxylated alkyl amines	Proprietary	No information available	LC50 (96h) 4.31 mg/L (Danio rerio)	No information available	LC50 (48h) 12.1 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Ferric sulfate	10028-22-5	The methods for determining biodegradability are not applicable to inorganic substances.
Ethanolamine	Proprietary	Readily biodegradable (95% @ 28d)
Dibutylaminoethanol	102-81-8	Readily biodegradable (80-90% @ 28d)
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines	Proprietary	(27% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Ferric sulfate	10028-22-5	No information available
Ethanolamine	Proprietary	0.21
Dibutylaminoethanol	102-81-8	1.86
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines	Proprietary	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Ferric sulfate	10028-22-5	No information available
Ethanolamine	Proprietary	KOC = 5.98
Dibutylaminoethanol	102-81-8	No information available
n-Polyethoxylated oleyl amine	26635-93-8	No information available
Ethoxylated alkyl amines	Proprietary	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal methods Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number UN2922
UN proper shipping name: Corrosive Liquid, Toxic, N.O.S. (Contains Ferric Sulfate, Dibutylaminoethanol)
Transport Hazard Class(es): 8 (6.1)
Packing Group: III
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Ferric Sulfate - 1281 kg)
NAERG: NAERG 154

Canadian TDG

UN Number UN2922
UN proper shipping name: Corrosive Liquid, Toxic, N.O.S. (Contains Ferric Sulfate, Dibutylaminoethanol)
Transport Hazard Class(es): 8 (6.1)
Packing Group: III
Environmental Hazards: Not applicable

IMDG/IMO

UN Number UN2922
UN proper shipping name: Corrosive Liquid, Toxic, N.O.S. (Contains Ferric Sulfate, Dibutylaminoethanol)
Transport Hazard Class(es): 8 (6.1)
Packing Group: III
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Ferric Sulfate - 1281 kg)
EMS: EmS F-A, S-B

IATA/ICAO

UN Number UN2922
UN proper shipping name: Corrosive Liquid, Toxic, N.O.S. (Contains Ferric Sulfate, Dibutylaminoethanol)
Transport Hazard Class(es): 8 (6.1)
Packing Group: III
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Ferric Sulfate - 1281 kg)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable
Special Precautions for User None

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2	TSCA Section 5(E) Consent Orders
Ferric sulfate	10028-22-5	Not applicable	Not applicable
Ethanolamine	Proprietary	Not applicable	Not applicable
Dibutylaminoethanol	102-81-8	Not applicable	Not applicable
n-Polyethoxylated oleyl amine	26635-93-8	Not applicable	Not applicable
Ethoxylated alkyl amines	Proprietary	Not applicable	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Ferric sulfate	10028-22-5	Not applicable
Ethanolamine	Proprietary	Not applicable
Dibutylaminoethanol	102-81-8	Not applicable
n-Polyethoxylated oleyl amine	26635-93-8	Not applicable
Ethoxylated alkyl amines	Proprietary	Not applicable

EPA SARA (311,312) Hazard Class
Acute toxicity (any route of exposure)
Skin Corrosion or Irritation
Serious eye damage or eye irritation

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Ferric sulfate	10028-22-5	Not applicable	Not applicable

Ethanolamine	Proprietary	Not applicable	Not applicable
Dibutylaminoethanol	102-81-8	Not applicable	Not applicable
n-Polyethoxylated oleyl amine	26635-93-8	Not applicable	Not applicable
Ethoxylated alkyl amines	Proprietary	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Ferric sulfate	10028-22-5	1000 lb 454 kg
Ethanolamine	Proprietary	Not applicable
Dibutylaminoethanol	102-81-8	Not applicable
n-Polyethoxylated oleyl amine	26635-93-8	Not applicable
Ethoxylated alkyl amines	Proprietary	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:

Corrosivity D002

California Proposition 65

Substances	CAS Number	California Proposition 65
Ferric sulfate	10028-22-5	Not applicable
Ethanolamine	Proprietary	Not applicable
Dibutylaminoethanol	102-81-8	Not applicable
n-Polyethoxylated oleyl amine	26635-93-8	Not applicable
Ethoxylated alkyl amines	Proprietary	Not applicable

U.S. State Right-to-Know Regulations

Substances	CAS Number	MA Right-to-Know Law	NJ Right-to-Know Law	PA Right-to-Know Law
Ferric sulfate	10028-22-5	Present	Present	Environmental hazard
Ethanolamine	Proprietary	Present	Present	Present
Dibutylaminoethanol	102-81-8	Present	Present	Present
n-Polyethoxylated oleyl amine	26635-93-8	Not applicable	Not applicable	Not applicable
Ethoxylated alkyl amines	Proprietary	Not applicable	Not applicable	Not applicable

NFPA Ratings: Health 2, Flammability 1, Reactivity 0
HMIS Ratings: Health 2, Flammability 1, Reactivity 0

Canadian Regulations

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

16. Other information

Preparation Information

Prepared By
Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

Revision Date: 25-Jul-2019

Reason for Revision SDS sections updated:
2

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
d - day
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
h - hour
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
mg/m^3 - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
w/w - weight/weight

Key literature references and sources for data

www.ChemADVISOR.com/

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878

EDC 95-11

SDS # : 30026

previous revision date : 2023/11/10

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : EDC 95-11

EC number : 934-956-3

REACH Registration

Registration number	REACH Registration Name
01-2119827000-58	Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics

CAS number : 64742-46-7*

The EC substance definition and related classification & labelling have been developed in the framework of the Regulation (EC) No 1907/2006 (REACh). The related CAS number* is used for the purpose of the international inventories present in section 15 of the SDS.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Manufacture of substance - Industrial
Distribution of substance - Industrial
Formulation and (re)packing of substances and mixtures - Industrial
Use in oil and gas field drilling and production operations - Industrial
Use in oil and gas field drilling and production operations - Professional
Use in water treatment agents - Industrial
Use in water treatment agents - Professional
Use in laboratories - Industrial
Use in laboratories - Professional

1.3 Details of the supplier of the safety data sheet

TotalEnergies Fluids
2 Place Jean Millier
92078 Paris La Défense Cedex
FRANCE
Tel: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 82 88
rmfs.fds@totalenergies.com

TotalEnergies Marketing Nederland N.V.
Pr. Catharina-Amaliastraat 5, 2496 XD Den Haag
NEDERLAND
Tel: e +31 (0) 70-3180480
ms.nl-vib@totalenergies.com

Contact

H.S.E

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : National Poison Information Center (NVIC): +31 (0) 30 274 8888 (Only intended to inform professional care providers in case of acute poisoning)

Supplier

Telephone number : Emergency phone: +44 1235 239670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : UVCB

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Asp. Tox. 1, H304

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H304 - May be fatal if swallowed and enters airways.

Precautionary statements

Prevention : Not applicable.

Response : P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P331 - Do NOT induce vomiting.

Storage : Not applicable.

Disposal : Not applicable.

Contains : Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

2.3 Other hazards

PBT	P	B	T	vPvB	vP	vB
No	N/A	No	No	No	N/A	No

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACh Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

Other hazards which do not result in classification : Vapor may be irritating to eyes and respiratory system.

SECTION 3: Composition/information on ingredients

3.1 Substances : UVCB

Product/substance	Identifiers	% (w/w)	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	EC: 934-956-3 CAS: 64742-46-7*	100	Asp. Tox. 1, H304 **See Section 16 for the full text of the H statements declared above.**	-	[1]

Additional information : content of aromatic compounds <0.03%.

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

The EC substance definition and related classification & labelling have been developed in the framework of the Regulation (EC) No 1907/2006 (REACh). The related CAS number* is used for the purpose of the international inventories present in section 15 of the SDS.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Use adequate personal protective equipment as needed

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours)

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam. Sand.

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products : Decomposition products may include the following materials:
Carbon dioxide (CO_2).
carbon monoxide
various hydrocarbons
Aldehyde.
Soot

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Additional information : Not considered explosive based on chemical structure and oxygen balance considerations

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : See exposure scenarios

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Reportable hazardous constituent(s) contained in UVCB and/or multi-constituent substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

No exposure limit value known.

Biological Limit Values (BLV)

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m3, NIOSH (REL) TWA 5 mg/m3, STEL 10 mg/m3, ACGIH (TLV) TWA 5 mg/m3 (highly refined)

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : In splash contact: safety glasses with side-shields or face shield

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Repeated or prolonged exposure
Glove material: Nitrile rubber; Glove thickness > 0.55 mm; Break through time > 480 min; standard : EN 374
Glove material: Fluorinated rubber; any thickness; Break through time > 480 min; standard : EN 374
Glove material: polyvinyl alcohol (PVA); any thickness; Break through time > 480 min; standard : EN 374
In case of contact through splashing
Glove material: Nitrile rubber; Glove thickness > 0.38 mm; Break through time > 60 min; standard : EN 374
Glove material: Neoprene; Glove thickness > 0.75 mm; Break through time > 60 min; standard : EN 374
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wear gloves according to EN374 resistant to the solvent(s) in use.

Body protection : Wear suitable protective clothing.
Protective shoes or boots.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Wear a respirator conforming to EN140 with type A filter or better.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Color : Colorless.

Odor : Odorless.

pH : Not applicable. Product is non-soluble (in water).

Melting point/freezing point : Not available.

Initial boiling point and boiling range : 250 to 335°C [ISO 3405]

Flash point : Closed cup: >115°C [ISO 2719]

Flammability : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

Lower and upper explosion limit : Lower: 1%
Upper: 6%

Vapor pressure : <0.0003 kPa

Vapor density : Not available.

Relative density : 0.815 [ISO 12185]

Density : 0.815 g/cm³ [15°C] [ISO 12185]

Solubility(ies) :

Media	Result
water	Not soluble

Miscible with water : No.

Partition coefficient: n-octanol/ water : Not available.

Auto-ignition temperature : >230°C [ASTM E 659]

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C): <20.5 mm^2/s [ISO 3104]

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

Explosive properties : Not considered explosive based on chemical structure and oxygen balance considerations

Oxidizing properties : This product is not considered oxidising based on chemical structure considerations

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : heat, open flames, sparks and static discharge

10.5 Incompatible materials : Reactive or incompatible with the following materials:
strong acids
Strong oxidizing agents

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	LC50 Inhalation Dusts and mists	Rat	>5266 mg/m³	4 hours	OECD 403
	LD50 Dermal	Rabbit	>3160 mg/kg	-	OECD 402
	LD50 Oral	Rat	>5000 mg/kg	-	OECD 401

Acute toxicity estimates

N/A

Conclusion/Summary : Based on available data, the classification criteria are not met.

Irritation/Corrosion

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Eyes : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Sensitization

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Conclusion/Summary : Based on available data, the classification criteria are not met.

Aspiration hazard

Product/substance	Result
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	ASPIRATION HAZARD - Category 1

Conclusion/Summary : Based on available data, the classification criteria are met.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACh Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/substance	Result	Species	Exposure	Test
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	Acute EC50 10000 mg/l	Algae - *Skeletonema costatum*	72 hours	ISO 10253
	Acute EC50 3193 mg/l	Daphnia - *Acartia tonsa*	48 hours	ISO 14669
	Acute LC50 1028 mg/l	Fish	96 hours	-
	Chronic NOELR >1000 mg/l Marine water	Algae - *Skeletonema costatum*	21 days	-
	Chronic NOELR >1000 mg/l Fresh water	Daphnia - *Daphnia magna*	21 days	-
	Chronic NOELR >1000 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	21 days	-

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/substance	Test	Result	Dose	Inoculum
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	OECD 306	74 % - Readily - 28 days	-	-

Conclusion/Summary : Not available.

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	-	-	Readily

12.3 Bioaccumulative potential

Product/substance	$LogK_{ow}$	BCF	Potential
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	-	171	Low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

Mobility in soil : Given its physical and chemical characteristics, the product generally shows low soil mobility The product is insoluble and floats on water

12.5 Results of PBT and vPvB assessment

Product/substance	PBT	P	B	T	vPvB	vP	vB
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	No	N/A	No	No	No	N/A	No

12.6 Endocrine disrupting properties

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACh Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO/IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Explosive precursors : Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Ministry of Social Affairs and Employment (SZW) - Carcinogenic substances and processes, mutagenic or reprotoxic substances

Ingredient name	Carcinogen	Mutagen	Reproductive toxicity - Fertility	Reproductive toxicity - Development	Harmful via breastfeeding
complexe derivatives of oil and charcoal	Listed	-	-	-	-

Water Discharge Policy (ABM) : Z(2) Biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/ reprotoxicity/ bioacumulative potential or toxicity). Decontamination effort: Z

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

LU - Luxembourg prohibited chemicals in the workplace

Not listed.

Inventory list

Australia inventory (AIIC) : This material is listed or exempted.

Canada inventory (DSL/NDSL) : This material is listed or exempted.

China inventory (IECSC) : This material is listed or exempted.

Europe inventory (EC) : This material is listed or exempted.

Japan inventory : **Japan inventory (CSCL)**: This material is listed or exempted.
Japan inventory (ISHL): This material is listed or exempted.

New Zealand Inventory of Chemicals (NZIoC) : This material is listed or exempted.

Philippines inventory (PICCS) : This material is listed or exempted.

Korea inventory (KECI)	:	This material is listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	:	This material is listed or exempted.
Thailand inventory	:	This material is listed or exempted.
Turkey inventory	:	This material is listed or exempted.
United States inventory (TSCA 8b)	:	This material is listed or exempted.
Vietnam inventory	:	This material is listed or exempted.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

15.2 Chemical Safety Assessment : Complete.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ACGIH = American Conference of Governmental Industrial Hygienists
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
DMEL = Derived Minimal Effect Level
DMSO = Dimethyl Sulfoxide
EL50 = median Effective Loading
EUH statement = CLP-specific Hazard statement
HSE = Health, Safety and Environment
IC50 = Half maximal inhibitory concentration
IDHL = Immediately dangerous to life or health
LC50 = Median lethal concentration
LD50 = Median lethal dose
LL50 = median Lethal Loading
LogPow = logarithm of the octanol/water partition coefficient
N/A = Not available
NIOSH = National Institute of Occupational Safety and Health
NOAEL = No Observed Adverse Effect Level
NOEC No Observed Effect Concentration
NOEL = No Observed Effect Level
NOELR = No observed Effect Loading Rate
OECD = Organisation for Economic Co-operation and Development
OEL = Occupational Exposure Limit
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
QSAR = Quantitative Structure–Activity Relationship
REL = Recommanded Exposure Limit
STEL = Short Term Exposure Limit
TLV = Threshold Limit Value
TWA = Time Weight Average
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative
Unique Formula Identifier (UFI)
UVCB Substance of unknown or Variable composition, Complex reaction products or Biological material

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Asp. Tox. 1, H304	Expert judgment

Full text of abbreviated H statements

H304	May be fatal if swallowed and enters airways.

