



Safety Data Sheet Mutual Solvent U66

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name Mutual Solvent U66
Product code U066
Norway Pr. no. 17121
Denmark Pr. no. 1005912

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

Recommended Use Solvent in oilfield applications

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

Schlumberger Oilfield UK PLC
Victory House, Churchill Court
Manor Royal, Crawley
West Sussex RH10 9LU
+ 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
- Brazil 0800 707 7022

2. Hazards identification

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Health hazards

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute inhalation toxicity - Vapour	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word

WARNING

Hazard statements

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove victim 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

P362 - Take off contaminated clothing and wash before reuse

Supplementary precautionary statements

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P311 - Call a POISON CENTER or doctor/physician

P330 - Rinse mouth

P332 + P313 - If skin irritation occurs: Get medical advice/ attention

P337 + P313 - If eye irritation persists: Get medical advice/attention

P403 + P235 - Store in a well-ventilated place. Keep cool

P501 - Dispose of contents/ container to an approved waste disposal plant

Contains

2-butoxyethanol

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on ingredients

3.1 Substances

Component	EC-No.	CAS-No	Weight % -	Classification	Classification (Reg.	REACH
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			range	(67/548)	1272/2008)	registration number
2-butoxyethanol	203-905-0	111-76-2	60-100	Xn; R20/21/22 Xi; R36/38	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	01-2119475108-36-x xxx

3.2 Mixtures

Not Applicable

4. First aid measures

4.1 First Aid

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	IF SWALLOWED: Rinse mouth DO NOT induce vomiting. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Seek medical attention.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Get medical attention.

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.
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Main 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.
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5. Fire-fighting measures

5.1 Extinguishing media**Suitable extinguishing media**

Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Extinguishing media which shall not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture**Unusual fire and explosion hazards**

None known.

Hazardous combustion products

When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.

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. Avoid breathing vapours or mists. See also section 8.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil. Keep out of waterways.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up

Absorb with earth, sand or other non-combustible material and transfer to containers for later 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. Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Avoid spills and splashing during use.

Hygiene measures

Use good work and personal hygiene practices to avoid exposure Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing Do not eat, drink or smoke when using this product

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded Keep away from direct sunlight Incompatible with oxidising agents

Storage class Chemical storage.

Packaging material Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Component	EU OEL - Third List	Austria	Australia	Denmark
2-butoxyethanol	50 ppm STEL 246 mg/m ³ STEL 20 ppm TWA 98 mg/m ³ TWA Possibility of significant uptake through the skin	40 ppm STEL 200 mg/m ³ STEL 20 ppm TWA 98 mg/m ³ TWA	50ppmSTEL 242mg/m ³ STEL 20ppmTWA 96.9mg/m ³ TWA skin notation	20 ppm 98 mg/m ³
Component	Malaysia	France	Germany	Hungary
2-butoxyethanol	20 ppm TWA 96.7 mg/m ³ TWA Skin notation	50ppmSTEL 246mg/m ³ STEL 10 ppmTWA 49 mg/m ³ TWA	10 ppm TWA 49 mg/m ³ TWA	98mg/m ³ TWA 246mg/m ³ STEL
Component	New Zealand	Italy	Netherlands	Norway
2-butoxyethanol	25 ppm TWA 121 mg/m ³ TWA Possibility of significant uptake through the skin	Not determined	100 mg/m ³ TWA	10 ppm TWA 50 mg/m ³ TWA 10 ppm STEL 50 mg/m ³ STEL Skin
Component	Poland	Portugal	Romania	Russia
2-butoxyethanol	200 mg/m ³ STEL NDSCh 98 mg/m ³ TWA NDS	Skin 50 ppm STEL VLE-CD 246 mg/m ³ STEL VLE-CD 20 ppm TWA indicative limit value 98 mg/m ³ TWA indicative limit value	50ppmSTEL 246mg/m ³ STEL 20ppmTWA 98mg/m ³ TWA	5 mg/m ³ MAC
Component	Spain	Switzerland	Turkey	UK
2-butoxyethanol	50 ppm STEL 245 mg/m ³ STEL Skin	20 ppm STEL 98 mg/m ³ STEL Skin	50 ppm STEL 246 mg/m ³ STEL Skin	50 ppm STEL 246 mg/m ³ STEL Skin

	20 ppm TWA VLA-ED 98 mg/m ³ TWA VLA-ED	10 ppm TWA MAK 49 mg/m ³ TWA MAK	20 ppm TWA 98 mg/m ³ TWA	25 ppm TWA 123 mg/m ³ TWA
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Component Information

