SDS no. F112
Version 2
Revision date 21-Sep-2016
Supersedes date 23-Jun-2014

Safety Data Sheet
Surfactant F112

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

1.1 Product identifier

Product name Surfactant F112
Product code F112

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

Recommended Use Surfactant in oilfield applications

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000
+47 5157 7424

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, Canada 001 613 996 6666

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to (EC) No. 1272/2008

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Environmental hazards

Acute aquatic toxicity	Category 1

Physical Hazards Not classified

2.2 Label elements

Signal word
WARNING

Hazard statements
H315 - Causes skin irritation
H400 - Very toxic to aquatic life
H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing and eye/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P391 - Collect spillage
P501 - Dispose of contents/container in accordance with local regulations.

Supplementary precautionary statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P332 + P313 - If skin irritation occurs: Get medical advice/ attention
P337 + P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse

Contains
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-

Dicoco dimethyl quaternary ammonium chloride

Propan-2-ol

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

3. Composition/information on ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-	500-077-5	31726-34-8	10-<20	Xn; R22 Xi; R36/38	Acute tox. Cat. 4 (H302) Skin irrit. Cat. 2 (H315) Eye irrit. Cat. 2 (H319)	No data available
Dicoco dimethyl quaternary ammonium chloride	263-087-6	61789-77-3	0.5-<1.0	C;R34 Xn;R22 N;R51/53	Acute Tox. 4 (H302) Skin Corr. 1C (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400)	No data available
Propan-2-ol	200-661-7	67-63-0	0.1-<0.25	F;R11 R67 Xi;R36	Flam. Liq. 2, (H225) STOT SE 3 (H336) Eye Irrit. 2 (H319)	01-2120063207-61-xxxx

Comments
The product contains other ingredients which do not contribute to the overall classification.

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 If swallowed, call a poison control center or doctor immediately. Do NOT induce vomiting. If conscious, drink plenty of water.

Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation persists.

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 immediate 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.

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.

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.

Thermal decomposition can lead to release of irritating gases and vapors, Carbon oxides (COx), Nitrogen oxides (NOx).

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.

Hazchem code ADG
3Z

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable 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 materials for containment and cleaning up

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

Methods for cleaning up
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13). 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. Do not get in eyes, on skin or on clothing. Avoid spills and splashing during use.

Hygiene measures
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands before eating, drinking or smoking Remove contaminated clothing.

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. Avoid contact with: Strong oxidizing 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	Austria	Australia	Denmark
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-	Not determined	Not determined	Not determined	Not determined
Dicoco dimethyl quaternary ammonium chloride	Not determined	Not determined	Not determined	Not determined
Propan-2-ol	Not determined	800 ppm STEL 2000 mg/m³ STEL 200 ppm TWA 500 mg/m³ TWA	500ppmSTEL 1230mg/m³STEL 400ppmTWA 983mg/m³TWA	200 ppm 490 mg/m³
Component	**Malaysia**	**France**	**Germany**	**Hungary**
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-	Not determined	Not determined	Not determined	Not determined
Dicoco dimethyl quaternary ammonium chloride	Not determined	Not determined	Not determined	Not determined
Propan-2-ol	400 ppm TWA 983 mg/m³ TWA	400ppmSTEL 980mg/m³STEL	200 ppm TWA 500 mg/m³ TWA	500mg/m³TWA 2000mg/m³STEL
Component	**New Zealand**	**Italy**	**Netherlands**	**Norway**
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-	Not Determined	Not determined	Not determined	Not determined
Dicoco dimethyl quaternary ammonium chloride	Not Determined	Not determined	Not determined	Not determined
Propan-2-ol	500 ppm STEL 1230 mg/m³ STEL 400 ppm TWA 983 mg/m³ TWA	Not determined	Not determined	100 ppm TWA 245 mg/m³ TWA 100 ppm STEL 245 mg/m³ STEL
Component	**Poland**	**Portugal**	**Romania**	**Russia**
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-	Not determined	Not determined	Not determined	Not determined
Dicoco dimethyl quaternary ammonium chloride	Not determined	Not determined	Not determined	Not determined
Propan-2-ol	1200 mg/m³ STEL NDSCh 900 mg/m³ TWA NDS	400 ppm STEL VLE-CD 200 ppm TWA	203ppmSTEL 500mg/m³STEL 81ppmTWA 200mg/m³TWA	50 mg/m³ STEL 1721 vapor 10 mg/m³ TWA 1721
Component	**Spain**	**Switzerland**	**Turkey**	**UK**
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-	Not determined	Not determined	Not determined	Not determined
Dicoco dimethyl quaternary ammonium chloride	Not determined	Not determined	Not determined	Not determined