Full text of classifications [CLP/GHS]

Asp. Tox. 1	ASPIRATION HAZARD - Category 1

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Manufacture of substance - Industrial

List of use descriptors : **Identified use name:** Manufacture of substance - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU03, SU08, SU09, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC04

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Manufacture of the substance or use as an intermediate or a process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Distribution of substance - Industrial

List of use descriptors : **Identified use name:** Distribution of substance - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU03, SU08, SU09
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC02, ERC03, ERC04, ERC05, ERC06a, ERC06b, ERC06c, ERC06d, ERC07

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Formulation and (re)packing of substances and mixtures - Industrial

List of use descriptors : **Identified use name:** Formulation and (re)packing of substances and mixtures - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU03, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek

immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Use in oil and gas field drilling and production operations - Industrial

List of use descriptors : **Identified use name:** Use in oil and gas field drilling and production operations - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b
Substance supplied to that use in form of: As such
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Use in oil and gas field drilling and production operations - Professional

List of use descriptors : **Identified use name:** Use in oil and gas field drilling and production operations - Professional
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b
Substance supplied to that use in form of: As such
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Use in water treatment agents - Industrial

List of use descriptors : **Identified use name:** Use in water treatment agents - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13
Substance supplied to that use in form of: As such
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03, ERC04

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Use in water treatment agents - Professional

List of use descriptors : **Identified use name:** Use in water treatment agents - Professional
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13
Substance supplied to that use in form of: As such
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08f

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Covers the use of the substance for the treatment of water in open and closed systems.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Use in laboratories - Industrial

List of use descriptors : **Identified use name:** Use in laboratories - Industrial
Process Category: PROC10, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC04

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Use of the substance within laboratory settings, including material transfers and equipment cleaning

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 30026

Product name : EDC 95-11

Section 1 - Title

Short title of the exposure scenario : Use in laboratories - Professional

List of use descriptors : **Identified use name:** Use in laboratories - Professional
Process Category: PROC10, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Use of small quantities within laboratory settings, including material transfers and equipment cleaning

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Section 3 - Exposure estimation and reference to its source

Website:	: Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	: Not applicable.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	: Not applicable.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	: Not applicable.
Exposure estimation and reference to its source	: Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	: Not applicable.
Health	: Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758

EDC 99-DW

SDS no. : 30027

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : EDC 99-DW

EC number : 934-954-2

CAS number : 64742-46-7

Product code : 30027

Product description : Not available.

Product type : Liquid.

Other means of identification : Not applicable.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Manufacture of substance - Industrial Distribution of substance - Industrial Formulation and (re)packing of substances and mixtures - Industrial Use in oil and gas field drilling and production operations - Industrial Use in oil and gas field drilling and production operations - Professional Use in water treatment agents - Industrial Use in water treatment agents - Professional Use in laboratories - Industrial Use in laboratories - Professional

Uses advised against

Not applicable.

1.3 Details of the supplier of the safety data sheet

TotalEnergies Fluids
24, cours Michelet.
92800 PUTEAUX.
FRANCE
Tel: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 82 88

rmfs.fds@totalenergies.com

TotalEnergies Marketing UK Limited
183 Eversholt St, Kings Cross
London, NW1 1BU
UNITED KINGDOM
Tel: +44 (0)20 7339 8000
Fax: +44 (0)20 7339 8033

rm.gb-msds@totalenergies.com

H.S.E

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : National Poisons Information Service (NPIS): 111

Supplier

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

Telephone number : Emergency telephone: +44 1235 239670

Hours of operation : Edit the content of sentence <GB Telephone Number - Supplier - Hours of operation> to define this output

Information limitations : Edit the content of sentence <GB Telephone Number - Supplier - Information limitations> to define this output

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : UVCB

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Asp. Tox. 1, H304

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H304 - May be fatal if swallowed and enters airways.

Precautionary statements

Prevention : Not applicable.

Response : P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P331 - Do NOT induce vomiting.

Storage : Not applicable.

Disposal : Not applicable.

Contains : Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

PBT	P	B	T	vPvB	vP	vB
No	N/A	N/A	No	N/A	N/A	N/A

SECTION 2: Hazards identification

Other hazards which do not result in classification : Vapour may be irritating to eyes and respiratory system.

SECTION 3: Composition/information on ingredients

3.1 Substances : UVCB

Product/ingredient name	Identifiers	%	Classification	Type
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	EC: 934-954-2 CAS: 64742-46-7	100	Asp. Tox. 1, H304 **See Section 16 for the full text of the H statements declared above.**	[1]

Additional information : content of aromatic compounds: <0.03%.

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

The EC substance definition and related classification & labelling have been developed in the framework of the Regulation (EC) No 1907/2006 (REACh). The related CAS number* is used for the purpose of the international inventories present in section 15 of the SDS.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Use adequate personal protective equipment as needed

SECTION 4: First aid measures

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours)

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam. Sand.

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products : Decomposition products may include the following materials:
Carbon dioxide (CO_2).
carbon monoxide
various hydrocarbons
Aldehyde.
Soot

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Additional information : Not considered explosive based on chemical structure and oxygen balance considerations

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

SECTION 7: Handling and storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Reportable hazardous constituent(s) contained in UVCB- and/or multi-constituent substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

SECTION 8: Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Repeated or prolonged exposure
Glove material: Nitrile rubber; Glove thickness > 0.55 mm; Break through time > 480 min; standard : EN 374
Glove material: Fluorinated rubber; any thickness; Break through time > 480 min; standard : EN 374
Glove material: polyvinyl alcohol (PVA); any thickness; Break through time > 480 min; standard : EN 374
In case of contact through splashing
Glove material: Nitrile rubber; Glove thickness > 0.38 mm; Break through time > 60 min; Standard : EN 374
Glove material: Neoprene; Glove thickness > 0.75 mm; Break through time > 60 min; standard : EN 374
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wear gloves according to EN374 resistant to the solvent(s) in use.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Wear a respirator conforming to EN140 with type A filter or better.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Colourless.

Odour : Odourless.

Odour threshold : Not available.

Melting point/freezing point : Not available.

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range : 230 to 270°C (446 to 518°F) [ISO 3405]

Flammability (solid, gas) : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

Upper/lower flammability or explosive limits : Lower: 1%
Upper: 6%

Flash point : Closed cup: ≥101°C (≥213.8°F) [ASTM D 93]

Auto-ignition temperature : >210°C (>410°F) [ASTM E 659]

Decomposition temperature : Not available.

pH : Not applicable. Product is non-soluble (in water).

Viscosity : Kinematic (40°C): <20.5 mm^2/s [ISO 3104]

Solubility(ies) :

Media	Result
water	Not soluble

Solubility in water : Not available.

Miscible with water : No.

Partition coefficient: n-octanol/water : Not available.

Vapour pressure : 0.002 kPa (0.015001 mm Hg)

Relative density : 0.815 [ISO 12185]

Density : 0.815 g/cm^3 [15°C (59°F)] [ISO 12185]

Vapour density : Not available.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

Explosive properties : Not considered explosive based on chemical structure and oxygen balance considerations

Oxidising properties : This product is not considered oxidising based on chemical structure considerations

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability :

Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Heat, open flames, sparks and static discharge

10.5 Incompatible materials : Reactive or incompatible with the following materials:
strong acids
Strong oxidising agents

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5266 mg/m³	4 hours	OECD 403 Read across
	LD50 Dermal	Rabbit - Male, Female	>3160 mg/kg	-	OECD 402 Read across
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	OECD 401 Read across

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

N/A

Irritation/Corrosion

Product/substance	Result	Species	Score	Exposure	Test
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	Eyes - Oedema of the conjunctivae	Rabbit	0.3	24 hours	OECD 405 Read across
	Skin - Erythema/Eschar	Rabbit	0.3	-	404 Read across

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Eyes : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Sensitisation

Product/substance	Route of exposure	Species	Result
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	skin	Guinea pig	Not sensitizing

Conclusion/Summary :

Skin : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

SECTION 11: Toxicological information

Product/substance	Test	Experiment	Result
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	OECD 471 Read across	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473 Read across	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 476 Read across	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474 Read across	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 475 Read across	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 483 Read across	Experiment: In vivo Subject: Mammalian-Animal Cell: Germ	Negative

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

Aspiration hazard

Product/substance	Result
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	ASPIRATION HAZARD - Category 1

Conclusion/Summary : Based on available data, the classification criteria are met.

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

SECTION 11: Toxicological information

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/substance	Result	Species	Dose	Exposure
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	Sub-chronic NOAEL Oral	Rat - Male, Female	>5000 mg/kg	13 weeks; 7 days per week
	Sub-acute NOAEL Inhalation Vapour	Rat - Male, Female	>10400 mg/m³	90 days; 5 days per week

Conclusion/Summary : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACh Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

11.2.2 Other information

SECTION 12: Ecological information

12.1 Toxicity

Product/substance	Result	Species	Exposure	Test
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	Acute EC50 10000 mg/l	Algae - Skeletonema costatum	72 hours	ISO 10253
	Acute EC50 3193 mg/l	Daphnia - Acartia tonsa	48 hours	ISO 14669
	Acute LC50 1028 mg/l	Fish	96 hours	-
	Chronic NOELR >1000 mg/l	Daphnia - Daphnia Magna	21 days	OECD 211
	Chronic NOELR >1000 mg/l	Fish - Oncorhynchus mykiss	28 days	-

SECTION 12: Ecological information

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/substance	Test	Result	Dose	Inoculum
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	OECD 306	74 % - Readily - 28 days	-	-

Conclusion/Summary : Not available.

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	-	-	Readily

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

Mobility in soil : Given its physical and chemical characteristics, the product generally shows low soil mobility The product is insoluble and floats on water.

12.5 Results of PBT and vPvB assessment

Product/substance	PBT	P	B	T	vPvB	vP	vB
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	No	N/A	N/A	No	N/A	N/A	N/A

12.6 Endocrine disrupting properties

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACh Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO/IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

UK (GB) /REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Seveso Directive

This product is not controlled under the Seveso Directive.

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

SECTION 15: Regulatory information

Australia inventory (AIIC)	:	This material is listed or exempted.
Canada inventory	:	This material is listed or exempted.
China inventory (IECSC)	:	This material is listed or exempted.
Europe inventory	:	This material is listed or exempted.
Japan inventory	:	**Japan inventory (CSCL)**: This material is listed or exempted. **Japan inventory (ISHL)**: This material is listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	:	This material is listed or exempted.
Philippines inventory (PICCS)	:	This material is listed or exempted.
Korea inventory (KECI)	:	This material is listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	:	This material is listed or exempted.
Thailand inventory	:	This material is listed or exempted.
Turkey inventory	:	This material is listed or exempted.
United States inventory (TSCA 8b)	:	This material is listed or exempted.
Vietnam inventory	:	This material is listed or exempted.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

15.2 Chemical safety assessment : Not available.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms :

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
DMEL = Derived Minimal Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
PNEC = Predicted No Effect Concentration
LC50 = Median lethal concentration
LD50 = Median lethal dose
OEL = Occupational Exposure Limit
VOC = Volatile Organic Compound
UVCB Substance of unknown or Variable composition, Complex reaction products or Biological material
NOEC No Observed Effect Concentration
QSAR = Quantitative Structure–Activity Relationship

Procedure used to derive the classification

Classification	Justification
Asp. Tox. 1, H304	Expert judgment

Full text of abbreviated H statements

SECTION 16: Other information

H304	May be fatal if swallowed and enters airways.

Full text of classifications

Asp. Tox. 1	ASPIRATION HAZARD - Category 1

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Date of previous issue : 2022/03/18

Version : 2

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

This SDS meets the EU Safety Data Sheet requirements, with the following exceptions: 1) While the Supplier address and related telephone numbers are those of an ExxonMobil Europe coordination center, the material may be supplied from another ExxonMobil affiliate in Europe; 2) No country-specific information is included; and 3) The local contact information in Section 1 of the country-specific SDS takes precedence over the corresponding information in this document.

1.1. PRODUCT IDENTIFIER

Product Name: **ESCAID™ 110**
Product Description: Dearomatised Hydrocarbons

Registration Name:
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Identification Number: (EC #)926-141-6

Registration Number:
01-2119456620-43-0000; 01-2119456620-43

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended Use: Mining solvent, Solvent

Identified Uses:
Manufacture of substance
Distribution of substance
Formulation and (re)packing of substances and mixtures
Use in oil field drilling and production operations - Industrial
Use in laboratories - Industrial
Mining chemicals
Use in oil field drilling and production operations - Professional
Use in laboratories - Professional

See Section 16 for list of REACH Use Descriptors for Identified Uses shown above.

Uses advised against: The above Identified Uses are specific to the customer for whom this Safety Data Sheet is intended and are uses for which the information in this Safety Data Sheet is applicable. Other uses for this product may be supported/registered. This product is not recommended for any industrial, professional or consumer use other than those which are supported/registered.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier: **ExxonMobil Petroleum & Chemical BV**
Polderdijkweg
B-2030 Antwerpen
Belgium
Phone: +32 3 790 31 11

Supplier General Contact:	+32-2-2393111
E-Mail:	sds.bnl@exxonmobil.com

1.4. EMERGENCY TELEPHONE NUMBER

24 Hour Emergency Telephone:	+(32)-28083237 (CHEMTREC)
National Poison Control Centre:	(UK) 111 / (IE) (+353)1 809 2166

SECTION 2 HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008
Aspiration toxicant: Category 1., H304: May be fatal if swallowed and enters airways.

2.2. LABEL ELEMENTS

Label elements according to Regulation (EC) No 1272/2008

Pictograms:

Signal Word: Danger

Hazard Statements:

Health:
H304: May be fatal if swallowed and enters airways.
Supplemental:
EUH066: Repeated exposure may cause skin dryness or cracking.

Precautionary Statements:

Response:
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331: Do NOT induce vomiting.
Storage:
P405: Store locked up.
Disposal:
P501: Dispose of contents and container in accordance with local regulations.

Contains: Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

2.3. OTHER HAZARDS

Physical / Chemical Hazards:

Material can accumulate static charges which may cause an ignition. Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Combustible.

Health Hazards:

May be irritating to the eyes, nose, throat, and lungs. Repeated exposure may cause skin dryness or cracking.

Environmental Hazards:

No significant hazards.Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

Endocrine Disrupting Properties:

No known endocrine disrupting properties.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

This material is defined as a substance.

