

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

XYLENE

Revision Date: 16-Aug-2017

Revision Number: 15

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

1.1. Product Identifier

Product Name XYLENE
Internal ID Code HM001463

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

Recommended Use Solvent
Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC15 - Use as a laboratory reagent

Environmental release category(ies) ERC2 - Formulation of preparations (mixtures) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

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

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 - §45 - (EC)1272/2008	
Europe	112
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	00357 22 88 7171
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
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
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
Acute toxicity - Dermal	Category 4 - H312
Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 2 - H319
Reproductive Toxicity	Category 1B - H360
Specific Target Organ Toxicity - (Single Exposure)	Category 1 - H335 + H336
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 - H373
Flammable liquids.	Category 3 - H226

2.2. Label Elements

Hazard Pictograms



Signal Word:

Danger

Hazard Statements:

H226 - Flammable liquid and vapor
 H304 - May be fatal if swallowed and enters airways
 H312 - Harmful in contact with skin
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H360 - May damage fertility or the unborn child
 H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements:

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P308 + P313 - IF exposed or concerned: Get medical advice/attention

Contains

Substances

Xylene
 Ethyl benzene
 Toluene

CAS Number

1330-20-7
 100-41-4
 108-88-3

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
------------	--------	------------	---------------	-----------------------------------	---------------

Xylene	215-535-7	1330-20-7	60 - 100%	Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Asp. Tox. 1 (H304) Flam. Liq. 3 (H226)	01-2119488216-32
Ethyl benzene	202-849-4	100-41-4	10 - 30%	Acute Tox. 4 (H332) STOT SE 3 (H336) STOT RE 2 (H373) Asp. Tox. 1 (H304) Aquatic Chronic 3 (H412) Flam. Liq. 2 (H225)	01-2119489370-35
Toluene	203-625-9	108-88-3	0.1 - 1%	Skin Irrit. 2 (H315) Repr. 1B (H360) STOT RE 2 (H373) Asp. Tox. 1 (H304) STOT SE 3 (H336) Aquatic Chronic 3 (H412) Flam. Liq. 2 (H225)	01-2119471310-51

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, move victim to fresh air and seek medical attention.

Eyes

In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

Ingestion

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

Harmful in contact with skin. Causes eye irritation. Causes skin irritation. May cause respiratory irritation. May cause headache, dizziness, and other central nervous system effects. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. Potential reproductive hazard. May cause damage to organs through prolonged or repeated exposure.

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

Carbon dioxide, dry chemical, foam.

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

May be ignited by heat, sparks or flames Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Avoid spraying water directly into storage containers due to danger of boilover. 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

Remove sources of ignition. Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation. Evacuate all persons from the area.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas. Consult local authorities.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. 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

Remove sources of ignition. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another. Ensure adequate ventilation.

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. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 60 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
Xylene	1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 100 ppm STEL: 441 mg/m ³	TWA: 210 mg/m ³ STEL: 442 mg/m ³	50 ppm
Ethyl benzene	100-41-4	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³	TWA: 100 ppm TWA: 441 mg/m ³ STEL: 125 ppm STEL: 552 mg/m ³	TWA: 215 mg/m ³ STEL: 430 mg/m ³	20 ppm
Toluene	108-88-3	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³	TWA: 50 ppm TWA: 191 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³	TWA: 150 mg/m ³ STEL: 384 mg/m ³	TWA: 20 ppm TWA: 76.8 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³

Substances	CAS Number	Germany	Spain	Portugal	Finland
Xylene	1330-20-7	TWA: 100 ppm TWA: 440 mg/m ³ Peak: 200 ppm Peak: 880 mg/m ³	TWA: 50 ppm TWA: 221 mg/m ³ 100 ppm STEL [VLA-EC]; 442 mg/m ³ STEL [VLA-EC]	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 100 ppm STEL: 440 mg/m ³
Ethyl benzene	100-41-4	TWA: 20 ppm TWA: 88 mg/m ³ Peak: 40 ppm Peak: 176 mg/m ³	TWA: 100 ppm TWA: 441 mg/m ³ 200 ppm STEL [VLA-EC]; 884 mg/m ³ STEL [VLA-EC]	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 200 ppm STEL: 880 mg/m ³
Toluene	108-88-3	TWA: 50 ppm TWA: 190 mg/m ³ Peak: 200 ppm Peak: 760 mg/m ³	TWA: 50 ppm TWA: 192 mg/m ³ 100 ppm STEL [VLA-EC]; 384 mg/m ³ STEL [VLA-EC]	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³	TWA: 25 ppm TWA: 81 mg/m ³ STEL: 100 ppm STEL: 380 mg/m ³