Propan-2-ol	400 ppm STEL 1000 mg/m³ STEL 200 ppm TWA VLA-ED 500 mg/m³ TWA VLA-ED	400 ppm STEL 1000 mg/m³ STEL 200 ppm TWA MAK 500 mg/m³ TWA MAK	Not determined	500 ppm STEL 1250 mg/m³ STEL 400 ppm TWA 999 mg/m³ TWA

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	It is good practice to wear goggles when handling any chemical. Tightly fitting safety goggles.
Hand protection	Impervious gloves made of:, Nitrile, Butyl, Be aware that liquid may penetrate the gloves. Frequent change is advisable.
Respiratory protection	No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Use respirator with organic vapor/acid gas protection (E, yellow), 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	Aqueous solution
Odor	Alcohol
Color	Clear Yellow
Odor threshold	Not applicable

Property	**Values**	**Remarks**
pH	9-11	
pH @ dilution		
Melting/freezing point	5 °C / 41 °F	
Boiling point/range	~ 100 °C / 212 °F	
Flash point	> 93.3 °C / > 199.4 °F	PMCC
Evaporation rate (BuAc =1)		
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	

Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	~ 1.0	@ 20 °C
Bulk density	No information available	
Relative density	~ 1.0	@ 20°C.
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity		
Dynamic viscosity	5-50 kPa.s	@ 16 °C
Log Pow	Not determined	

Explosive properties	No information available
Oxidizing properties	No information available

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	< 1
Density	No information available

10. Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization
Hazardous polymerization does not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Inhalation of vapors in high concentration may cause irritation of respiratory system.
Eye contact	Causes serious eye irritation.
Skin contact	Causes skin irritation.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Unknown acute toxicity Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-	LD50: 1250 mg/kg, rat, (based on data from similar substance)	LD50: > 2000 mg/kg, rat, (based on data from similar component)	No data available
Dicoco dimethyl quaternary ammonium chloride	No data available	LD50 > 2930 mg/kg, rabbit	No data available
Propan-2-ol	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m³ (Rat) 4 h

Sensitization 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 Eye contact. Skin contact. Inhalation.

Routes of entry Eye contact. Skin contact.

Specific target organ toxicity (single exposure) Not classified

Specific target organ toxicity (repeated exposure) Not classified.

Aspiration hazard Not Applicable.

12. Ecological information

12.1 Toxicity

TOXIC TO AQUATIC ORGANISMS

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
Poly(oxy-1,2-ethanediyl), alphahexyl-omega-hydroxy-	LC50 96h, Brachydanio rerio (zebrafish): > 100 mg/l (test based on similar component)	EC50, 72h: > 100 mg/kg (based on similar substance)	EC50, 48h, Daphnia magna (Water flea): > 100 mg/l (based on similar product)
Dicoco dimethyl quaternary ammonium chloride	No information available	No information available	EC50, 48h, Daphnia : 0.01 mg/l
Propan-2-ol	= 9640 mg/L LC50 Pimephales promelas 96 h = 11130 mg/L LC50 Pimephales promelas 96 h > 1400000 µg/L LC50 Lepomis macrochirus 96 h	> 1000 mg/L EC50 Desmodesmus subspicatus 96 h > 1000 mg/L EC50 Desmodesmus subspicatus 72 h	= 13299 mg/L EC50 Daphnia magna 48 h

12.2 Persistence and degradability

Product is biodegradable.

12.3 Bioaccumulative potential

Does not bioaccumulate.

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 — If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging — Empty containers should be taken for local recycling, recovery 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 10 01

14. Transport information

14.1 UN Number

UN/ID No. (ADR/RID/ADN/ADG)	UN3082
UN No. (IMDG)	UN3082
UN No. (ICAO)	UN3082

14.2 Proper shipping name
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dicoco dimethyl quaternary ammonium chloride)

14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class	9
IMDG Hazard class	9
ICAO Hazard class/division	9

14.4 Packing group

ADR/RID/ADN/ADG Packing group	III
IMDG Packing group	III
ICAO Packing group	III

14.5 Environmental hazard

Marine pollutant
Yes

14.6 Special precautions

Hazard identification no (ADR)	90
EmS (IMDG)	F-A, S-F
Emergency action code	3Z
Tunnel restriction code	(E)
Hazchem code ADG	3Z

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)	Hazardous to water/Class 1

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.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

ADG Code – Australian Dangerous Goods Code.

International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies.
Philippines (PICCS)	Does not Comply
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland
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The following sections have been revised:	2,, 3,, 5,, 6,, 7,, 8,, 9,, 10,, 11,, 12,, 14,, 15,, 16.

Text of R phrases mentioned in Section 3
R11 - Highly flammable
R22 - Harmful if swallowed
R34 - Causes burns
R36 - Irritating to eyes
R67 - Vapors may cause drowsiness and dizziness

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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

H315 - Causes skin irritation
H400 - Very toxic to aquatic life
H319 - Causes serious eye irritation

H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H336 - May cause drowsiness or dizziness

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