Reportable hazardous substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

Name	CAS#	EC#	Registration#	Concentration *	GHS/CLP classification	Specific Conc. Limits, M-factors and ATEs
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	-	926-141-6	01-2119456620-43	100 %	[Flam. Liq. 4 H227], Asp. Tox. 1 H304, EUH066	-

Note - any classification in brackets is a GHS building block that was not adopted by the EU in the CLP regulation (No 1272/2008) and therefore is not applicable in the EU or in non-EU countries which have implemented the CLP regulation and is shown for informational purposes only.

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Concentration values may vary.

Note: See SDS Section 16 for full text of hazard statements.

3.2. MIXTURES Not Applicable. This product is regulated as a substance.

SECTION 4 FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Redness, dry cracking of skin.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5 FIRE FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unsuitable Extinguishing Media: Straight streams of water

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon, Smoke, Fume

5.3. ADVICE FOR FIRE FIGHTERS

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

FLAMMABILITY PROPERTIES

Flash Point [Method]: 79°C (174°F) [ASTM D-93]
Upper/Lower Flammable Limits (Approximate volume % in air): UEL: 6.0 LEL: 0.6 [Extrapolated]
Autoignition Temperature: 227°C (441°F) [ASTM E659]

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

6.2. ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Land Spill: Stop leak if you can do so without risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

6.4. REFERENCES TO OTHER SECTIONS

See Sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of

Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]
Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge.
Storage Temperature: [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Tank Trucks; Drums; Barges; Tank Cars; Railcars
Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Polyester; Teflon; Polyethylene; Polypropylene
Unsuitable Materials and Coatings: Butyl Rubber; Natural Rubber; Ethylene-proplyene-diene monomer (EPDM); Polystyrene

7.3. SPECIFIC END USES

Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive):

Substance Name	Form	Limit/Standard			Note	Source
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics [Total Hydrocarbons]	Vapour.	RCP - TWA	1200 mg/m3	165 ppm		ExxonMobil

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

DERIVED NO EFFECT LEVEL (DNEL)/DERIVED MINIMAL EFFECT LEVEL (DMEL)

Worker

Substance Name	Dermal	Inhalation
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	NA	NA

Consumer

Substance Name	Dermal	Inhalation	Oral
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	NA	NA	NA

Note: The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

PREDICTED NO EFFECT CONCENTRATION (PNEC)

Substance Name	Aqua (fresh water)	Aqua (marine water)	Aqua (intermittent release)	Sewage treatment plant	Sediment	Soil	Oral (secondary poisoning)
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	NA	NA	NA	NA	NA	NA	NA

For hydrocarbon UVCBs, no single PNEC value is identified for the overall substance or used in risk assessment calculations. Therefore, no PNEC values are disclosed in the above table. For further information, please contact ExxonMobil.

8.2. EXPOSURE CONTROLS

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator Type A filter material, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

If prolonged or repeated contact is likely, chemical-resistant gloves are recommended. If contact with forearms is likely, wear gauntlet-style gloves. Nitrile, minimum 0.38 mm thickness or comparable protective barrier material with a high performance level for continuous contact use conditions, permeation breakthrough minimum 480 minutes in accordance with CEN standards EN 420 and EN 374.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

For Summary of Risk Management Measures across all identified uses, see Annex.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Form: Clear
Colour: Colourless
Odour: Slight
Odour Threshold: No data available
Melting Point / Freezing Point: Not technically feasible / No data available
Initial Boiling Point / and Boiling Range: 203°C (397°F) - 238°C (460°F) [ASTM D86]
Flammability (Solid, Gas): Not technically feasible
Lower and Upper explosion limit: UEL: 6.0 LEL: 0.6 [Extrapolated]
Flash Point [Method]: 79°C (174°F) [ASTM D-93]
Autoignition Temperature: 227°C (441°F) [ASTM E659]
Decomposition Temperature: No data available
pH: Not technically feasible
Kinematic Viscosity: 1.68 cSt (1.68 mm2/sec) at 40ºC | 2.34 cSt (2.34 mm2/sec) at 20°C [Calculated]
Solubility: Negligible
Partition coefficient (n-Octanol/Water Partition Coefficient): > 4 [Estimated]
Vapour Pressure: 0.02 kPa (0.15 mm Hg) at 20 °C [Calculated]
Relative Density (at 15 °C): 0.8 [With respect to water] [Calculated]
Relative Vapour Density (Air = 1): 6.1 at 101 kPa [In-house method]
Evaporation Rate (n-butyl acetate = 1): 0.02 [In-house method]
Explosive Properties: None
Oxidizing Properties: None
Particle Characteristics
Median particle size: Not Applicable

9.2. OTHER INFORMATION

Density (at 15 ºC): 800 kg/m3 (6.68 lbs/gal, 0.8 kg/dm3) [ISO 12185]
Pour Point: -48°C (-54°F) [ASTM D5950]
Molecular Weight: 177 g/mol [Calculated]
Hygroscopic: No
Coefficient of Thermal Expansion: 0.00089 per Deg C [Calculated]

9.2.1. INFORMATION WITH REGARD TO PHYSICAL HAZARD CLASSES
No data available

9.2.2. OTHER SAFETY CHARACTERISTICS
No data available

SECTION 10 STABILITY AND REACTIVITY

10.1. REACTIVITY: See sub-sections below.

10.2. CHEMICAL STABILITY: Material is stable under normal conditions.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

10.4. CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

10.5. INCOMPATIBLE MATERIALS: Strong oxidisers

10.6. HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON HAZARD CLASSES AS DEFINED IN REGULATION (EC) NO 1272/2008

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 8 hour(s) LC50 > 5000 mg/m3 (Vapour) Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity (Rat): LD50 > 5000 mg/kg Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 5000 mg/kg Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation: Data available. Test scores or other study results do not meet criteria for classification.	May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: Data available. Test scores or other study results do not meet criteria for classification.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476 478 479
Carcinogenicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453
Reproductive Toxicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 413 414 415
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 413

11.2. INFORMATION ON OTHER HAZARDS

11.2.1 ENDOCRINE DISRUPTING PROPERTIES

No known endocrine disrupting properties that affect human health.

11.2.2 OTHER INFORMATION

For the product itself:

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

12.1. TOXICITY

Material -- Not expected to be harmful to aquatic organisms.
Material -- Not expected to demonstrate chronic toxicity to aquatic organisms

12.2. PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Available OECD 301F biodegradation data indicate that material is readily biodegradable (≥60% in 28 days).

Hydrolysis:

Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis:

Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation:

Material -- Expected to degrade rapidly in air

12.3. BIOACCUMULATIVE POTENTIAL Not determined.

12.4. MOBILITY IN SOIL

Not determined.

12.5. PERSISTENCE, BIOACCUMULATION AND TOXICITY FOR SUBSTANCE(S)

Material does not meet the Reach Annex XIII criteria for PBT or vPvB.

12.6. ENDOCRINE DISRUPTING PROPERTIES

No known endocrine disrupting properties that affect the environment.

12.7. OTHER ADVERSE EFFECTS

No adverse effects are expected.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	48 hour(s)	Daphnia magna	EL0 1000 mg/l: data for the material
Aquatic - Acute Toxicity	96 hour(s)	Oncorhynchus mykiss	LL0 1000 mg/l: data for the material
Aquatic - Acute Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	EL0 1000 mg/l: data for the material

Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results: Basis
Water	Ready Biodegradability	28 day(s)	Percent Degraded 69

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

13.1. WASTE TREATMENT METHODS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

The European Waste Catalogue (EWC) code is specific to the waste generating process and waste constituents. Determine the EWC according to the criteria provided in the European Waste Catalogue and the hazardous waste list established by Commission Decision 2000/532/EC, as amended.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADR/RID): **14.1-14.6** Not Regulated for Land Transport

INLAND WATERWAYS (ADN)

14.1. UN (or ID) Number: 9003
14.2. UN Proper Shipping Name (Technical Name): SUBSTANCES WITH 60°C < f.p.<= 100 °C (Undecane and dodecane)
14.3. Transport Hazard Class(es): 9
14.4. Packing Group: (N/A)
14.5. Environmental Hazards: None
14.6. Special Precautions for users:
Label(s) / Mark(s): 9 (F)

SEA (IMDG): **14.1-14.6** Not Regulated for Sea Transport according to IMDG-Code

SEA (MARPOL 73/78 Convention - Annex II):

14.7. Maritime transport in bulk according to IMO instruments

Not classified according to Annex II

AIR (IATA): **14.1-14.6** Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories : AIIC, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

The national inventory listings are based on the CAS number or numbers listed below.

CAS
64742-47-8

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Applicable EU Directives and Regulations:

1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]

2004/42/CE [on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC.]

98/24/EC [... on the protection of workers from the risk related to chemical agents at work ...]. Refer to Directive for details of requirements.

1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII):

The following entries of Annex XVII may be considered for this product: 03

15.2. CHEMICAL SAFETY ASSESSMENT

REACH Information: A Chemical Safety Assessment has been carried out for one or more substances present in the material.

SECTION 16 OTHER INFORMATION

IDENTIFIED USES:
Manufacture of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU10, SU3, SU8, SU9)
Distribution of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU3, SU8, SU9)
Formulation and (re)packing of substances and mixtures (PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, SU10, SU3)
Use in oil field drilling and production operations - Industrial (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU3)
Use in laboratories - Industrial (PROC15, SU3)
Mining chemicals (PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, SU3)
Use in oil field drilling and production operations - Professional (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU22)
Use in laboratories - Professional (PROC15, SU22)

REFERENCES: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym	Full text
N/A	Not applicable
N/D	Not determined
NE	Not established
VOC	Volatile Organic Compound
AIIC	Australian Inventory of Industrial Chemicals
AIHA WEEL	American Industrial Hygiene Association Workplace Environmental Exposure Limits
ASTM	ASTM International, originally known as the American Society for Testing and Materials (ASTM)
DSL	Domestic Substance List (Canada)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of Notified Chemical Substances
ENCS	Existing and new Chemical Substances (Japanese inventory)
IECSC	Inventory of Existing Chemical Substances in China
KECI	Korean Existing Chemicals Inventory
NDSL	Non-Domestic Substances List (Canada)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
TLV	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	Toxic Substances Control Act (U.S. inventory)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
LC	Lethal Concentration
LD	Lethal Dose
LL	Lethal Loading
EC	Effective Concentration
EL	Effective Loading
NOEC	No Observable Effect Concentration
NOELR	No Observable Effect Loading Rate

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
[Flam. Liq. 4 H227]: Combustible liquid; Flammable Liquid, Cat 4
Asp. Tox. 1 H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
EUH066: Repeated exposure may cause skin dryness or cracking.

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table for REACH information was modified.
Section 09 median particle size information was added.
Section 09: Freezing Point ºC(ºF) information was deleted.
Section 09: Melting Point C(F) information was deleted.
Section 11 EU Annex II Endocrine Disruptor Data information was added.
Section 12 EU Annex II Endocrine Disruptor Data information was added.
Section 2 EU Annex II Endocrine Disruptor Data information was added.
Section 9 melting and freezing points information was added.

Internal Use Only
MHC: 1A, 0, 0, 0, 1, 0

DGN: ALL2470HBE (1019101)

ANNEX

Section 1 Exposure Scenario Title	
Title:	
Manufacture of substance	
Use Descriptor	
Sector(s) of Use	SU10, SU3, SU8, SU9
Process Categories	PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC1, ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of the substance or use as an intermediate, process chemical or extracting agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (ncluding marine vessel/barge, road/rail car and bulk container).	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	

Product Characteristic
Liquid
Duration, frequency and amount
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]
Other given operational conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented [G1]
Contributing Scenarios/ **Specific Risk Management Measures and Operating Conditions** (only required controls to demonstrate safe use listed)
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.
Section 2.2 Control of environmental exposure
Product characteristics
Not applicable
Duration, frequency and amount
Not applicable
Environmental factors not influenced by risk management
Not applicable
Other given operational conditions affecting environmental exposure
Not applicable
Technical conditions and measures at process level (source) to prevent release
Not applicable
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil
Not applicable
Organisation measures to prevent/limit release from site
Not applicable
Conditions and measures related to municipal sewage treatment plant
Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Distribution of substance	
Use Descriptor	
Sector(s) of Use	SU3, SU8, SU9
Process Categories	PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC1, ERC2, ERC3, ERC4, ERC5, ERC6A, ERC6B, ERC6C, ERC6D, ERC7
Specific Environmental Release Category	
Processes, tasks, activities covered	
Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, distribution and associated laboratory activities.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	

Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Formulation and (re)packing of substances and mixtures	
Use Descriptor	
Sector(s) of Use	SU10, SU3
Process Categories	PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC2
Specific Environmental Release Category	
Processes, tasks, activities covered	
Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	

Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in oil field drilling and production operations - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	

Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in laboratories - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC15
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of the substance within laboratory settings, including material transfers and equipment cleaning.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	

Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Mining chemicals	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use of the substance in extraction processes at mining operations, including material transfers, winning and separation activities, and substance recovery and disposal.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	

Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in oil field drilling and production operations - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
Oil field well drilling operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	

Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in laboratories - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of small quantities within laboratory settings, including material transfers and equipment cleaning.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	

Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	SARALINE 185V
Product code	:	Q6524
Registration number	:	01-0000020119-75
Synonyms	:	Distillates (Fischer-Tropsch) C8-26 - branched and linear
CAS-No.	:	848301-67-7

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	:	Use as a drilling mud solvent. Please refer to Ch16 and/or the annexes for the registered uses under REACH.
Uses advised against	:	This product must not be used in applications other than the above without first seeking the advice of the supplier.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier	:	**Shell Chemicals Europe B.V.** PO Box 2334 3000 CH Rotterdam Netherlands
Telephone	:	+31 (0)10 441 5137 / +31 (0)10 441 5191
Telefax	:	+31 (0)20 716 8316 / +31 (0)20 713 9230
Email Contact for Safety Data Sheet	:	sccmsds@shell.com

1.4 Emergency telephone number

+44 (0) 1235 239 670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:		
Signal word	:	Danger	
Hazard statements	:		PHYSICAL HAZARDS: Not classified as a physical hazard according to CLP criteria. HEALTH HAZARDS:
		H304	May be fatal if swallowed and enters airways. ENVIRONMENTAL HAZARDS: Not classified as environmental hazard according to CLP criteria.
Supplemental Hazard Statements	:	EUH066	Repeated exposure may cause skin dryness or cracking.
Precautionary statements	:	**Prevention:**	
		P243	Take action to prevent static discharges.
		Response:	
		P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
		P331	Do NOT induce vomiting.
		Storage:	
		P405	Store locked up.
		Disposal:	
		P501	Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

2.3 Other hazards

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.
Combustible liquid.
May ignite on surfaces at temperatures above auto-ignition temperature.
Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour concentrations are within the flammability range.
Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
This material is a static accumulator.
Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.
If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

SECTION 3: Composition/information on ingredients

3.1 Substances

Hazardous components

Chemical name	CAS-No. EC-No.	Concentration [%]
Distillates (Fischer-Tropsch), C8-26 - Branched and Linear	848301-67-7 481-740-5	<= 100

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Not expected to be a health hazard when used under normal conditions.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

If inhaled : No treatment necessary under normal conditions of use.
If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.
Remove contact lenses, if present and easy to do. Continue rinsing.
If persistent irritation occurs, obtain medical attention.