XYLENE

Revision Date: 16-Aug-2017

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Xylene	1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL" 100 ppm STEL" 442 mg/m ³	50 ppm TWA; 221 mg/m ³ TWA 100 ppm STEL; 442 mg/m ³ STEL	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 200 ppm STEL: 870 mg/m ³	TWA: 25 ppm TWA: 108 mg/m ³ STEL: 37.5 ppm STEL: 135 mg/m ³
Ethyl benzene	100-41-4	TWA: 100 ppm TWA: 440 mg/m ³ STEL" 200 ppm STEL" 880 mg/m ³	100 ppm TWA; 442 mg/m ³ TWA 200 ppm STEL; 884 mg/m ³ STEL	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 50 ppm STEL: 220 mg/m ³	TWA: 5 ppm TWA: 20 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³
Toluene	108-88-3	TWA: 50 ppm TWA: 190 mg/m ³ STEL" 100 ppm STEL" 380 mg/m ³	50 ppm TWA; 192 mg/m ³ TWA 384 mg/m ³ STEL (as Mn); 100 ppm STEL	TWA: 50 ppm TWA: 190 mg/m ³ STEL: 200 ppm STEL: 760 mg/m ³	TWA: 25 ppm TWA: 94 mg/m ³ STEL: 37.5 ppm STEL: 141 mg/m ³

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Xylene	1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³	TWA: 100 mg/m ³	TWA: 221 mg/m ³ STEL: 442 mg/m ³	TWA: 200 mg/m ³
Ethyl benzene	100-41-4	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³	TWA: 200 mg/m ³ STEL: 400 mg/m ³	TWA: 442 mg/m ³ STEL: 884 mg/m ³	TWA: 200 mg/m ³
Toluene	108-88-3	TWA: 50 ppm TWA: 192 mg/m ³	TWA: 100 mg/m ³ STEL: 200 mg/m ³	TWA: 190 mg/m ³ STEL: 380 mg/m ³	TWA: 200 mg/m ³

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Xylene	1330-20-7	TWA: 25 ppm TWA: 109 mg/m ³	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³
Ethyl benzene	100-41-4	TWA: 50 ppm TWA: 217 mg/m ³	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³
Toluene	108-88-3	TWA: 25 ppm TWA: 94 mg/m ³	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³

Substances	CAS Number	Bulgaria	Turkey
Xylene	1330-20-7	TWA: 50 ppm TWA: 221.0 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³
Ethyl benzene	100-41-4	TWA: 435 mg/m ³ STEL: 545 mg/m ³	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³
Toluene	108-88-3	TWA: 50 ppm TWA: 192.0 mg/m ³ STEL: 100 ppm STEL: 384.0 mg/m ³	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³

Derived No Effect Level (DNEL)

No information available

Worker

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects
Xylene	77 mg/m ³	289 mg/m ³	Not available	289 mg/m	180 mg/kg	Not available	Not available	Not available	Not available

General Population

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Long-term exposure - systemic effects, Oral	Acute / short term exposure - local effects, Oral	Hazards for the eyes - local effects
Xylene	14,8 mg/m ³	174 mg/m ³	Not available	174 mg/m ³	108 mg/kg	Not available	Not available	Not available	Not available	Not available	Not available

Predicted No Effect Concentration (PNEC)

No information available.

Substances	Freshwater	Marine water	Intermittent release	Sewage treatment plant	Sediment (freshwater)	Sediment (marine water)	Air	Soil	Secondary poisoning
Xylene	0,327 mg/l	0,327 mg/l	Not available	6,58 mg/l	12,46 mg/kg	12,46 mg/kg	Not available	2,31 mg/kg	Not 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

Organic vapor respirator.

Hand Protection

Impervious rubber gloves.

Skin Protection

Rubber apron.

