SDS no. U042
Version 4
Revision date 02/Sep/2015
Supersedes date 21/Aug/2014

Safety Data Sheet
Chelating Agent U42

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

1.1 Product identifier

Product name Chelating Agent U42
Product code U042
Denmark Pr. no.: 1114342

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

Recommended Use Iron control agent 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

Acute oral toxicity	Category 4
Acute inhalation toxicity - dust/mist	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 2

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word
DANGER

Hazard statements
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H332 - Harmful if inhaled
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/vapors/spray
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/ physician
P501 - Dispose of contents/container in accordance with local regulations.

Supplementary precautionary statements
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
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P314 - Get medical advice/attention if you feel unwell
P363 - Wash contaminated clothing before reuse

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Contains

Tetrasodium ethylenediaminetetraacetate

Sodium hydroxide

Trisodium nitrilotriacetate (impurity)

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
Tetrasodium ethylenediaminetetraacetate	200-573-9	64-02-8	30 - 60	Xi; R41 Xn; R48/20/22	Acute Tox. 4 (H302) Acute Tox.4 (H332) Eye Dam. 1 (H318) STOT RE 2 (H373)	01-2119486762-27-xxxx
Sodium hydroxide	215-185-5	1310-73-2	<=1	C;R35	Met. Corr. 1 (H290) Skin Corr. 1A (H314) Eye Dam. 1(H318)	01-2119457892-27-xxxx
Trisodium nitrilotriacetate (impurity)	225-768-6	5064-31-3	<1	Xn;R22 Xi;R36 Carc Cat.3; R40	Acute Tox. 4 (H302) Eye Irrit. 2 (H319) Carc. 2 (H351)	No data available

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

4. First aid measures

4.1 First-Aid Measures

Inhalation Move the exposed person to fresh air at once. If breathing is difficult, (trained personnel should) give oxygen. If not breathing, give artificial respiration. Seek medical attention at once.

Ingestion Do NOT induce vomiting. Get immediate medical attention. Rinse mouth. Risk of product entering the lungs on vomiting after ingestion. Never give anything by mouth to an unconscious person.

Skin contact Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns must be treated by a physician.

Eye contact Get immediate medical attention. 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.

4.2 Most important symptoms and effects, both acute and delayed

General advice Seek medical attention for all burns, regardless how minor they may seem. 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
Water spray or fog is preferred; if water not available use dry chemical, CO_2 or regular foam.

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
Heating or fire can release toxic gas, 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
2X

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 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
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. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. 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. Store at ambient conditions Store away from incompatibles, Zinc Aluminum. Copper Copper alloys Nickel Steel. Oxidizing agents

Storage class Corrosive 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
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined	Not determined
Sodium hydroxide	Not determined	4 mg/m³ STEL inhalable fraction, 8x5 min 2 mg/m³ TWA inhalable fraction	2 mg/m³ Peak	2 mg/m³ Ceiling
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined	K

Component	Malaysia	France	Germany	Hungary
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m³ Ceiling	2 mg/m³	Not determined	2 mg/m³ STEL 2 mg/m³ TWA
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined	Not determined

Component	New Zealand	Italy	Netherlands	Norway
Tetrasodium ethylenediaminetetraacetate	Not Determined	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m³ Ceiling	2 mg/m³ Ceiling	Not determined	2 mg/m³ Ceiling
Trisodium nitrilotriacetate (impurity)	Not Determined	Not determined	Not determined	Not determined

Component	Poland	Portugal	Romania	Russia
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined	Not determined
Sodium hydroxide	1 mg/m³ STEL 0.5 mg/m³ TWA	2 mg/m³ Ceiling	Not determined	Not determined
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined	Not determined

Component	Spain	Switzerland	Turkey	UK
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m³ VLA-EC	2 mg/m³ STEL inhalable 15 min 2 mg/m³ MAK inhalable	Not determined	2 mg/m³ STEL
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined	Not determined

Notes
No biological limit allocated

Derived No Effect Level (DNEL)

Short term exposure local effects
Tetrasodium ethylenediaminetetraacetate
Inhalation 3 mg/m³
Long term exposure local effects
Tetrasodium ethylenediaminetetraacetate
Inhalation 1.5 mg/m³
Sodium hydroxide
Inhalation 1 mg/m³
Short term exposure systemic effects
Trisodium nitrilotriacetate (impurity)
Inhalation 9.6 mg/m³
Long term exposure systemic effects

Trisodium nitrilotriacetate (impurity)
Inhalation 3.2 mg/m³
Predicted No Effect Concentration (PNEC)
Tetrasodium ethylenediaminetetraacetate
Fresh water 2.2 mg/l
Sea water 0.22 mg/l
Soil 0.72 mg/kg
Impact on sewage treatment 43 mg/l
Intermittent release 1.2 mg/l
Trisodium nitrilotriacetate (impurity)
Fresh water 0.93 mg/L
Sea water 0.093 mg/L
Impact on sewage treatment 270 mg/L
Intermittent release 0.8 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	Chemical splash goggles and/or face shield.
Hand protection	Use protective gloves made of:, polyvinyl alcohol or nitrile-butyl rubber gloves, Be aware that liquid may penetrate the gloves. Frequent change is advisable.
Respiratory protection	Respirator with combination filter for vapour/particulate (EN 141), Type A/P2, 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	No information available
Odor	Slight Ammoniacal
Color	Yellow
Odor threshold	Not applicable