If swallowed : Call emergency number for your location / facility.
If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Not considered to be an inhalation hazard under normal conditions of use.
Possible respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

No specific hazards under normal use conditions.
Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.

No specific hazards under normal use conditions.
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.
If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.
Call a doctor or poison control center for guidance.
Potential for chemical pneumonitis.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media : Do not use water in a jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Clear fire area of all non-emergency personnel. Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Flammable vapours may be present even at temperatures below the flash point. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water.

5.3 Advice for firefighters

Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

Specific extinguishing : Standard procedure for chemical fires.

methods
Further information : Keep adjacent containers cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Observe all relevant local and international regulations.
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
Local authorities should be advised if significant spillages cannot be contained.
6.1.1 For non emergency personnel:
Avoid contact with skin, eyes and clothing.
Isolate hazard area and deny entry to unnecessary or unprotected personnel.
Do not breathe fumes, vapour.
Do not operate electrical equipment.
6.1.2 For emergency responders:
Avoid contact with skin, eyes and clothing.
Isolate hazard area and deny entry to unnecessary or unprotected personnel.
Do not breathe fumes, vapour.
Do not operate electrical equipment.

6.2 Environmental precautions

Environmental precautions : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Monitor area with combustible gas indicator.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or

safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely Ventilate contaminated area thoroughly.
If contamination of site occurs remediation may require specialist advice.

6.4 Reference to other sections

For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet., For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

SECTION 7: Handling and storage

General Precautions : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Ensure that all local regulations regarding handling and storage facilities are followed.

7.1 Precautions for safe handling

Advice on safe handling : Avoid inhaling vapour and/or mists.
Avoid contact with skin, eyes and clothing.
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
Bulk storage tanks should be diked (bunded).
When using do not eat or drink.

The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Product Transfer : Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe

submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

Refer to guidance under Handling section.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
Other data	:	Storage Temperature: Ambient. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. The storage of this product may be subject to the Control of Pollution (Oil Storage) (England) Regulations. Further guidance may be obtained from the local environmental agency office.
Packaging material	:	Suitable material: For containers, or container linings use mild steel, stainless steel., For container paints, use epoxy paint, zinc silicate paint. Unsuitable material: Avoid prolonged contact with natural, butyl or nitrile rubbers.
Container Advice	:	Do not cut, drill, grind, weld or perform similar operations on or near containers.

7.3 Specific end use(s)

Specific use(s)	:	Please refer to Ch16 and/or the annexes for the registered uses under REACH. See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or

National Fire Protection Agency 77 (Recommended Practices on Static Electricity).
IEC/TS 60079-32-1: Electrostatic hazards, guidance

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

In the absence of a national exposure limit, the American Conference of Governmental Industrial Hygienists (ACGIH) recommends the following values for Diesel Fuel: TWA - 100 mg/m3 Critical effects based on Skin and Irritation.

Biological occupational exposure limits

No biological limit allocated.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear	:	No DNEL value has been established.

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear	:	Substance is a hydrocarbon with a complex, unknown or variable composition. Conventional methods of deriving PNECs are not appropriate and it is not possible to identify a single representative PNEC for such substances.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

8.2 Exposure controls

Engineering measures The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

Use sealed systems as far as possible.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Firewater monitors and deluge systems are recommended.
Eye washes and showers for emergency use.
Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye protection	:	If material is handled such that it could be splashed into eyes, protective eyewear is recommended. Approved to EU Standard EN166.
Hand protection		
Remarks	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Nitrile rubber gloves. Incidental contact/Splash protection: PVC, neoprene or nitrile rubber gloves For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make

and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Skin and body protection : Skin protection is not required under normal conditions of use. For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure.
If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.

Protective clothing approved to EU Standard EN14605.

Wear antistatic and flame-retardant clothing, if a local risk assessment deems it so.

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours meeting EN14387 [Filter type A, for use against certain organic gases and vapours with a boiling point >65°C (149°F)].

Thermal hazards : Not applicable

Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use. Do not ingest. If swallowed, then seek immediate medical assistance.

Environmental exposure controls

General advice : Take appropriate measures to fulfil the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in

Section 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.
Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.
Information on accidental release measures are to be found in section 6.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	Liquid.
Colour	:	colourless
Odour	:	Paraffinic
Odour Threshold	:	no data available
pH	:	Not applicable
	:	no data available
Boiling point/boiling range	:	200 - 320 °C
Flash point	:	>= 85 °C
Evaporation rate	:	Data not available
Upper explosion limit	:	Data not available
Lower explosion limit	:	Data not available
Vapour pressure	:	Data not available
Relative vapour density	:	Data not available
Relative density	:	Data not available
Density	:	ca. 0.78 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Data not available
Auto-ignition temperature	:	Data not available
Decomposition temperature	:	Data not available
Viscosity		

Viscosity, kinematic	:	< 7 mm2/s (40 °C)
Explosive properties	:	no data available
Oxidizing properties	:	Data not available

9.2 Other information

Conductivity	:	Low conductivity: < 100 pS/m The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid

SECTION 10: Stability and reactivity

10.1 Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

10.2 Chemical stability

No hazardous reaction is expected when handled and stored according to provisions, Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Reacts with strong oxidising agents.

10.4 Conditions to avoid

Conditions to avoid	:	Avoid heat, sparks, open flames and other ignition sources. In certain circumstances product can ignite due to static electricity.

10.5 Incompatible materials

Materials to avoid	:	Strong oxidising agents.

10.6 Hazardous decomposition products

Hazardous decomposition products	:	Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative

degradation.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Basis for assessment	:	Information given is based on product data, a knowledge of the components and the toxicology of similar products.
Information on likely routes of exposure	:	Inhalation is the primary route of exposure although absorption may occur through skin contact or following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity	:	LD50 Rat: > 5000 mg/kg Remarks: Low toxicity:
Acute inhalation toxicity	:	LC50 : > 5 mg/l Exposure time: 4 h Remarks: Low toxicity by inhalation.
Acute dermal toxicity	:	LD50 Rat: > 2000 mg/kg Remarks: Low toxicity:

Skin corrosion/irritation

Product:

Remarks: Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis., Not irritating to skin.

Serious eye damage/eye irritation

Product:

Remarks: Not irritating to eye.

Respiratory or skin sensitisation

Product:

Remarks: Not a sensitiser., Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

: Remarks: Not mutagenic.

Carcinogenicity

Product:

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

Material	GHS/CLP Carcinogenicity Classification
Distillates (Fischer-Tropsch), C8-26 - Branched and Linear	No carcinogenicity classification.

Reproductive toxicity

Product:

:
Remarks: Does not impair fertility., Not a developmental toxicant., Based on available data, the classification criteria are not met.

STOT - single exposure

Product:

Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea.

STOT - repeated exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

SECTION 12: Ecological information

12.1 Toxicity

Basis for assessment : Information given is based on product testing.
Product:

Toxicity to fish (Acute toxicity)	:	LC50 : > 100 mg/l Remarks: Practically non toxic:
Toxicity to crustacean (Acute toxicity)	:	EC50 : > 100 mg/l Remarks: Practically non toxic:
Toxicity to algae/aquatic plants (Acute toxicity)	:	EC50 : > 100 mg/l Remarks: Practically non toxic:
Toxicity to fish (Chronic toxicity)	:	Remarks: NOEC/NOEL > 100 mg/l
Toxicity to crustacean (Chronic toxicity)	:	Remarks: NOEC/NOEL > 10 - <=100 mg/l
Toxicity to microorganisms (Acute toxicity)	:	IC50 : > 100 mg/l Remarks: Practically non toxic:

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: Readily biodegradable.

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Contains constituents with the potential to bioaccumulate.
Partition coefficient: n-octanol/water	:	Remarks: Data not available

12.4 Mobility in soil

Product:

Mobility	:	Remarks: Floats on water., Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day., Large volumes may penetrate soil and could contaminate groundwater.

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

12.6 Other adverse effects

Product:

Additional ecological information	:	Films formed on water may affect oxygen transfer and damage organisms.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

Do not dispose into the environment, in drains or in water courses
Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.
Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or national requirements and must be complied with.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.
Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.
Send to drum recoverer or metal reclaimer.
Comply with any local recovery or waste disposal regulations.

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

Local legislation
Remarks : Hazardous Waste (England and Wales) Regulations 2005.

SECTION 14: Transport information

14.1 UN number

ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.2 Proper shipping name

ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.3 Transport hazard class

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.4 Packing group

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.5 Environmental hazards

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

14.6 Special precautions for user

Remarks	:	Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

Additional Information **:** This material is not regulated under ADR per section 2.2.3.1.1 (Note 1) and subsection 32.2.5 of Part III of the Manual of Tests and Criteria

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - List of substances subject to authorisation (Annex XIV)	:	Product is not subject to Authorisation under REACH.
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
Other regulations	:	The regulatory information is not intended to be comprehensive. Other regulations may apply to this material. Environmental Protection Act 1990 (as amended). Health and Safety at Work etc. Act 1974. Consumers Protection Act 1987. Pollution Prevention and Control Act 1999. Environment Act 1995. Factories Act 1961. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment)

Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended). Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (as amended). Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). Control of Major Accident Hazards Regulations 1999 (as amended). Renewable Transport Fuel Obligations Order 2007 (as amended). Energy Act 2011. Environmental Permitting (England and Wales) Regulations 2010 (as amended). Waste (England and Wales) Regulations 2011 (as amended). Planning (Hazardous Substances) Act 1990 and associated regulations. The Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XIV.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XVII.
Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances (Seveso III).
Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work and its amendments.
Directive 1994/33/EC on the protection of young people at work and its amendments.
Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding and its amendments.

The components of this product are reported in the following inventories:

AIIC	:	Listed
KECI	:	Listed
PICCS	:	Listed
TCSI	:	Listed
DSL	:	Listed

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial Hygienists
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS = Australian Inventory of Chemical Substances
ASTM = American Society for Testing and Materials
BEL = Biological exposure limits
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
COC = Cleveland Open-Cup
DIN = Deutsches Institut fur Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
INV = Chinese Chemicals Inventory
IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables
KECI = Korea Existing Chemicals Inventory
LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No

Observed Effect Level
OE_HPV = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of Chemicals
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

Further information

Training advice : Provide adequate information, instruction and training for operators.

Other information : For Industry guidance and tools on REACH please visit the CEFIC website at http://cefic.org/Industry-support.
The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

A vertical bar (|) in the left margin indicates an amendment from the previous version.

There has been a significant change to the exposure scenario in section 16

Sources of key data used to compile the Safety Data Sheet : The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

Identified Uses according to the Use Descriptor System
Uses - Worker
Title : Manufacture of substance- Industrial

Uses - Worker
Title : Use as an intermediate- Industrial

Uses - Worker
Title : Distribution of substance- Industrial

Uses - Worker
Title : Use as a fuel- Industrial

Uses - Worker
Title : Use as a fuel- Professional

Uses - Worker
Title : Use in Oil and Gas field drilling and production operations- Industrial

Uses - Worker
Title : Use in Oil and Gas field drilling and production operations- Professional

Uses - Worker
Title : Use in Cleaning Agents- Industrial

Uses - Worker
Title : Use in Cleaning Agents- Professional

Identified Uses according to the Use Descriptor System

Uses - Consumer
Title : Use as a fuel
- Consumer

Uses - Consumer
Title : Use in Cleaning Agents
- Consumer

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Exposure Scenario - Worker

300000010600	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Manufacture of substance- Industrial
Use Descriptor	**Sector of Use**: SU 3, SU8, SU9 **Process Categories**: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15 **Environmental Release Categories**: ERC1, ERC4, ESVOC SpERC 1.1.v1
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	EXPOSURE ESTIMATION

Section 3.1 - Health

Not applicable.
Risk Management Measures are based on qualitative risk characterisation.

Section 3.2 -Environment

Not applicable.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Not applicable.

Section 4.2 -Environment

Not applicable.

Exposure Scenario - Worker

300000010634	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use as an intermediate- Industrial
Use Descriptor	**Sector of Use**: SU 3, SU8, SU9 **Process Categories**: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15 **Environmental Release Categories**: ERC6a, ESVOC SpERC 6.1a.v1
Scope of process	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	EXPOSURE ESTIMATION

Section 3.1 - Health

Not applicable.
Risk Management Measures are based on qualitative risk characterisation.

Section 3.2 -Environment

Not applicable.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Not applicable.

Section 4.2 -Environment

Not applicable.

Exposure Scenario - Worker

300000010601	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Distribution of substance- Industrial
Use Descriptor	**Sector of Use**: SU 3, SU8, SU9 **Process Categories**: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15 **Environmental Release Categories**: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7, ESVOC SpERC 1.1b.v1
Scope of process	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	EXPOSURE ESTIMATION

Section 3.1 - Health

Not applicable.
Risk Management Measures are based on qualitative risk characterisation.

Section 3.2 -Environment

Not applicable.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Not applicable.

Section 4.2 -Environment

Not applicable.

Exposure Scenario - Worker

300000010618	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use as a fuel- Industrial
Use Descriptor	**Sector of Use**: SU 3 **Process Categories**: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16 **Environmental Release Categories**: ERC7, ESVOC SpERC 7.12a.v1
Scope of process	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	**EXPOSURE ESTIMATION**

Section 3.1 - Health
Not applicable. Risk Management Measures are based on qualitative risk characterisation.

Section 3.2 -Environment
Not applicable.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Not applicable.	

Section 4.2 -Environment
Not applicable.

Exposure Scenario - Worker

300000010619	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use as a fuel- Professional
Use Descriptor	**Sector of Use**: SU 22 **Process Categories**: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16 **Environmental Release Categories**: ERC9a, ERC9b, ESVOC SpERC 9.12b.v1
Scope of process	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	**EXPOSURE ESTIMATION**

Section 3.1 - Health
Not applicable. Risk Management Measures are based on qualitative risk characterisation.