Eye Protection

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

Other Precautions

None known.

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

Color: Clear to water white

Odor: Aromatic hydrocarbon

Odor Threshold: No information available

PropertyValues

Remarks/ - Method

pH:

7

Freezing Point / Range

No data available

Melting Point / Range

No data available

Boiling Point / Range

138 °C / 281 °F

Flash Point

26 °C / 79 °F PMCC

Flammability (solid, gas)

No data available

Upper flammability limit

7%

Lower flammability limit

1%

Evaporation rate

No data available

Vapor Pressure

21 mmHg

Vapor Density

No data available

Specific Gravity

0.86

Water Solubility

Insoluble in water

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

498 °C / 930 °F

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

9.2. Other information

Molecular Weight

106 g/mol

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

Keep away from heat, sparks and flame.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Toxic fumes. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Inhalation

May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact

Causes eye irritation.

Skin Contact

Harmful in contact with skin. Causes skin irritation. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.

Ingestion

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. Irritation of the mouth, throat, and stomach. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause eye, blood, lung, liver, kidney, heart, central nervous system and spleen damage. Suspected of damaging fertility or the unborn child.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Xylene	1330-20-7	3523 mg/kg bw (Rat)	>4200 mg/kg (rabbit)	27.6 mg/L (Rat, 4h, vapor)
Ethyl benzene	100-41-4	3500 mg/kg-bw (rat)	15400 mg/kg (rabbit)	17.8 mg/L (Rat, 4h, vapor)
Toluene	108-88-3	5580 mg/kg (Rat)	12,000 mg/kg (Rat)	28.1 mg/L (Rat) 4h

Substances	CAS Number	Skin corrosion/irritation
Xylene	1330-20-7	Causes skin irritation.
Ethyl benzene	100-41-4	Causes mild skin irritation
Toluene	108-88-3	Skin, rabbit: Causes moderate skin irritation.

Substances	CAS Number	Serious eye damage/irritation
Xylene	1330-20-7	Causes moderate eye irritation (Rabbit)
Ethyl benzene	100-41-4	Causes mild eye irritation.
Toluene	108-88-3	Causes moderate eye irritation

Substances	CAS Number	Skin Sensitization
Xylene	1330-20-7	Did not cause sensitization on laboratory animals (mouse)
Ethyl benzene	100-41-4	Not regarded as a sensitizer.
Toluene	108-88-3	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Xylene	1330-20-7	No information available
Ethyl benzene	100-41-4	No information available
Toluene	108-88-3	No information available

Substances	CAS Number	Mutagenic Effects
Xylene	1330-20-7	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Ethyl benzene	100-41-4	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Toluene	108-88-3	The weight of evidence from available in vitro and in vivo studies indicates that this substance is not expected to be mutagenic.

Substances	CAS Number	Carcinogenic Effects
Xylene	1330-20-7	Did not show carcinogenic effects in animal experiments
Ethyl benzene	100-41-4	Not regarded as carcinogenic.
Toluene	108-88-3	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
Xylene	1330-20-7	Did not show teratogenic effects in animal experiments. Animal testing did not show any effects on fertility.
Ethyl benzene	100-41-4	Animal testing did not show any effects on fertility. Adverse developmental effects were only observed at maternally toxic doses.

Toluene	108-88-3	Fetotoxic and teratogenic effects observed in experimental animals at concentrations that did not produce maternal toxicity.
---------	----------	------------------------------------------------------------------------------------------------------------------------------

Substances	CAS Number	STOT - single exposure
Xylene	1330-20-7	May cause respiratory irritation.
Ethyl benzene	100-41-4	May cause anesthetic or narcotic effects. May cause disorder and damage to the Central Nervous System (CNS) May cause headache, dizziness, and other central nervous system effects.
Toluene	108-88-3	May cause headache, dizziness, and other central nervous system effects.

Substances	CAS Number	STOT - repeated exposure
Xylene	1330-20-7	No significant toxicity observed in animal studies at concentration requiring classification.
Ethyl benzene	100-41-4	Causes damage to organs through prolonged or repeated exposure if inhaled: Ears
Toluene	108-88-3	Causes damage to organs through prolonged or repeated exposure if inhaled: Central Nervous System (CNS)

Substances	CAS Number	Aspiration hazard
Xylene	1330-20-7	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Ethyl benzene	100-41-4	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Toluene	108-88-3	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

Ecotoxicity effects

Toxic to aquatic organisms Toxic to aquatic life.

