



Safety Data Sheet Chelating Agent U42

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name Chelating Agent U42
Product code U042

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

Croatia 01-23-48-342(for medical information) -Center for Poison

2. Hazards Identification

2.1 Classification of the substance or mixture

GHS Classification

Health hazards

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity - Repeated exposure	Category 2

Environmental hazards Not classified

Physical Hazards

Substances/mixtures corrosive to metal	Category 1
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2.2 Label elements



Signal word

DANGER

Hazard Statements

H315 - Causes skin irritation

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H373 - May cause damage to organs through prolonged or repeated exposure

H290 - May be corrosive to metals

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves and eye/face protection

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

P314 - Get medical advice/attention if you feel unwell

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Supplementary precautionary statements

P280 - Wear protective gloves

P280 - Wear eye protection/ face protection

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

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

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

P210 - Keep away from heat. - No smoking

P314 - Get medical advice/attention if you feel unwell

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

P362 - Take off contaminated clothing and wash before reuse

Contains

Tetrasodium ethylenediaminetetraacetate

Sodium hydroxide

Trisodium nitrilotriacetate (impurity)

2.3 Other hazards

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

Chemical Name	EC No	CAS No	Weight-%
Tetrasodium ethylenediaminetetraacetate	200-573-9	64-02-8	30 - 60
Sodium hydroxide	215-185-5	1310-73-2	<=1
Trisodium nitrilotriacetate (impurity)	225-768-6	5064-31-3	<1

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.

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, CO₂ or regular foam.

Extinguishing media which must not be used for safety reasons

None known.

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

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 material 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 materials	Use specially constructed containers only.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Component Information

Chemical Name	Arabic	Australia	Egypt
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined
Sodium hydroxide	Not determined	2 mg/m ³ Peak	2 mg/m ³ Ceiling
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined
Chemical Name	India	Indonesian	Japan
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m ³ Ceiling	2 mg/m ³ Ceiling	Not determined
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined
Chemical Name	Kazakhstan	Kuwait	New Zealand
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined
Sodium hydroxide	Not determined	2.0 mg/m ³ STEL	2 mg/m ³ Ceiling
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined
Chemical Name	Malaysia	Philippines	Russia
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m ³ Ceiling	2 mg/m ³ TWA	Not determined
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined
Chemical Name	Thailand	Vietnam	Turkey
Tetrasodium ethylenediaminetetraacetate	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m ³ TWA	Not determined	Not determined
Trisodium nitrilotriacetate (impurity)	Not determined	Not determined	Not determined

Notes

No biological limit allocated

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls

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

Personal protective equipment**Eye protection**

Chemical splash goggles and/or face shield Eye protection must conform to standard EN 166

Hand protection

Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Use protective gloves made of:

Butyl rubber Break through time >30 minutes

Glove thickness 0.7 mm

or

Nitrile rubber Glove thickness >30 mm

Break through time 0.4 minutes

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

**8.2.3 Environmental exposure controls****Environmental exposure**

Use appropriate containment to avoid environmental contamination See section 6 for more information

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Odor	Slight Ammoniacal
Color	Yellow
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No information available	
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)	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit 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	No information available

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

Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

10. Stability and Reactivity

10.1 Reactivity

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 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 serious eye damage. May cause irreversible damage to eyes.

Skin contact	Causes skin irritation. Prolonged skin contact may cause burns.
Ingestion	Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Unknown acute toxicity	Not applicable.

Toxicology data for the components

Chemical Name	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)	= 1100 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.
Other information	Key literature references and sources for data. See Section 16 for more information.

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.

Toxicology data for the components

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Tetrasodium ethylenediaminetetraacetate	= 59.8 mg/L LC50 Pimephales promelas 96 h = 41 mg/L LC50 Lepomis macrochirus 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)	= 114 mg/L LC50 Pimephales promelas 96 h 560 - 1000 mg/L LC50 Poecilia reticulata 96 h 72 - 133 mg/L LC50 Oncorhynchus mykiss 96 h 560 - 1000 mg/L LC50 Oryzias latipes 96 h = 470 mg/L LC50 Pimephales promelas 96 h = 252 mg/L LC50 Lepomis macrochirus 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.

Chemical Name	Persistence and degradability
Tetrasodium ethylenediaminetetraacetate	Not readily biodegradable
Sodium hydroxide	Inorganic compound
Trisodium nitrilotriacetate (impurity)	Readily biodegradable

12.3 Bioaccumulative potential

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

Chemical Name	Bioaccumulation
Tetrasodium ethylenediaminetetraacetate	No bioaccumulation potential
Sodium hydroxide	No bioaccumulation potential
Trisodium nitrilotriacetate (impurity)	Not likely to bioaccumulate

log Pow

<3

12.4 Mobility**Mobility**

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

Chemical Name	Mobility
Tetrasodium ethylenediaminetetraacetate	Soluble in water
Sodium hydroxide	Easily soluble
Trisodium nitrilotriacetate (impurity)	Soluble in water

Mobility in soil

Not expected to adsorb on soil.

Chemical Name	Mobility in soil
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Tetrasodium ethylenediaminetetraacetate	Henry's Law Constant : 1.19E-18 Pa*m ³ /mol @ 25°C
Sodium hydroxide	Not expected to adsorb on soil
Trisodium nitrilotriacetate (impurity)	Not expected to adsorb on soil

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

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.

14. Transport information

14.1. UN number

UN/ID No. (ADR/RID/ADN/ADG)	UN3267
UN No. (IMDG/ANTAQ)	UN3267
UN No. (ICAO/ANAC)	UN3267

14.2. UN 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/ANTAQ Hazard class	8
ICAO/ANAC Hazard class/division	8

14.4 Packing group

ADR/RID/ADN/ADG Packing group	III
IMDG/ANTAQ Packing group	III
ICAO/ANAC 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 (EAC)	2X
Tunnel restriction code	(E)
Hazchem code ADG	2X

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****The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)****Australian Standard for the Uniform Scheduling of Drugs and Poisons**

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

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
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

16. Other Information**Prepared by**

Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland

Supersedes Date: 28-Jul-2016

Revision date 10-Aug-2018

Version 6

This SDS has been revised in the following section(s) The following sections have been revised: 2, 8, 15, 16 No changes with regard to classification have been made.

Key literature references and sources for data

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

HMIS classification

Health	3*
Flammability	1
Physical hazard	0
PPE	X

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