Section 3.2 -Environment
Not applicable.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Not applicable.	

Section 4.2 -Environment
Not applicable.

Exposure Scenario - Worker

300000010632	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in Oil and Gas field drilling and production operations-Industrial
Use Descriptor	**Sector of Use**: SU 3 **Process Categories**: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b **Environmental Release Categories**: ERC4, ESVOC SpERC 4.5a.v1
Scope of process	Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	EXPOSURE ESTIMATION

Section 3.1 - Health

Not applicable.
Risk Management Measures are based on qualitative risk characterisation.

Section 3.2 -Environment

Not applicable.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Not applicable.

Section 4.2 -Environment

Not applicable.

Exposure Scenario - Worker

300000010635	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in Oil and Gas field drilling and production operations-Professional
Use Descriptor	**Sector of Use**: SU 22 **Process Categories**: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b **Environmental Release Categories**: ERC8d, ESVOC SpERC 8.5b.v1
Scope of process	Oil field well drilling operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	EXPOSURE ESTIMATION

Section 3.1 - Health

Not applicable.
Risk Management Measures are based on qualitative risk characterisation.

Section 3.2 -Environment

Not applicable.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Not applicable.

Section 4.2 -Environment

Not applicable.

Exposure Scenario - Worker

300000010605	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in Cleaning Agents- Industrial
Use Descriptor	**Sector of Use**: SU 3 **Process Categories**: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13 **Environmental Release Categories**: ERC4, ESVOC SpERC 4.4a.v1
Scope of process	Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**

Not applicable.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
Not applicable. Risk Management Measures are based on qualitative risk characterisation.	

Section 3.2 -Environment
Not applicable.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Not applicable.	

Section 4.2 -Environment
Not applicable.

Exposure Scenario - Worker

300000010606	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in Cleaning Agents- Professional
Use Descriptor	**Sector of Use**: SU 22 **Process Categories**: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC19 **Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.4b.v1
Scope of process	Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	EXPOSURE ESTIMATION

Section 3.1 - Health

Not applicable.
Risk Management Measures are based on qualitative risk characterisation.

Section 3.2 -Environment

Not applicable.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Not applicable.

Section 4.2 -Environment

Not applicable.

Exposure Scenario - Consumer

300000010620	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use as a fuel - Consumer
Use Descriptor	**Sector of Use**: SU 21 **Product Categories**: PC13 **Environmental Release Categories**: ERC9a, ERC9b, ESVOC SpERC 9.12c.v1
Scope of process	Covers consumer uses in liquid fuels.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Consumer Exposure**
Product Characteristics	

Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
Not applicable. Risk Management Measures are based on qualitative risk characterisation.	

Section 3.2 -Environment
Not applicable.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Not applicable.	

Section 4.2 -Environment
Not applicable.

Exposure Scenario - Consumer

300000010608	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use in Cleaning Agents - Consumer
Use Descriptor	**Sector of Use**: SU 21 **Product Categories**: PC3, PC4, PC8 (excipient only), PC9a, PC9b, PC9c, PC24, PC35, PC38 **Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.4c.v1
Scope of process	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Consumer Exposure**
Product Characteristics	

Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
General measures (Aspiration)	The H304 hazard statement (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed, then seek immediate medical assistance

Section 2.2	**Control of Environmental Exposure**
Not applicable.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
Not applicable. Risk Management Measures are based on qualitative risk characterisation.	

Section 3.2 -Environment
Not applicable.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Not applicable.

Section 4.2 -Environment

Not applicable.

HALLIBURTON

SAFETY DATA SHEET
XP-07™ Base Oil

according to Regulation (EC) No. 2015/830

Revision Date: 26-Feb-2020 **Revision Number:** 22
Preparation Date 26-Feb-2020 **Internal ID Code** HM003789

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name XP-07™ Base Oil
Internal ID Code HM003789

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Base Fluid
Sector of uses SU2 - Mining, (including offshore industries)
Product category(ies) PC0 - Other Products
Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom
+44 1224 776888

www.halliburton.com

For further information, please contact:
E-mail Address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961
Global Incident Response Access Code: 334305
Contract Number: 14012

Emergency telephone - Article 45 - (EC)1272/2008	
Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison center (BE): +32 70 245 245
Bulgaria	Bulgarian poison centre: +359 2 915-44-09 or +359 2 915-43-46
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	1401; +357 22 88 7171
Czech Republic	+420 224 919 293; +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	16662 (Local Poison Information Centre); (+372) 626 93 90 (International Poison Information Centre)
Europe	112
Finland	Poison Information Centre (FI):+358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Greece	+30 210 779 3777
Hungary	+36 (06) 80 201-199
Latvia	(+371) 67042473 (International number for the National Toxicology Centre)
Ireland	National Poisons Information Centre (IE): +353 1 8379964
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only

	available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Portugal	CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): + 351 213 303 271
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	Poisons Information Center (SV):+46 8 33 12 31
Switzerland	Poison Center: Tel 145; +41 44 251 51 51
Turkey	Ulusal Zehir Danisma Merkezi (UZEM) :114 Acil Saglik Hizmetleri : 112
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Aspiration Toxicity	Category 1 - H304

2.2. Label Elements

Hazard Pictograms

Signal Word: **Danger**

Hazard Statements:
H304 - May be fatal if swallowed and enters airways
EUH066 - Repeated exposure may cause skin dryness or cracking

Precautionary Statements:
P405 - Store locked up
P501 - Dispose of contents/container to an approved incineration plant
P301+ P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Contains

Substances	**CAS Number**
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-

2.3. Other Hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH Reg. No
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	924-803-9	-	60 - 100%	Asp. Tox. 1 (H304) (EUH066)	01-2119485647-22

For the full text of the H-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.
Ingestion	Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations.

5.3. Advice for firefighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

See Section 8 for additional information.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use appropriate protective equipment. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities
Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Keep from heat, sparks, and open flames. Store away from direct sunlight. Product has a shelf life of 36 months.

7.3. Specific end use(s)
Exposure scenario No information available
Other Guidelines No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL) No information available
Worker

General Population

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls
Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Organic vapor respirator.

Hand Protection Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 8 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably

	shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.
Skin Protection	Normal work coveralls.
Eye Protection	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Odor: Mild hydrocarbon

Color Clear
Odor Threshold: No information available

Property Remarks/ - Method	Values
pH:	No data available
Freezing Point / Range	0 °C
Melting Point / Range	No data available
Pour Point / Range	No data available
Boiling Point / Range	221 -248 °C
Flash Point	106 °C / 222 °F (PMCC)
Flammability (solid, gas)	No data available
Upper flammability limit	4.9
Lower flammability limit	0.6
Evaporation rate	< 1
Vapor Pressure	0.08
Vapor Density	6.48
Specific Gravity	0.767
Water Solubility	Insoluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	229 °C / 444 °F
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
Not expected to be reactive.

10.2. Chemical stability
Stable

10.3. Possibility of hazardous reactions
Will Not Occur

10.4. Conditions to avoid
None anticipated

10.5. Incompatible materials
Strong oxidizers.

10.6. Hazardous decomposition products
Carbon monoxide and carbon dioxide. Hydrocarbons.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation If heated: May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact May cause slight eye irritation.

Skin Contact May cause skin defatting with prolonged exposure.

Ingestion Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	> 5000 mg/kg (Rat)	> 2000 mg.kg (Rabbit) (similar substance)	>1369 ppm (Rat, 8h, saturated) (similar substance)

Rat = Rat, Rabbit = Rabbit, dust = dust

Substances	CAS Number	Skin corrosion/irritation
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not irritating to skin in rabbits.

Substances	CAS Number	Serious eye damage/irritation
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Non-irritating to rabbit's eye (similar substances)

Substances	CAS Number	Skin Sensitization
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Did not cause sensitization on laboratory animals (guinea pig) Patch test on human volunteers did not demonstrate irritating properties

Substances	CAS Number	Respiratory Sensitization
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	No information available

Substances	CAS Number	Mutagenic Effects
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not regarded as carcinogenic. (similar substances)

Substances	CAS Number	Reproductive toxicity
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

Substances	CAS Number	STOT - single exposure
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS	STOT - repeated exposure

	Number	
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	Aspiration hazard
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

SECTION 12: Ecological information

12.1. Toxicity

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	EC50 (72h) 6935.35 mg/L (Skeletonema costatum)	LC50 (96h) > 5000 mg/L (Pimephales promelas) LC50 (96h) > 1000 mg/L (Scophthalmus maximus)	No information available	EL50 (48h) > 1000 mg/L (Daphnia Magna) LC50 (48h) > 1000 mg/L (Acartia tonsa)

growth rate = growth rate, similar substance = similar substance, activated sludge = activated sludge, reproduction = reproduction

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Readily biodegradable (74% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	> 6

12.4. Mobility in soil

Substances	CAS Number	Mobility
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	Not PBT/vPvB

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

SECTION 14: Transport information

IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

ADN

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

ADR/RID

UN Number	Not restricted
UN proper shipping name:	Not restricted
Packing Group	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

14.1. UN Number Not restricted

14.2. UN proper shipping name: Not restricted

14.3.

14.4. Packing Group Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

US TSCA Inventory	Product contains one or more components not listed on the inventory.
Canadian Domestic Substances List (DSL)	Product contains one or more components not listed on the inventory.

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Denmark PR No.: 2307138

Norway PR No.: 102226

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where

applicable.

Substances	CAS Number	Seveso III	TA LUFT
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not applicable	Not applicable

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Hydrocarbons, C11-C14, n-alkanes, <2% aromatics	-	Not applicable	Not applicable

15.2. Chemical safety assessment
No information available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3
H304 - May be fatal if swallowed and enters airways
EUH066 - Repeated exposure may cause skin dryness or cracking

Key or legend to abbreviations and acronyms used in the safety data sheet
bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data
www.ChemADVISOR.com/

Revision Date: 26-Feb-2020
Revision Note
Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 2015/830

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878

EDC 170 SE

SDS # : 081922

Date of previous revision : 2022/08/04

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : EDC 170 SE

EC number : 926-141-6

REACH Registration

Registration number	REACH Registration Name
01-2119456620-43	Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

CAS number : 64742-47-8 (*)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Manufacture of substance - Industrial Distribution of substance - Industrial Formulation and (re)packing of substances and mixtures - Industrial Use in oil and gas field drilling and production operations - Industrial Use in oil and gas field drilling and production operations - Professional Use in laboratories - Industrial Use in laboratories - Professional

1.3 Details of the supplier of the safety data sheet

TotalEnergies Fluids
2 Place Jean Millier
92078 Paris La Défense Cedex
FRANCE
Tel: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 82 88
rmfs.fds@totalenergies.com

Contact

H.S.E

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : France - ORFILA (INRS) Tél : +33 (0)1 45 42 59 59
In France - Poison centers:
ANGERS : 02 41 48 21 21
BORDEAUX : 05 56 96 40 80
LILLE : 08 00 59 59 59
LYON : 04 72 11 69 11
MARSEILLE : 04 91 75 25 25
NANCY : 03 83 22 50 50
PARIS : 01 40 05 48 48
STRASBOURG : 03 88 37 37 37
TOULOUSE : 05 61 77 74 47

Supplier

Telephone number : Emergency phone: +44 1235 239670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : UVCB

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Asp. Tox. 1, H304

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H304 - May be fatal if swallowed and enters airways.

Precautionary statements

Prevention : Not applicable.

Response : P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P331 - Do NOT induce vomiting.

Storage : Not applicable.

Disposal : Not applicable.

Contains : Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Supplemental label elements : Repeated exposure may cause skin dryness or cracking.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

2.3 Other hazards

PBT	P	B	T	vPvB	vP	vB
No	N/A	N/A	No	N/A	N/A	N/A

Other hazards which do not result in classification : Vapor may be irritating to eyes and respiratory system.

SECTION 3: Composition/information on ingredients

3.1 Substances : UVCB

Product/substance	Identifiers	% (w/w)	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	REACH #: 01-2119456620-43 EC: 926-141-6 CAS: 64742-47-8*	100	Asp. Tox. 1, H304 EUH066 **See Section 16 for the full text of the H statements declared above.**	-	[1]

Additional information : content of aromatic compounds: <0.5%.

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

The EC substance definition and related classification & labelling have been developed in the framework of the Regulation (EC) No 1907/2006 (REACh). The related CAS number* is used for the purpose of the international inventories present in section 15 of the SDS.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Use adequate personal protective equipment as needed

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact	:	No specific data.
Inhalation	:	No specific data.
Skin contact	:	Adverse symptoms may include the following: irritation dryness cracking
Ingestion	:	Adverse symptoms may include the following: nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours)
Specific treatments	:	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Use dry chemical, CO_2, water spray (fog) or foam. Sand.
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon dioxide (CO_2). carbon monoxide various hydrocarbons Aldehyde. Soot

5.3 Advice for firefighters

Special protective actions for fire-fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Additional information	:	Not considered explosive based on chemical structure and oxygen balance considerations

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations	:	Not available.
Industrial sector specific solutions	:	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Reportable hazardous constituent(s) contained in UVCB and/or multi-constituent substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

No exposure limit value known.

Recommended monitoring procedures	:	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
Advisory OEL	:	Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m3, NIOSH (REL) TWA 5 mg/m3, STEL 10 mg/m3, ACGIH (TLV) TWA 5 mg/m3 (highly refined)

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Repeated or prolonged exposure Glove material: Nitrile rubber; Glove thickness > 0.55 mm; Break through time > 480 min; standard : EN 374 Glove material: Fluorinated rubber; any thickness; Break through time > 480 min; standard : EN 374 Glove material: polyvinyl alcohol (PVA); any thickness; Break through time > 480 min; standard : EN 374 In case of contact through splashing Glove material: Nitrile rubber; Glove thickness > 0.38 mm; Break through time > 60 min; standard : EN 374 Glove material: Neoprene; Glove thickness > 0.75 mm; Break through time > 60 min; standard : EN 374 Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Wear gloves according to EN374 resistant to the solvent(s) in use.
Body protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Wear a respirator conforming to EN140 with type A filter or better. Wear a respirator conforming to EN140 with type A filter or better.
Environmental exposure controls	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Liquid.	
Color	: light yellow to Colorless.	
Odor	: Odorless.	
Odor threshold	: Not available.	
pH	: Not applicable.	Product is non-soluble (in water).
Melting point/freezing point	: Not available.	
Initial boiling point and boiling range	: 190 to 280°C [ISO 3405]	

Flash point	:	Closed cup: >62°C [ISO 2719]
Evaporation rate	:	600 (ether (anhydrous) = 1) [DIN 53170]
Flammability	:	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit	:	Lower: 0.5% Upper: 6%
Vapor pressure	:	0.015 kPa [EN 13016-1]
Vapor density	:	>1 [Air = 1]
Relative density	:	0.815 [ISO 12185]
Density	:	0.815 g/cm³ [15°C] [ISO 12185]
Solubility(ies)	:	

Media	Result
water	Not soluble

Miscible with water	:	No.
Partition coefficient: n-octanol/ water	:	>4
Auto-ignition temperature	:	>220°C [ASTM E 659-78]
Decomposition temperature	:	Not available.
Viscosity	:	Kinematic (40°C): <20.5 mm^2/s [ASTM D 445]
Particle characteristics		
Median particle size	:	Not applicable.