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Xylene	1330-20-7	EC50 (72h) = 4.9 mg/L (Pseudokirchnerella subcapitata)	NOEC (56d) > 1.3 mg/L (Oncorhynchus mykiss) LC50 (96h) 2.6 mg/L (Oncorhynchus mykiss)	No information available	LC50 (24h) = 1mg/L (Daphnia magna)
Ethyl benzene	100-41-4	EC50 (96 h) 3.6 mg/L (Pseudokirchneriella subcapitata) EC50 (8 d) 4.8 mg/L (Pseudokirchneriella subcapitata)	LC50 (96 h) 4.2 mg/L (Oncorhynchus mykiss)	EC50 (24h) 96 mg/L (Nitrosomonas sp.)	EC50 (48 h) 1.8 mg/L (Daphnia magna) NOEC (7 d) 0.96 mg/L (Ceriodaphnia dubia)
Toluene	108-88-3	EC50 (3h) 134 mg/L (Chlamydomonas angulosa) EC50 (72h) 12.5 mg/L (Selenastrum capricornutum)	LC50 (96h) 5.8 mg/L (Oncorhynchus mykiss) LC50 (96h) 5.5 mg/L (Oncorhynchus kisutch) NOEC (40d) 1.4 mg/L (Oncorhynchus kisutch)	IC50 (24h) 84 mg/L (Nitrosomonas sp.)	LC50 (48h) 3.78 mg/L (Ceriodaphnia dubia) EC50 (48h) 11.5 mg/L (Daphnia magna) NOEC (7d) 0.74 mg/L (Ceriodaphnia dubia) NOEC (21d) 1 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Xylene	1330-20-7	Readily biodegradable (87.8% @ 28d)
Ethyl benzene	100-41-4	Readily biodegradable (79% @ 28d)
Toluene	108-88-3	Readily biodegradable

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Xylene	1330-20-7	Log Pow 2.8-3.22.8-3.22.8
Ethyl benzene	100-41-4	LogPow 3.6
Toluene	108-88-3	2.73

12.4. Mobility in soil

Substances	CAS Number	Mobility
Xylene	1330-20-7	KOC = 537

Ethyl benzene	100-41-4	KOC = 520
Toluene	108-88-3	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
Xylene	Not PBT/vPvB
Ethyl benzene	Not PBT/vPvB
Toluene	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.

Contaminated Packaging

Follow all applicable national or local regulations.

SECTION 14: Transport information**IMDG/IMO**

UN Number UN1307
 UN proper shipping name: Xylenes
 Transport Hazard Class(es): 3
 Packing Group: III
 Environmental Hazards: Not applicable

RID

UN Number UN1307
 UN proper shipping name: Xylenes
 Transport Hazard Class(es): 3
 Packing Group: III
 Environmental Hazards: Not applicable

ADR

UN Number UN1307
 UN proper shipping name: Xylenes
 Transport Hazard Class(es): 3
 Packing Group: III
 Environmental Hazards: Not applicable

IATA/ICAO

UN Number UN1307
 UN proper shipping name: Xylenes
 Transport Hazard Class(es): 3
 Packing Group: III
 Environmental Hazards: Not applicable

14.1. UN Number UN1307

14.2. UN proper shipping name: Xylenes

14.3. Transport Hazard Class(es): 3

14.4. Packing Group III

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

EINECS (European Inventory of Existing Chemical Substances)	This product, and all its components, complies with EINECS
US TSCA Inventory	All components listed on inventory or are exempt.
Canadian Domestic Substances List (DSL)	All components listed on inventory or are exempt.

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

Germany, Water Endangering Classes (WGK) WGK 2: Hazard to waters.