Property	**Values**	**Remarks**
pH		
pH @ dilution	12	(@1%w/w)
Melting/freezing point	-31 °C / -24 °F	
Boiling point/range	106 °C / 223 °F	
Flash point	No information available	
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	1.3	25 °C
Bulk density	No information available	
Relative density	1.31	@ 25°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	10 cSt @ 20 °C	
Dynamic viscosity	No information available	
Log Pow	<3	

Explosive properties	Not Applicable
Oxidizing properties	None known.

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

10. Stability and reactivity

10.1 Reactivity

Corrosive.

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

Store at ambient conditions.

10.5 Incompatible materials

Zinc. Aluminum. Copper. Copper alloys. Nickel. Steel. Incompatible with 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. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. May cause damage to organs through prolonged or repeated exposure.
Eye contact	Causes burns. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Causes severe skin burns.
Ingestion	Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure. May cause additional affects as listed under "Inhalation".
Unknown acute toxicity	Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tetrasodium ethylenediaminetetraacetate	= 10,000 mg/kg (Rat)	No data available	No data available
Sodium hydroxide	No data available	1350 mg/kg (Rabbit)	No data available
Trisodium nitrilotriacetate (impurity)	= 920 mg/kg (Rat)	No data available	> 5 mg/L (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 Contains a known or suspected carcinogen.

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 Ingestion. Inhalation. Skin contact. Eye contact.

Specific target organ toxicity (single exposure) Not classified

Specific target organ toxicity (repeated exposure) Category 2.

Target organ effects Respiratory system.

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. The product may affect the acidity (pH-factor) in water with risk of harmful effects 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

Tetrasodium ethylenediaminetetraacetate	41 mg/L LC50 (Lepomis macrochirus) = 96 h 59.8 mg/L LC50 (Pimephales promelas) = 96 h	1.01 mg/L EC50 (Desmodesmus subspicatus) = 72 h	610 mg/L EC50 (Daphnia magna) = 24 h
Sodium hydroxide	45.4 mg/L LC50 (Oncorhynchus mykiss) = 96 h	No information available	No information available
Trisodium nitrilotriacetate (impurity)	252 mg/L LC50 (Lepomis macrochirus) = 96 h 470 mg/L LC50 (Pimephales promelas) = 96 h 560 - 1000 mg/L LC50 (Oryzias latipes) = 96 h 72 - 133 mg/L LC50 (Oncorhynchus mykiss) = 96 h 560 - 1000 mg/L LC50 (Poecilia reticulata) = 96 h 114 mg/L LC50 (Pimephales promelas) = 96 h 93 - 170 mg/L LC50 (Pimephales promelas) = 96 h 175 - 225 mg/L LC50 (Lepomis macrochirus) = 96 h	560 - 1000 mg/L EC50 (Chlorella vulgaris) = 96 h	560 - 1000 mg/L LC50 (Daphnia magna) = 48 h

12.2 Persistence and degradability

Not readily biodegradable.

12.3 Bioaccumulative potential

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

Log Pow
<3

12.4 Mobility in soil

Mobility
The product is water soluble, and may spread in water systems.

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 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 03 05 - organic wastes containing dangerous substances 16 10 01 - aqueous liquid wastes containing dangerous substances

14. Transport information

14.1 UN Number

UN/ID No. (ADR/RID/ADN/ADG)	UN 3267
UN No. (IMDG)	UN 3267
UN No. (ICAO)	UN 3267

14.2 Proper shipping name
CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (contains sodium hydroxide, tetrasodium ethylenediaminetetra acetic acid),

14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class	8
IMDG Hazard class	8
ICAO Hazard class/division	8

14.4 Packing group

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

14.5 Environmental hazard
No

14.6 Special precautions

Hazard identification no (ADR)	80
EmS (IMDG)	F-A, S-B
Emergency action code	2X
Tunnel restriction code	(E)
Hazchem code ADG	2X

14.7 Transport in bulk according to Annex 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 2

Australian Standard for the Uniform Scheduling of Drugs and Poisons

Sodium hydroxide
Schedule 6
Schedule 5
Trisodium nitrilotriacetate (impurity)
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.

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)	Complies
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) , Nicola Anderson
Supersedes date	21/Aug/2014
Revision date	02/Sep/2015
Version	4
The following sections have been revised:	Updated according to GHS/CLP, There have been changes with regard to classification.

Text of R phrases mentioned in Section 3
R22 - Harmful if swallowed
R35 - Causes severe burns
R36 - Irritating to eyes
R40 - Limited evidence of a carcinogenic effect
R41 - Risk of serious damage to eyes

R48/20/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed

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

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H332 - Harmful if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure
H319 - Causes serious eye irritation
H351 - Suspected of causing cancer
H290 - May be corrosive to metals

Disclaimer
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