9.2 Other information

Pour point	:	<-50°C (<-58°F)
Explosive properties	:	Not considered explosive based on chemical structure and oxygen balance considerations
Oxidizing properties	:	This product is not considered oxidising based on chemical structure considerations

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : heat, open flames, sparks and static discharge

10.5 Incompatible materials : Reactive or incompatible with the following materials:
strong acids
Strong oxidizing agents

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	LC50 Inhalation Vapor	Rat - Male, Female	>5.28 mg/l	4 hours	OECD 403 Read across
	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-	EPA OPPTS 870.1200 Acute Dermal Toxicity Read across
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	EPA OTS 798.1175 Acute Oral Toxicity Read across

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

N/A

Irritation/Corrosion

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Eyes : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Sensitization

Conclusion/Summary :

Skin : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Conclusion/Summary : Based on available data, the classification criteria are not met.

Aspiration hazard

Product/substance	Result
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	ASPIRATION HAZARD - Category 1

Conclusion/Summary : Based on available data, the classification criteria are met.

Information on the likely routes of exposure	:	Not available.

Potential acute health effects

Eye contact	:	No known significant effects or critical hazards.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	Defatting to the skin. May cause skin dryness and irritation.
Ingestion	:	May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	No specific data.
Inhalation	:	No specific data.
Skin contact	:	Adverse symptoms may include the following: irritation dryness cracking
Ingestion	:	Adverse symptoms may include the following: nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.

Long term exposure

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.

Potential chronic health effects

Not available.

Conclusion/Summary	:	Not available.
General	:	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Reproductive toxicity	:	No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACh Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

11.2.2 Other information

SECTION 12: Ecological information

12.1 Toxicity

Product/substance	Result	Species	Exposure	Test
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Acute EC50 >1000 mg/l	Algae - Pseudokirchnerella subcapitata	72 hours	OECD 201
	Acute LL50 >1000 mg/l	Daphnia - Daphnia Magna	48 hours	OECD 202
	Acute LL50 >1000 mg/l	Fish	96 hours	OECD 203
	Chronic NOELR >1000 mg/l	Algae	72 hours	OECD 201
	Chronic NOELR >1220 mg/l	Daphnia	21 days	-
	Chronic NOELR 0.173 mg/l	Fish	28 days	-

12.2 Persistence and degradability

Product/substance	Test	Result	Dose	Inoculum
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	OECD 301F	69 % - Readily - 28 days	-	-

Conclusion/Summary : Not available.

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	-	-	Readily

12.3 Bioaccumulative potential

Product/substance	$LogK_{ow}$	BCF	Potential
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	>4	-	high

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

Mobility in soil : Given its physical and chemical characteristics, the product generally shows low soil mobility The product is insoluble and floats on water

12.5 Results of PBT and vPvB assessment

Product/substance	PBT	P	B	T	vPvB	vP	vB
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	No	N/A	N/A	No	N/A	N/A	N/A

12.6 Endocrine disrupting properties

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACh Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO/IATA
14.1 UN number or ID number	Not regulated.	9003	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	SUBSTANCES WITH A FLASH-POINT ABOVE 60 °C AND NOT MORE THAN 100 °C (Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics)	-	-
14.3 Transport hazard class(es)	-	9	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

Additional information

ADN : The product is only regulated as a dangerous good when transported in tank vessels.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Social Security Code, Articles L 461-1 to L 461-7 : Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics — RG 84

Classified installations for environmental protection : Environmental Code, Book V Prevention of Pollution, Risks and Nuisance, Title I: Classified Installations for Environmental Protection, Chapter 1 General Provisions; Section 2: Nomenclature of Classified Installations (Article R511-9 to R511-10): ICPE 1436

Reinforced medical surveillance : Decree n ° 2012-135 of January 30, 2012 relating to the organization of occupational medicine: not applicable

Other regulations	:	Annex to article D461-1 of national health insurance code (Illnesses recognized as professionnal illnesses): 601. Art R.4624-22 to R.4624-28 of the Labor Code relating to enhanced individual monitoring of the state of health of workers. Art R4412-1 to R4412-57 of the Labor Code relating to the provisions applicable to dangerous chemical agents.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

LU - Luxembourg prohibited chemicals in the workplace

Not listed.

Inventory list

Australia inventory (AIIC)	:	This material is listed or exempted.
Canada inventory (DSL/NDSL)	:	This material is listed or exempted.
China inventory (IECSC)	:	This material is listed or exempted.
Europe inventory (EC)	:	This material is listed or exempted.
Japan inventory	:	**Japan inventory (CSCL)**: This material is listed or exempted. **Japan inventory (ISHL)**: Not determined.
New Zealand Inventory of Chemicals (NZIoC)	:	This material is listed or exempted.
Philippines inventory (PICCS)	:	This material is listed or exempted.
Korea inventory (KECI)	:	This material is listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	:	This material is listed or exempted.
Thailand inventory	:	This material is listed or exempted.
Turkey inventory	:	This material is listed or exempted.
United States inventory (TSCA 8b)	:	This material is listed or exempted.
Vietnam inventory	:	This material is listed or exempted.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

15.2 Chemical Safety Assessment : Not available.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
DMEL = Derived Minimal Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
PNEC = Predicted No Effect Concentration
LC50 = Median lethal concentration
LD50 = Median lethal dose
OEL = Occupational Exposure Limit
VOC = Volatile Organic Compound
UVCB Substance of unknown or Variable composition, Complex reaction products or Biological material
NOEC No Observed Effect Concentration
QSAR = Quantitative Structure–Activity Relationship
polyvinyl alcohol (PVA)
OECD = Organisation for Economic Co-operation and Development

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Asp. Tox. 1, H304	Expert judgment

Full text of abbreviated H statements

H304 EUH066	May be fatal if swallowed and enters airways. Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS]

Asp. Tox. 1	ASPIRATION HAZARD - Category 1

Date of revision : 2022/10/24

Date of previous revision : 2022/08/04

Version : 3

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 081922

Product name : EDC 170 SE

Section 1 - Title

Short title of the exposure scenario : Distribution of substance - Industrial

List of use descriptors : **Identified use name:** Distribution of substance - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU03, SU08, SU09
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC02, ERC03, ERC04, ERC05, ERC06a, ERC06b, ERC06c, ERC06d, ERC07

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek

immediate medical assistance », to cover this risk.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 081922

Product name : EDC 170 SE

Section 1 - Title

Short title of the exposure scenario : Formulation and (re)packing of substances and mixtures - Industrial

List of use descriptors : **Identified use name:** Formulation and (re)packing of substances and mixtures - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU03, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs

should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 081922

Product name : EDC 170 SE

Section 1 - Title

Short title of the exposure scenario : Use in oil and gas field drilling and production operations - Industrial

List of use descriptors : **Identified use name:** Use in oil and gas field drilling and production operations - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b
Substance supplied to that use in form of: As such
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website: : Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment): : Not applicable.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human): : Not applicable.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human): : Not applicable.

Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not applicable.

Health : Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 081922

Product name : EDC 170 SE

Section 1 - Title

Short title of the exposure scenario : Use in laboratories - Industrial

List of use descriptors : **Identified use name:** Use in laboratories - Industrial
Process Category: PROC10, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC04

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Use of the substance within laboratory settings, including material transfers and equipment cleaning

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 081922

Product name : EDC 170 SE

Section 1 - Title

Short title of the exposure scenario : Use in oil and gas field drilling and production operations - Professional

List of use descriptors : **Identified use name:** Use in oil and gas field drilling and production operations - Professional
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b
Substance supplied to that use in form of: As such
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website: : Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment): : Not applicable.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human): : Not applicable.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human): : Not applicable.

Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not applicable.

Health : Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 081922

Product name : EDC 170 SE

Section 1 - Title

Short title of the exposure scenario : Use in laboratories - Professional

List of use descriptors : **Identified use name:** Use in laboratories - Professional
Process Category: PROC10, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Use of small quantities within laboratory settings, including material transfers and equipment cleaning

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 081922

Product name : EDC 170 SE

Section 1 - Title

Short title of the exposure scenario : Manufacture of substance - Industrial

List of use descriptors : **Identified use name:** Manufacture of substance - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU03, SU08, SU09, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC04

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Product characteristics**
Not applicable.

Processes and activities covered by the exposure scenario : Manufacture of the substance or use as an intermediate or a process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

This substance is not classified for environmental hazards nor is a PBT/vPvB, an exposure assessment is not required

Contributing scenario controlling worker exposure for 2: Product characteristics

Product characteristics : Substance is complex UVCB.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other conditions affecting workers exposure : Assumes a good basic standard of occupational hygiene has been implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 3: Not applicable.

No exposure assessment presented for human health.

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion.The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek

immediate medical assistance », to cover this risk.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website:	:	Not available.

Exposure estimation and reference to its source - Environment: 1: Not applicable.

Exposure assessment (environment):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: Product characteristics

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 3: Not applicable.

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Not applicable.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS # : 54247

DIESEL

Date of the previous version: not applicable **Revision Date:** 2018-07-19 **Version** 5

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name **DIESEL**
Substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Fuel for diesel engines and combustion turbines.

1.3. Details of the supplier of the safety data sheet

Supplier

A - TOTAL UK LIMITED
183 Eversholt St, Kings Cross
London, NW1 1BU
UNITED KINGDOM
Tel: +44 (0)20 7339 8000
Fax: +44 (0)20 7339 8033

B - TOTAL MARKETING France
562 avenue du parc de l'île
92000 Nanterre
FRANCE
Tel: +33 (0)1 41 35 40 00

For further information, please contact:

Contact Point A - HSE

B - HSE

E-mail Address A - rm.gb-msds@total.co.uk

B - rm.mkefr-fds@total.com

1.4. Emergency telephone number

Emergency telephone: +44 1235 239670

UK: National Poisons Information Service (NPIS): NHS on 111 or a doctor

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008 ***

SDS # : 54247

DIESEL

Revision Date: 2018-07-19 **Version** 5

*For the full text of the H-Statements mentioned in this Section, see Section 2.2.****

Classification
Flammable liquids - Category 3
Aspiration toxicity - Category 1
Acute inhalation toxicity - vapour - Category 4
Skin corrosion/irritation - Category 2
Carcinogenicity - Category 2
Specific target organ toxicity (repeated exposure) - Category 2
Chronic aquatic toxicity - Category 2

2.2. Label elements

Labelled according to REGULATION (EC) No 1272/2008

Signal word
DANGER

Hazard Statements ***
H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H332 - Harmful if inhaled
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects***

Precautionary statements
P273 - Avoid release to the environment
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P331 - Do NOT induce vomiting
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P501 - Dispose of contents/container to industrial incineration plant***

Contains Fuels diesel.

2.3. Other hazards

Physical-Chemical Properties The product may form flammable mixtures with air when heated above the flash point. In the presence of hot spots, there is a special risk of fire or explosion under certain

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conditions involving accidental release of vapour or leaks of product under pressure.

Properties Affecting Health

Prolonged or repeated contact may cause skin irritation.
Vapours or mists are irritating to mucous membranes, particularly the eyes. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.
If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours).

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Chemical nature

Diesel fuels. A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon chain lengths predominantly in the range of C9 to C20 and boiling in the range of approximately 163°C to 357°C. Contains. Mixture of C16-C18 fatty acids methyl esters.

Hazardous components

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight %	Classification (Reg. 1272/2008)
Fuels diesel***	269-822-7***	01-2119484664-27	68334-30-5	>90	Flam. Liq. 3 (H226) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Carc. 2 (H351) Asp. Tox. 1 (H304) STOT RE 2 (H373) Aquatic Chronic 2 (H411)

Additional information

Contains. multi-purposes additives to boost performance.

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice

IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
Before attempting to rescue casualties, isolate area from all potential sources of ignition including disconnecting electrical supply.
Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces.

Eye contact

Rinse thoroughly with plenty of water, also under the eyelids.
Check for and remove any contact lenses. Rinse eyes.
If eye irritation persists, consult a specialist.

Skin contact

Remove contaminated clothing and shoes. Wash skin with soap and water.
High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

	In this case, the casualty should be sent immediately to hospital. For minor thermal burns, cool the burn. Hold the burned area under cold running water for at least five minutes, or until the pain subsides. Wash off with soap and water.
Inhalation	Inhalation is unlikely because of the low vapour pressure of the substance at ambient temperature. Exposure to vapours may however occur when the substance is handled at high temperatures with poor ventilation. In case of exposure to intense concentrations of vapours, fumes or spray, transport the person away from the contaminated zone, keep warm and allow to rest. Immediately begin artificial respiration if breathing has ceased. Call a physician immediately. If there is any suspicion of inhalation of H2S (hydrogen sulphide). Rescuers must wear breathing apparatus, belt and safety rope, and follow rescue procedures. If not breathing, give artificial respiration. Provision of oxygen may help. Remove casualty to fresh air as quickly as possible. Obtain medical advice for further treatment.
Ingestion	Give nothing to drink. Do NOT induce vomiting. as there is high risk of aspiration. The fluid can enter the lungs and cause damage (chemical pneumonitis, potentially fatal). Take victim immediately to hospital. Do not wait for symptoms to develop.
Protection of first-aiders	CAUTION! First aid personnel must be aware of personal risk during rescue!. Use personal protective equipment. See Section 8 for more detail.

4.2. Most important symptoms and effects, both acute and delayed

Eye contact	May cause slight irritation.
Skin contact	May cause skin irritation and/or dermatitis.
Inhalation	Inhalation of vapours in high concentration may cause irritation of respiratory system. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May cause central nervous system depression. Harmful: If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious inhalation pulmonary lesions (medical survey during 48 hours).

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	Extinguishing media - small fires. Carbon dioxide (CO_2). Dry powder. Sand or earth. Extinguishing media - large fires. Foam. Water fog (trained personnel only).

Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

Special hazard	Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Vapours may form explosive mixtures with air. If sulphur compounds are present in appreciable amounts, combustion products may include also H2S and SOx (sulfur oxides) or sulfuric acid.