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Toluene	108-88-3	Use restricted. See item 48.	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

H225 - Highly flammable liquid and vapor
H226 - Flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H360 - May damage fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H412 - Harmful to aquatic life with long lasting effects

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/

OSHA

ECHA C&L

Revision Date: 16-Aug-2017

Revision Note

SDS sections updated:

1

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

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

Revision Number: 15

Revision Date: 16-Aug-2017

XYLENE

Annex to SDS					
Substances	CAS Number	Process categories	Environmental release category	Product category(ies)	Sector of uses
Xylene	1330-20-7	PROC4; PROC8b; PROC15	ERC2; PROC4	-	SU2a; SU2b

Exposure Scenario

Application of bulk onshore/offshore oilfield liquid or solid/powder.

1. Title Section

Use Use in batch process where opportunities for exposure arise.
Transfer from support vessel to installation.
Transfer from bulk/ IBC/ drum to on-site storage, transfer to process.
Transfer from pot/tin/tube to process. On-site sampling and testing e.g. QC

Sector of uses SU2a - Mining, (without offshore industries)
SU2b - Offshore industries

Worker

Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC15 - Use as a laboratory reagent

Product category(ies) Not applicable

Article categories Not applicable

Environmental

Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

2. Conditions of use affecting exposure**Control of environmental exposure**

Amount used, frequency and duration of use (or from service life)

Substances	Daily Amount Per Site	Annual site tonnage	Frequency	Duration of use
Xylene	333 kg	100	-	300

Technical and organisational conditions and measures

Substances	Technical and organisational conditions and measures
Xylene	Prevent entry into waterways, sewers, basements or confined areas. Do not apply industrial sludge to natural soils.

Conditions and measures related to sewage treatment plant

Substances	Conditions and measures related to sewage treatment plant
Xylene	Onsite sewage treatment plant, or, Domestic sewage treatment plant.

Substances	Assumed municipal sewage treatment plant flow m3/d	Wastewater Emission Removal Efficiency	Estimated product removal from wastewater via municipal sewage treatment
Xylene	2000 m3/d	93.6%	-

Conditions and measures related to treatment of waste (including article waste)

Substances	Conditions and measures related to treatment of waste (including article waste)
Xylene	Where appropriate material should be recovered and recycled through the process. The preferred waste management option is to: Burn in a municipal incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Other conditions affecting environmental exposure

Substances	Receiving surface water flow m3/d	Degradation
Xylene	-	87.8% @ 28d

Control of Worker Exposure

Product (article) characteristics

Physical State:	Liquid
Vapor Pressure	21 mmHg
Dustiness	Not applicable

Substances	Limit the substance content in the product to
Xylene	100%

Amount used (or contained in articles), frequency and duration of use/exposure

Substances	Amounts used (daily)	Covers daily exposures up to (hours/day)	Frequency (days/year)
Xylene	-	8	365

Technical and organisational conditions and measures

Substances	Technical and organisational conditions and measures
Xylene	Provide a basic standard of general ventilation (3 to 5 air changes per hour). Clear spills immediately. Use drum pumps or carefully pour from container. Avoid carrying out activities involving exposure for more than 1 hour.

Conditions and measures related to personal protection, hygiene and health evaluation

Substances	Conditions and measures related to personal protection, hygiene and health evaluation
Xylene	Use suitable eye protection. Wear suitable gloves tested to EN374. Wear respiratory protection. Refer to section 8 of the SDS.

Other conditions affecting workers exposure

Substances	Other conditions affecting workers exposure
Xylene	Assumes use at not more than 20°C above ambient temperature (unless stated differently). Provide basic employee training to prevent/minimize exposures.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Substances	Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Xylene	Wash hands after use. Launder contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

3. Exposure estimation and reference to its source

Environmental release and exposure

Substances	Release to Water	Release to Air	Release to Soil	Release estimation method	Local freshwater dilution factor	Local marine water dilution factor
Xylene	PROC15: 2%	PROC15: 2.5%	PROC15: 0.01%	No information available	PROC 15: 10	PROC15: 100

Worker exposure

Substances	Worker exposure
Xylene	When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterization ratios are expected to be less than 1.

Substances
Xylene

CAS Number
1330-20-7

Revision Number: 15

Revision Date: 16-Aug-2017

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

Scaling method

For scaling see: <http://www.ecetoc.org/tra>, ECETOC TRA worker v2.3, modified version.

Scaling parameters

The DU works inside the boundaries set by the ES if either the proposed risk management measures as described above are met or the downstream user can demonstrate on his own that his implemented risk management measures are adequate.