Notes

No biological limit allocated

Derived No Effect Level (DNEL)

Short term exposure local effects

2-butoxyethanol

Inhalation 246 mg/m³

Short term exposure systemic effects

2-butoxyethanol

Dermal 89 mg/kg

Inhalation 1091 mg/m³

Long term exposure systemic effects

2-butoxyethanol

Dermal 125 mg/kg

Inhalation 98 mg/m³

Predicted No Effect Concentration (PNEC)

2-butoxyethanol

Fresh Water 8.8 mg/l

Sea Water 0.88 mg/l

Fresh water sediment 34.6 mg/kg

Sea sediment 3.46 mg/kg

Soil 2.33 mg/kg

Impact on sewage treatment 463 mg/l

Intermittent release 9.1 mg/l

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 measures to

reduce exposure

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

Eye protection

Safety glasses with side-shields. For spills and emergencies, also wear face shield.

Hand protection

Impervious gloves made of: Rubber, PVC, Neoprene, Be aware that liquid may penetrate the gloves. Frequent change is advisable.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators, In case of inadequate ventilation wear respiratory protection, Use respirator with organic vapor protection (A, brown), 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 breaks and immediately after handling the product, Remove and wash contaminated clothing before re-use.



9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Odour	Ether
Colour	Colourless
Odour threshold	No information available

Property	Values	Remarks
pH	Not applicable	
pH @ dilution		
Melting/freezing point	-70 °C / -94 °F	
Boiling point/range	~170 °C / 338 °F	
Flash point	66 °C / 150.8 °F	PMCC
Evaporation rate	No information available	
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	10.6 %	
Lower flammability limit	1.1 %	
Vapour pressure	0.1 kPa	@ 25 °C
Vapour density	4.1 (air = 1)	
Specific gravity	0.9	25 °C
Bulk density	No information available	Not applicable
Relative density	No information available	
Water solubility	Miscible with water.	
Solubility in other solvents	No information available	
Autoignition temperature	~ 240 °C / 464 °F	
Decomposition temperature	> 242°C / 467.6 °F	
Kinematic viscosity		No information available
Dynamic viscosity	3 mPa s @25 °C	
Log Pow	0.81	
Explosive properties	None known	
Oxidising properties	None known	

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	100
Density	No information available

10. Stability and reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Keep away from direct sunlight.

10.5 Incompatible materials

Oxidizing agents.

10.6 Hazardous decomposition products

See also section 5.2.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Harmful by inhalation.
Eye contact	Causes serious eye irritation.
Skin contact	Harmful in contact with skin. May be absorbed through the skin in harmful amounts. Irritating to skin.
Ingestion	Harmful if swallowed.
Unknown acute toxicity	Not Applicable.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-butoxyethanol	1200 mg/kg (Guinea pigs)	> 2000 mg/kg (Rat)	400 ppm (Rabbit)

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 This product does not contain any known or suspected carcinogens.

Reproductive toxicity	This product does not contain any known or suspected reproductive hazards.
Routes of exposure	Inhalation. Skin contact. Eye contact. Ingestion.
Routes of entry	Inhalation. Skin absorption. Skin contact. Eye contact. Ingestion.
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified.
Target organ effects	Kidney. Central nervous system. Blood. Liver.
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

See component information below.

Toxicity to fish

See component information below.

Toxicity to daphnia and other aquatic invertebrates

See component information below.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
2-butoxyethanol	= 2950 mg/L LC50 Lepomis macrochirus 96 h = 1490 mg/L LC50 Lepomis macrochirus 96 h	No information available	= 1698 - 1940 mg/L (LC50; Daphnia magna) = 1720 mg/L (EC50; water flea)

12.2 Persistence and degradability

Product is biodegradable.

12.3 Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating.

Log Pow

0.81

12.4 Mobility in soil**Mobility**

Soluble 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: 07 01 04; 16 03 05; 16 10 01

14. Transport information**14.1 UN number**

Not regulated

14.2 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 Hazardous to water/Class 1
Classes (VwVwS)

Australian Standard for the Uniform Scheduling of Drugs and Poisons

2-butoxyethanol
Schedule 6

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.

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP) 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

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland
Supersedes date	26/Jun/2014
Revision date	28/Sep/2016
Version	2
The following sections have been revised:	11. Toxicological information, No changes with regard to classification have been made.

Text of R phrases mentioned in Section 3

R36/38 - Irritating to eyes and skin

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.