5.3. Precautions for fire-fighters

Special protective equipment for fire-fighters	In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Other information	Cool down any tanks and surfaces exposed to fire by spraying abundantly with water. Use water to cool tanks and parts exposed to the thermal flux not caught up in the flames. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Cool containers / tanks with water spray.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information	Except in case of small spillages. The feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency. If required, notify relevant authorities according to all applicable regulations. Avoid direct contact with released material. Evacuate non-essential personnel. For personal protection see section 8. If spilled, take caution, as material can cause surfaces to become very slippery. Ensure adequate ventilation, especially in confined areas. Stay upwind. In case of large spillages, alert occupants in downwind areas. Stop or contain leak at the source, if safe to do so. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Cover discharges with foam in order to reduce the risks of ignition.
Advice for non-emergency personnel	Do not touch or walk through spilled material. Ensure adequate ventilation. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). For personal protection see section 8.
Advice for emergency responders	In case of. Small spillages: normal antistatic working clothes are usually adequate. Large spillages: full body suit of chemically resistant and antistatic material. Work gloves (preferably gauntlets) providing adequate chemical resistance. Remarks:. gloves made of PVA are not water-resistant, and are not suitable for emergency use. Work helmet. Antistatic non-skid safety shoes or boots. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated.

Respiratory protection. A half or full-face respirator with filter(s) for organic vapours (and when applicable for H2S). a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure.
If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

6.2. Environmental precautions

General Information

The product should not be allowed to enter drains, water courses or the soil. Do not allow material to contaminate ground water system.
If necessary. Consult an expert. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Methods for containment

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceus earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Large spillages may be cautiously covered with foam, if available, to limit fire risk. In case of spillage in the water. contain product with floating barriers or other equipment. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.

Methods for cleaning up

Never use dispersing agents. Do not use direct jets.
Do not flush into surface water or sanitary sewer system. Transfer recovered product and other materials to suitable tanks or containers and store/dispose according to relevant regulations.

6.4. Reference to other sections

Personal protective equipment

See Section 8 for more detail.

Waste treatment

See section 13.

Other information

recommended measures are based on the most likely spillage scenarios for this material. However, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken.
Concentration of H2S in tank headspaces may reach hazardous values, especially in case of prolonged storage. This situation is especially relevant for those operations which involve direct exposure to the vapours in the tank.
Spillages of limited amounts of products. especially in the open air when vapours will be usually quickly dispersed. are dynamic situations. which presumably do not entail exposure to dangerous concentrations. As H2S has a density greater than ambient air. a possible exception may regard the build-up of dangerous concentrations in specific spots. like trenches, depressions or confined spaces. In all these circumstances, however, the correct actions should be assessed on a case-by-case basis.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Take precautionary measures against static electricity.
The inspection, cleaning and maintenance of storage containers require the application of strict procedures and must be entrusted to qualified personnel (internal or external).
Ensure adequate ventilation. Vapours may form explosive mixtures with air. Do not smoke.
Avoid breathing vapours or mists. Avoid contact with skin, eyes and clothing.
NEVER ATTEMPT TO PRIME THE CONTAINER SIPHON BY SUCKING WITH THE MOUTH. Prevent the formation of vapors, mists and aerosols.
Do not use compressed air for filling, discharging, or handling operations. Never pierce, drill, grind, cut, saw or weld any empty container.
Do not use mobile phones during handling. For personal protection see section 8.

Technical measures

Ensure adequate ventilation.
WHILE MOVING THE PRODUCT:. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.
Take all necessary precautions to prevent water from entering the containers, tanks, transfer lines etc...

Prevention of fire and explosion

Handle away from any source of ignition (open flame and sparks) and heat (hot manifolds or casings). Take precautionary measures against static discharges. Ground/bond containers, tanks and transfer/receiving equipment. Friction generated by product discharge can create static charges of sufficient magnitude to cause SPARKS WHICH MAY LEAD TO FIRE OR EXPLOSION. Do not allow splash loading and ensure that the product is poured slowly, particularly at the beginning of the operation.
Empty containers may contain flammable or explosive vapours. Never weld any container or empty pipe that has not been degassed.
OPERATE ONLY ON COLD AND DEGASSED TANKS IN VENTILATED PREMISES (TO AVOID RISK OF EXPLOSION).
Design installations (machinery and equipment) to prevent burning product from spreading (tanks, retention systems, interceptors (traps) in drainage systems).

Hygiene measures

When using, do not eat, drink or smoke. Avoid contact with skin, eyes and clothing. Do not put product contaminated rags into workwear pockets. Wash hands before breaks and immediately after handling the product. IF ON SKIN: Wash skin with soap and water. Remove contaminated clothing and shoes.
Gloves must be periodically inspected and changed in case of wear, perforations or contaminations.
Provide regular cleaning of equipment, work area and clothing. Keep away from food, drink and animal feeding stuffs.
Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Use personal protective equipment as required.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Before entering storage tanks and commencing any operation in a confined area, check the atmosphere for oxygen content and flammability. If sulphur compounds are suspected to be present in the product, check the atmosphere for H2S content. Take precautionary measures against static discharges.
. Ensure all equipment is electrically grounded before beginning transfer operations.
Storage installations should be designed with adequate bunds so as to prevent ground or water pollution in case of leaks or spills. Do not remove the hazard labels of the containers (even if they are empty).
. Store the packed products (drums, samples, cans ...) in properly ventilated rooms, away

from damp, heat and any potential source of ignition.
. Preferably keep in the original container. Otherwise, reproduce all the statutory information from the labels onto the new container.
. Keep containers tightly closed and properly labelled. Store separately from oxidising agents.
. Store in accordance with the particular national regulations.***

Materials to avoid Strong oxidising agents. Strong acids. Strong bases. (herbicides...). Halogens.***

Packaging material Use only containers, seals, pipes, etc... made in a material suitable for use with aromatic hydrocarbons. Recommended materials for containers, or container linings use mild steel, stainless steel. High density polyethylene (HDPE). some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.

7.3. Specific use(s)

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parametres

Exposure limits Not relevant

Chemical Name	European Union	The United Kingdom	Ireland
Fuels diesel*** 68334-30-5			TWA 100 mg/m³ STEL 300 mg/m³***

Legend See section 16

DNEL Worker (Industrial/Professional)

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Fuels diesel*** 68334-30-5	4300 mg/m³/15min (aerosol - inhalation)		2.9 mg/kg/8h (dermal) 68 mg/m³/8h (aerosol - inhalation)	

DNEL Consumer

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Fuels diesel*** 68334-30-5	2600 mg/m³/15min (aerosol - inhalation)		1.3 mg/kg/24h (dermal) 20 mg/m³/24h (aerosol - inhalation)	

8.2. Exposure controls

Occupational Exposure Controls

Engineering measures Ensure adequate ventilation. Do not enter empty storage tanks until measurements of available oxygen have been carried out.
When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal protective equipment

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General Information	Protective engineering solutions should be implemented and in use before personal protective equipment is considered.
Respiratory protection	To enter tankers, tanks, reservoirs where the oxygen content is too low, wear insulating respiratory apparatus. . In an emergency or for exceptional short-lasting jobs in an atmosphere polluted by the product, it is necessary to wear a protective respiratory equipment. When using a mask or half mask :. Full face piece respirator with organic vapour/acid gas cartridge or canister. Type A. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.***
Eye protection	If splashes are likely to occur, wear:. Safety glasses with side-shields. or. Face-shield.***
Skin and body protection	Wear suitable protective clothing. hydrocarbon-proof clothing. Protective shoes or boots.***
Hand protection	Hydrocarbon-proof gloves for aromatic hydrocarbons. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. . Note. gloves made of PVA are not water-resistant, and are not suitable for emergency use.***

Repeated or prolonged exposure			
Glove material	Glove thickness	Break through time	Remarks
PVA	(*)	> 480 min	EN 374 (*) all layer thickness
Fluorinated rubber	(*)	> 480 min	EN 374 (*) all layer thickness
Nitrile rubber	> 0.3 mm	> 480 min	EN 374

In case of contact through splashing:			
Glove material	Glove thickness	Break through time	Remarks
Neoprene	> 0.5 mm	> 60 min	EN 374
PVC	> 0.2 mm	> 60 mn	EN 374

Environmental exposure controls

General Information The product should not be allowed to enter drains, water courses or the soil.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Clear
Colour	yellow
Physical state @20°C	liquid
Odour	characteristic
Odour Threshold	No information available

Property	**Values**	**Remarks**	**Method**
pH		Not applicable	
Melting point/range		No information available	
Boiling point/boiling range	**150 - 380*** °C** 302 - 716 °F		ASTM D 86 ASTM D 86

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Flash point	**> 55 °C**		ASTM D 93
	> 131 °F		ASTM D 93
Evapouration rate		Not applicable	
Flammability Limits in Air			
Upper	5 %		
Lower	0.5 %		
Vapour pressure	< 1 kPa @ 37.8 °C		EN 13016-1
Vapour density	> 5		
Relative density		No information available	
Density	820 - 845 kg/m³	@ 15 °C	
Water solubility		Not applicable	
Solubility in other solvents		Soluble in many common organic solvents	
logPow Substance is a UVCB.		Not applicable	
Standard tests for this endpoint are not appropriate			
Autoignition temperature	**> 250 °C**		ASTM E659-78
	> 482 °F		ASTM E659-78
Decomposition temperature		No information available	
Viscosity, kinematic	< 7 mm2/s		
Explosive properties	Not considered explosive based on chemical structure and oxygen balance considerations		
Oxidising properties	This product is not considered oxidising based on chemical structure considerations		
Possibility of hazardous reactions	No data available		

9.2. Other information

Freezing point No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

General Information No information available.

10.2. Chemical stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Heat (temperatures above flash point), sparks, ignition points, flames, static electricity.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents. Strong acids. Strong bases. (herbicides...). Halogens.

10.6. Hazardous Decomposition Products

Hazardous Decomposition Products None under normal use.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity Local effects Product Information

General Information The acute toxicity has been adequately characterised in a large number of GLP-compliant guideline investigations following oral, dermal or inhalation exposure. Findings from an acute inhalation study support classification.

Skin contact Samples of the substance have been tested in skin irritation studies.
Based on a mean erythema score of 3.9 and 2.5 (24, 72 hours)and a mean oedema score of 2.96 and 1.5 (24, 72 hours), distillate fuels oils are irritating to the skin. May cause skin irritation and/or dermatitis.

Eye contact This substance does not meet the EU criteria for classification. Key study indicated that the material is not irritating to the eye.
May cause slight irritation.

Inhalation . Inhalation of vapours in high concentration may cause irritation of respiratory system. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Ingestion . Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May cause central nervous system depression.
Harmful: If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious inhalation pulmonary lesions (medical survey during 48 hours).

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Fuels diesel***	LD50 > 2000 mg/kg bw (rat - OECD 401)***	LD50 > 5000 mg/kg bw (rabbit - OECD 434)***	LC50 (4h) > 4.10 mg/l (aerosol) (rat - OECD 403)

Sensitisation

Sensitisation There are no reports available to indicate that the substance has the potential to cause skin and respiratory sensitisation.

Specific effects

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	European Union
Fuels diesel*** 68334-30-5	Carc. 2 (H351)***

Mutagenicity .

Germ cell mutagenicity The mutagenic potential of the substance has been extensively studied in a range of in-vivo

	and in-vitro assays. Based on in vivo and in vitro mutagenic studies and based on the poor bioavailability, distillate fuel oils do not meet the criteria for classification under EU. Based on modified Ames test, distillate fuels oils containing cracked materials are likely to have some genotoxic potential.
Reproductive toxicity	. All animals studies show that this substance has no effect on development and has no advers reproductive effect. This product does not meet the EU criteria for classification.

Other constituents
Repeated dose toxicity

Target Organ Effects (STOT)

Specific target organ systemic toxicity (single exposure)	Studies do not lead to acute toxic severe systemic effects.
Specific target organ toxicity - repeated exposure	The repeat dose toxicity of the substance has been studied following dermal and inhalation exposure for different periods. Data from repeated dose dermal or inhalation toxicity studies, showed no significant effect toxicity.
Aspiration toxicity	The fluid can enter the lungs and cause damage (chemical pneumonitis, potentially fatal).

Other information

Other information	Not relevant.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Acute aquatic toxicity - Product Information

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Fuels diesel*** 68334-30-5	EL50 (72 h) 22 mg/l (Pseudokirchnerella subcapitata - OECD 201) EL50 (72 h) 2.9 mg/l (Pseudokirchnerella subcapitata - OECD 201)***	EL50 (48 h) 68 mg/l (Daphnia magna - OECD 202) EL50 (48 h) 5.3 mg/l (Daphnia magna - OECD 202)***	LL50 (96 h) 21 mg/l (Oncorhynchus mykiss - OECD 203) LL50 (96 h) 3.2 mg/l (Menidia beryllina – US EPA/600/4-85/013)***	

Chronic aquatic toxicity - Product Information

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Chronic aquatic toxicity - Component Information

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Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic	Toxicity to fish	Toxicity to microorganisms

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		invertebrates.		
Fuels diesel*** 68334-30-5		NOEL (21d) 0.2 mg/l (Daphnia magna - OECD 211)	NOEL (14/28d) 0.083 mg/l (Oncorhynchus mykiss - QSAR Petrotox)	

Effects on terrestrial organisms
No information available.

12.2. Persistence and Degradability

General Information
Substance is a UVCB. Standard tests for this endpoint are not appropriate.

12.3. Bioaccumulative potential

Product Information Substance is a UVCB. Standard tests for this endpoint are not appropriate.

logPow Substance is a UVCB. Standard tests for this endpoint are not appropriate Not applicable
Component Information No information available.

12.4. Mobility in soil

Mobility				
Method	Compartment	Result	(%)	Remarks
Percent distribution in media (Calculation according to Mackay, Level III)	Soil		62.86	
Percent distribution in media (Calculation according to Mackay, Level III)	Sediment		12.64	
Percent distribution in media (Calculation according to Mackay, Level III)	Water		0.14	
Percent distribution in media (Calculation according to Mackay, Level III)	Air		24.36	

Soil Given its physical and chemical characteristics, the product is generally mobile in the ground. May contaminate ground water.

Air Volatilisation is dependent on Henry's Constant which is not applicable to UVCB.

Water The product spreads on the surface of the water. May exhibit slight solubility in water. In water, the majority of components of this product will be absorbed into any sediments. The product are resistant to hydrolysis because they lack a functional group that is hydrolytically reactive.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment Anthracene is not present in this substance at greater than 0.1% (CONCAWE 2010). No other representative hydrocarbon structure were found to meet the PBT/vPvB criteria. This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

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12.6. Other adverse effects

General Information No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products Dispose of in accordance with the European Directives on waste and hazardous waste.

