



Safety Data Sheet Gelling Agent U28 - 30% Active

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

1.1 Product identifier

Product name Gelling Agent U28 - 30% Active
Product code U028

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

Recommended Use Used as a gelling agent in oilfield applications

Uses advised against No information available

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

2. Hazards Identification

2.1 Classification of the substance or mixture

GHS Classification

Health hazards

| | |
|---------------------------|---------------------------|
| Skin corrosion/irritation | Category 1 Subcategory 1A |
|---------------------------|---------------------------|

Environmental hazards Not classified

Physical Hazards

| | |
|--|------------|
| Substances/mixtures corrosive to metal | Category 1 |
|--|------------|

2.2 Label elements

**Signal word**

DANGER

Hazard Statements

H314 - Causes severe skin burns and eye damage

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

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

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

Supplementary precautionary statements

P234 - Keep only in original container

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

P363 - Wash contaminated clothing before reuse

P310 - Immediately call a POISON CENTER or doctor/physician

P390 - Absorb spillage to prevent material damage

P220 - Keep/Store away from combustible materials

Sodium hydroxide

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-% |
|------------------|-----------|-----------|----------|
| Sodium hydroxide | 215-185-5 | 1310-73-2 | 30 |

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 | Do NOT induce vomiting. Rinse mouth. Risk of product entering the lungs on vomiting after ingestion. Never give anything by mouth to an unconscious person. Immediate medical attention is required. |
| 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 Fog, Alcohol Foam, CO₂, Dry Chemical.

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

Contact with metals may evolve flammable hydrogen gas.

Hazardous combustion products

Fire or high temperatures create: Heating or fire can release toxic gas.

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

2R

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not get on skin or clothing. Wash thoroughly after handling. Do not breathe vapors or spray mist. 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

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).

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. 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 between 15-25 deg. C (59-77 deg. F). Avoid extreme temperatures. Store away from incompatibles, Strong acids, Halogenated compounds, Metals.

Storage class Corrosive storage.

Packaging materials High density polyethylene (HDPE) drum or can

8. Exposure controls/personal protection

8.1 Control parameters

Exposure limits Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

Component Information

| Chemical Name | Arabic | Australia | Egypt |
|------------------|-----------------------------|-----------------------------|-----------------------------|
| Sodium hydroxide | Not determined | 2 mg/m ³ Peak | 2 mg/m ³ Ceiling |
| Chemical Name | India | Indonesian | Japan |
| Sodium hydroxide | 2 mg/m ³ Ceiling | 2 mg/m ³ Ceiling | Not determined |
| Chemical Name | Kazakhstan | Kuwait | New Zealand |
| Sodium hydroxide | Not determined | 2.0 mg/m ³ STEL | 2 mg/m ³ Ceiling |
| Chemical Name | Malaysia | Philippines | Russia |
| Sodium hydroxide | 2 mg/m ³ Ceiling | 2 mg/m ³ TWA | Not determined |
| Chemical Name | Thailand | Vietnam | Turkey |
| Sodium hydroxide | 2 mg/m ³ TWA | 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

Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles / Face-shield

Hand protection

Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Wear protective nitrile rubber gloves
Break through time >480 minutes
Glove thickness 0.35-0.4 mm

Respiratory protection

Be aware that liquid may penetrate the gloves. Frequent change is advisable.
In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Chemical respirator with inorganic vapour cartridge (Grey B). At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
Wear appropriate personal protective clothing to prevent skin contact Eye wash and emergency shower must be available at the work place.

Skin and body protection

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 | Clear |
| Odor | Odorless |
| Color | Colorless |
| Odor threshold | Not applicable |

| <u>Property</u> | <u>Values</u> | <u>Remarks</u> |
|------------------------------|--------------------------|----------------|
| pH | 13.5 | |
| pH @ dilution | No information available | |
| Melting / freezing point | 8 °C / 46 °F | |
| Boiling point/range | 115 °C / 239 °F | |
| Flash point | | |
| 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 | @20 °C |
| Bulk density | No information available | |
| Relative density | No information available | |
| Water solubility | Soluble in water | |
| Solubility in other solvents | No information available | |
| Autoignition temperature | Not applicable | |
| Decomposition temperature | No information available | |
| Kinematic viscosity | No information available | |
| Dynamic viscosity | 75 mPa s | @ 20 °C |
| 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

Avoid extreme temperatures. Store at ambient conditions.

10.5 Incompatible materials

Strong acids. Halogenated compounds. Metals. Gives off hydrogen by reaction with metals.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects**Acute toxicity****Product information**

Causes severe skin burns and eye damage.

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.

Eye contact

Causes burns. Causes serious eye damage.

Skin contact

Corrosive. Causes burns.

Ingestion

Can burn mouth, throat, and stomach.

Toxicology data for the components

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------|-------------------|-----------------------|-------------------|
| Sodium hydroxide | No data available | 1350 mg/kg (Rabbit) | No data available |

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

Skin contact. Eye contact.

Routes of entry

No route of entry noted.

**Specific target organ toxicity -
Single exposure**

Not classified

**Specific target organ toxicity -
Repeated exposure**

Not classified.

| | |
|--------------------------|--|
| 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 |
|------------------|---|--------------------------|---|
| Sodium hydroxide | = 45.4 mg/L LC50 Oncorhynchus mykiss 96 h | No information available | No information available |

12.2 Persistence and degradability

This product is expected to be readily biodegradable.

12.3 Bioaccumulative potential

Does not bioaccumulate.

12.4 Mobility

Mobility

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

Mobility in soil

No information available.

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 as special waste in compliance with local and national 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) | UN1824 |
| UN No. (IMDG/ANTAQ) | UN1824 |
| UN No. (ICAO/ANAC) | UN1824 |

14.2. UN proper shipping name
SODIUM HYDROXIDE SOLUTION,

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 | PG II |
| IMDG/ANTAQ Packing group | PG II |
| ICAO/ANAC Packing group | PG II |

**14.5 Environmental hazard**

No

14.6 Special precautions

| | |
|--------------------------------|----------|
| Hazard identification no (ADR) | 80 |
| EmS (IMDG) | F-A, S-B |

Emergency Action Code (EAC) 2R
Tunnel restriction code (E)
Hazchem code ADG 2R

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

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

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Version 5

This SDS has been revised in the following section(s) 1, 2, 8, 11, 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 | 0 |
| Physical hazard | 1 |
| PPE | X |

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