Contaminated packageing Empty containers may contain flammable or explosive vapours. Do not cut, weld, bore, burn or incinerate emptied containers, unless they have been cleaned and declared safe. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EWC Waste Disposal No According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

ADR/RID

UN/ID No	UN1202
Proper shipping name	DIESEL FUEL
Hazard Class	3
Packing group	III
ADR/RID-Labels	3
Environmental hazard	Yes
Classification Code	F1
Special Provisions	640L
Tunnel restriction code	(D/E)
ADR Hazard Id (Kemmler Number)	30
Description	UN1202, DIESEL FUEL, 3, PG III, (D/E)***
Excepted Quantity	E1
Limited quantity	LQ7
Hazchem Code	3Y

IMDG/IMO

UN/ID No	UN1202
Proper shipping name	DIESEL FUEL
Hazard Class	3
Packing group	III
Marine pollutant	P
EmS	F-E, S-E
Description	UN1202, DIESEL FUEL, 3, PG III, (55°C c.c.)
Excepted Quantity	E1
Limited quantity	5 L

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ICAO/IATA

UN/ID No	UN1202
Hazard Class	3
Proper shipping name	DIESEL FUEL
Packing group	III
ERG Code	3L***
Special Provisions	A3
Description	UN1202, DIESEL FUEL, 3, PG III
Excepted Quantity	E1
Limited quantity	10 L

ADN

UN/ID No	UN1202
Proper shipping name	DIESEL FUEL
Hazard Class	3
Hazard Labels	3
Packing group	III
Environmental hazard	Yes
Classification Code	F1
Special Provisions	640K
Description	UN1202, DIESEL FUEL, 3, PG III***
Excepted Quantity	E1
Limited quantity	LQ7
Ventilation	VE01

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

REACH
This substance has been registered according to Regulation (EC) No. 1907/2006 (REACH)

Further information

15.2. Chemical Safety Assessment

15.3. National regulatory information

The United Kingdom

• Avoid exceeding occupational exposure limits (see section 8).

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Ireland

• Avoid exceeding occupational exposure limits (see section 8).

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H332 - Harmful if inhaled
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects***

Abbreviations, acronyms
ACGIH = American Conference of Governmental Industrial Hygienists
bw = body weight
bw/day = body weight/day
EC x = Effect Concentration associated with x% response
GLP = Good Laboratory Practice
IARC = International Agency for Research of Cancer
LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals
LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals
LL = Lethal Loading
NIOSH = National Institute of Occupational Safety and Health
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
NOEL = No Observed Effect Level
OECD = Organization for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material
DNEL = Derived No Effect Level
PNEC = Predicted No Effect Concentration
dw = dry weight
fw = fresh water
mw = marine water
or = occasional release

Legend Section 8

TWA: Time Weight Average
STEL: Short Time Exposure Limit

+	Sensitiser	*	Skin designation
**	Hazard Designation	C:	Carcinogen
M:	Mutagen	R:	Toxic to reproduction

Revision Date: 2018-07-19
Revision Note (M)SDS sections updated. 2.
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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DIESEL

Revision Date: 2018-07-19 **Version** 5

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above.It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk.The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity.The user bears sole liability for the precautions required when using the product.The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive.It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of Safety Data Sheet

SAFETY DATA SHEET

1. Identification

Product identifier	**20-40 Mesh Sand**
Other means of identification	Not available.
Recommended use	Not available.
Recommended restrictions	Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer	Ergon Armor
Division	Corrosion Engineering
Address	300 Stevens Drive, Suite 310 Lester, PA 19113
E-mail	sds@ergon.com
Hours of Operation	8:00 a.m. - 5:00 p.m. US Central Time
24-hour Customer Service	1-800-222-7122
CHEMTREC (N. America)	1-800-424-9300
CHEMTREC (International)	1-703-527-3887

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Carcinogenicity	Category 1B
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	May cause cancer.
Prevention	Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Response	IF exposed or concerned: Get medical advice/attention.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
QUARTZ		14808-60-7	100

4. First-aid measures

Inhalation	Move to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. If breathing is difficult, give oxygen. Get medical attention.

Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
Eye contact	In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 15 minutes. Get medical attention.
Ingestion	Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention.
Most important symptoms/effects, acute and delayed	Not available.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Keep victim warm. Keep victim under observation. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	Not applicable.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In the event of fire, cool tanks with water spray.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Wear appropriate protective equipment and clothing during clean-up.
Methods and materials for containment and cleaning up	Not available.

7. Handling and storage

Precautions for safe handling	Do not breathe dust. Do not get in eyes, on skin, on clothing. Use only with adequate ventilation.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Keep out of reach of children. Store in a cool, dry place. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.3 mg/m3	Total dust.
		0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.
Appropriate engineering controls	Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Individual protection measures, such as personal protective equipment

Eye/face protection	Goggles/face shield are recommended.
Hand protection	Wear protective gloves.
Skin protection	
Other	Wear appropriate clothing to prevent any possibility of skin contact with solutions containing 10% or more of this chemical.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards	Not available.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Not available.
Physical state	Solid.
Form	Not available.
Color	Neutral
Odor	Odorless.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Not available.
Conditions to avoid	None under normal conditions.
Incompatible materials	Strong oxidizing agents. Strong bases.
Hazardous decomposition products	Oxides of silicon.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Not available.
Inhalation	May cause cancer by inhalation.
Skin contact	Not available.
Eye contact	Harmful in contact with eyes.
Symptoms related to the physical, chemical and toxicological characteristics	Not available.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Not available.
Serious eye damage/eye irritation	Harmful in contact with eyes. None known.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	None known.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Hazardous by OSHA criteria. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

IARC Monographs. Overall Evaluation of Carcinogenicity

QUARTZ (CAS 14808-60-7)	1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

QUARTZ (CAS 14808-60-7)	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.
Further information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity	Not expected to be harmful to aquatic organisms.
Persistence and degradability	Not available.
Bioaccumulative potential	Not available.
Mobility in soil	Not available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.
Hazardous waste code	Not applicable.
Waste from residues / unused products	Not available.
Contaminated packaging	No special precautions.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

US. Massachusetts RTK - Substance List

QUARTZ (CAS 14808-60-7)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

QUARTZ (CAS 14808-60-7)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

QUARTZ (CAS 14808-60-7) Listed: October 1, 1988

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 08-13-2015

Version # 01

Further information HMIS® is a registered trade and service mark of the NPCA.

References

ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Safety Data Sheet
Sand S100

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name Sand S100
Product code S100

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Used as a fracturing additive in oilfield applications

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
Schlumberger Oilfield UK PLC
Schlumberger House, Buckingham Gate
Gatwick Airport
West Sussex RH6 0NZ

+ 47 51577424

SDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Germany	+49 69 222 25285
Netherlands	National Poisons Information Centre (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Health hazards

Specific target organ toxicity - Repeated exposure	Category 2

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word
WARNING

Hazard statements
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - EU (§28, 1272/2008)
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P314 - Get medical advice/attention if you feel unwell
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

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Contains
Quartz

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on ingredients

3.1 Substances

Chemical Name	EC No	CAS No	Weight-%	Regulation (EC) No 1272/2008	REACH registration number
Quartz	238-878-4	14808-60-7	60-100	STOT RE 2(H373)	Exempt

3.2 Mixtures

Not applicable

Comments
This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.

4. First aid measures

4.1 First aid measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

Eye Contact Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

General advice The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

Symptoms

Inhalation Please see Section 11. Toxicological Information for further information.

Ingestion Please see Section 11. Toxicological Information for further information.

Skin contact Please see Section 11. Toxicological Information for further information.

Eye contact Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing media appropriate for surrounding material.

Extinguishing media which must not be used for safety reasons
None known.

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards
React with hydrofluoric acid (HF) forming toxic gas (SiF4).

Hazardous combustion products
Thermal decomposition can lead to release of irritating gases and vapours

5.3 Advice for firefighters

Special protective equipment for fire-fighters
As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures
Containers close to fire should be removed immediately or cooled with water.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

Environmental exposure controls
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Vacuum up. Avoid generating dust. Put into suitable containers for disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. For personal protection see section 8.

Hygiene Measures
Use good work and personal hygiene practices to avoid exposure When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions	Provide appropriate exhaust ventilation at places where dust is formed. Keep airborne concentrations below exposure limits.
Storage precautions	Keep containers tightly closed in a dry, cool and well-ventilated place Store away from incompatibles, React with hydrofluoric acid (HF) forming toxic gas (SiF4) Strong oxidising agents
Storage class	Chemical storage.

Packaging materials Use specially constructed containers only Bag with moisture barrier Paper bag (minimum 3 ply), or other industrial container designed for powders and granulated materials

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Component Information

Chemical Name	EU OEL - Third List	Austria	Australia	Denmark
Quartz	Not determined	0.15 mg/m³ TWA alveolar dust, respirable fraction	0.1mg/m³TWArespirable dust	0.3 mg/m³ TWA 0.1 mg/m³ TWA
Chemical Name	**Malaysia**	**France**	**Germany**	**Hungary**
Quartz	0.1 mg/m³ TWA	0.1 mg/m³TWA	Not determined	0.15mg/m³TWA
Chemical Name	**New Zealand**	**Italy**	**Netherlands**	**Norway**
Quartz	0.1 mg/m³ TWA Confirmed carcinogen	0.05 mg/m³	0.075 mg/m³ TWA	0.3 mg/m³ TWA total dust 0.1 mg/m³ TWA respirable dust 0.9 mg/m³ STEL total dust 0.3 mg/m³ STEL respirable dust Carcinogen
Chemical Name	**Poland**	**Portugal**	**Romania**	**Russia**
Quartz	2 mg/m³ TWA NDS >50% free crystalline silica 0.3 mg/m³ TWA NDS >50% free crystalline silica 4.0 mg/m³ TWA NDS 2% to 50% free crystalline silica 1.0 mg/m³ TWA NDS 2% to 50% free crystalline silica	0.025 mg/m³ TWA respirable fraction	0.1mg/m³TWAdust, respirable fraction	3 mg/m³ STEL 1123 disintegration aerosol, total mass of aerosols 3 mg/m³ STEL 1124 total mass of aerosols 1 mg/m³ TWA 1123 1 mg/m³ TWA 1124 Fibrogenic substance glass;regulated under Quartz 1123, 1124
Chemical Name	**Spain**	**Switzerland**	**Turkey**	**UK**
Quartz	0.05 mg/m³ TWA VLA-ED	0.15 mg/m³ TWA MAK	Not determined	Not determined

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls
Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

Eye protection Use eye protection according to EN 166, designed to protect against dusts. Safety glasses with side-shields. Tightly fitting safety goggles.

Hand protection	Wear gloves according to EN 374 to protect against skin effects from powders Repeated or prolonged contact Use protective gloves made of: Nitrile Neoprene gloves Frequent change is advisable
Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment, Suitable mask with particle filter P3 (European Norm 143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
Skin and body protection	Wear appropriate personal protective clothing to prevent skin contact, Eye wash and emergency shower must be available at the work place.

Hygiene Measures Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.

8.2.3 Environmental exposure controls

Environmental exposure Use appropriate containment to avoid environmental contamination See section 6 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Odour	Odourless
Colour	Tan
Odour threshold	Not applicable

Property	Values	Remarks
pH	Not applicable	
pH @ dilution		
Melting / freezing point	> 1700 °C / 3092 °F	
Boiling point/range	No information available	
Flash point	Does not flash	
Evaporation rate	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	Zero	
Vapour density	Not applicable	
Specific gravity	2.6	@20 °C
Bulk density	1100 - 1600 kg/m^3	
Relative density	No information available	
Water solubility	Insoluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
log Pow	No information available	

Explosive properties	Not applicable
Oxidising properties	None known

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

Comments
The data listed above are typical physical and chemical properties and should not be construed as product specification.

10. Stability and reactivity

10.1 Reactivity

React with hydrofluoric acid (HF) forming toxic gas (SiF4).

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation
Hazardous polymerisation does not occur.

Hazardous Reactions
None known.

10.4 Conditions to avoid

Avoid dust formation.

10.5 Incompatible materials

Hydrofluoric acid (HF). Strong oxidising agents.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. May cause respiratory irritation. Repeated or prolonged inhalation of crystalline silica dust can cause delayed lung injury, and other diseases, including silicosis and lung cancer.
Eye contact	Dust may cause mechanical irritation.

Skin contact Repeated exposure may cause skin dryness or cracking.

Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Quartz	= 500 mg/kg (Rat)	No data available	No data available

Sensitisation This product does not contain any components suspected to be sensitizing.

Mutagenic effects This product does not contain any known or suspected mutagens.

Carcinogenicity Contains a known or suspected carcinogen. Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

Routes of exposure Inhalation. Skin contact. Eye contact.

Routes of entry Inhalation.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Category 2.

Target organ effects Respiratory system. Lungs.

Aspiration hazard Not applicable.

12. Ecological information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxicity to algae
This product is not considered toxic to algae.

Toxicity to fish
This product is not considered toxic to fish.

Toxicity to daphnia and other aquatic invertebrates
This product is not considered toxic to invertebrates.

Toxicology data for the components

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Quartz 14808-60-7 (60-100)	No information available	No information available	No information available

12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical.

12.4 Mobility in soil

Mobility
The product is insoluble and sinks in water.

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products — Dispose of in accordance with local regulations.

Contaminated packaging — Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.

EWC Waste Disposal No — According to the European Waste Catalogue, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used The following Waste Codes are only suggestions: EWC waste disposal No: 16 03 03 - inorganic wastes containing dangerous substances

14. Transport information

14.1. UN number
Not regulated

14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

14.3. Hazard class(es)

ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard
No

14.6 Special precautions
Not applicable

14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code
Please contact SDS@slb.com for info regarding transport in Bulk.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Germany, Water Endangering Classes (VwVwS)	Water endangering class = nwg

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

SZW list; Crystalline Silica (respirable) is listed in the SZW list of carcinogenic substances and processes

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
European Union - EINECS and ELINCS	Complies
Canada (DSL)	Complies

Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Europe - REACH

All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006.For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

Denmark Pr. no. 1157297

15.2 Chemical Safety Report

No information available

16. Other information

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Version	7
This SDS has been revised in the following section(s)	1, 8, 9, 15, No changes with regard to classification have been made.

Full text of H-Statements referred to under sections 2 and 3

H373 - May cause damage to organs through prolonged or repeated exposure

Disclaimer

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