

MATERIAL SAFETY DATA SHEET

Product Trade Name: **CLAYSEAL®**

Revision Date: 20-Dec-2012

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Statement of Hazardous Nature Hazardous according to the criteria of NOHSC, Dangerous Goods according to the criteria of ADG.

Manufacturer/Supplier Halliburton Australia Pty. Ltd.
15 Marriott Road
Jandakot
WA 6164
Australia

ACN Number: 009 000 775
Telephone Number: 61 (08) 9455 8300
Fax Number: 61 (08) 9455 5300

Product Emergency Telephone

Australia: 08-64244950
Papua New Guinea: 05 1 281 575 5000
NewZealand: 06-7559274

Fire, Police & Ambulance - Emergency Telephone

Australia: 000
Papua New Guinea: 000
New Zealand: 111

Identification of Substances or Preparation

Product Trade Name: CLAYSEAL®
Synonyms: None
Chemical Family: Ethoxylated polyamine
UN Number: , UN1993
Dangerous Goods Class: 3
Subsidiary Risk: None
Hazchem Code: None Allocated
Poisons Schedule: None Allocated
Application: Shale stabilizer

Prepared By Chemical Compliance
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances | CAS Number | PERCENT | Australia NOHSC | New Zealand WES | ACGIH TLV-TWA |
|------------|------------|---------|--------------------|--------------------|---------------|
|------------|------------|---------|--------------------|--------------------|---------------|

2. COMPOSITION/INFORMATION ON INGREDIENTS

| | | | | | |
|----------|---------|----------|--|--|-------------------------------|
| Methanol | 67-56-1 | 10 - 30% | TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ | STEL: 250 ppm STEL: 328 mg/m ³ TWA: 200 ppm TWA: 262 mg/m ³ | TWA: 200 ppm STEL: 250 ppm |
|----------|---------|----------|--|--|-------------------------------|

Non-Hazardous Substance to Total of 100%

3. HAZARDS IDENTIFICATION

Hazard Overview May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. Repeated overexposure may cause liver and kidney effects. May be harmful if swallowed.

Risk Phrases R11 Highly flammable.
R23/24/25 Toxic by inhalation, by contact with skin, and if swallowed.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin, and if swallowed.

HSNO Classification Not Determined

4. FIRST AID MEASURES

Inhalation If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Skin In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

Eyes In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Ingestion Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Notes to Physician Not Applicable

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons None known.

Special Exposure Hazards May be ignited by heat, sparks or flames. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases.

Special Protective Equipment for Fire-Fighters Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.

| | |
|---|--|
| Environmental Precautionary Measures | Prevent from entering sewers, waterways, or low areas. |
| Procedure for Cleaning / Absorption | Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove. |

7. HANDLING AND STORAGE

| | |
|-----------------------------|---|
| Handling Precautions | Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another. |
| Storage Information | Store in a cool well ventilated area. Keep container closed when not in use. Keep from heat, sparks, and open flames. Product has a shelf life of 36 months. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|-------------------------------|---|
| Engineering Controls | Use in a well ventilated area. |
| Respiratory Protection | Positive pressure self-contained breathing apparatus if methanol is released. |
| Hand Protection | Impervious rubber gloves. |
| Skin Protection | Rubber apron. |
| Eye Protection | Chemical goggles; also wear a face shield if splashing hazard exists. |
| Other Precautions | Eyewash fountains and safety showers must be easily accessible. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|-----------------|
| Physical State: | Liquid |
| Color: | Orange-brown |
| Odor: | Amine |
| pH: | 8-9 |
| Specific Gravity @ 20 C (Water=1): | 0.9745 - 1.0045 |
| Density @ 20 C (kg/l): | 0.9745 - 1.0045 |
| Bulk Density @ 20 C (kg/m³): | Not Determined |
| Boiling Point/Range (C): | Not Determined |
| Freezing Point/Range (C): | -29 |
| Pour Point/Range (C): | Not Determined |
| Flash Point/Range (C): | 28 |
| Flash Point Method: | PMCC |
| Autoignition Temperature (C): | Not Determined |
| Flammability Limits in Air - Lower (g/m³): | Not Determined |
| Flammability Limits in Air - Lower (%): | 6 |
| Flammability Limits in Air - Upper (g/m³): | Not Determined |
| Flammability Limits in Air - Upper (%): | 36.5 |
| Vapor Pressure @ 20 C (mmHg): | Not Determined |
| Vapor Density (Air=1): | Not Determined |
| Percent Volatiles: | Not Determined |
| Evaporation Rate (Butyl Acetate=1): | Not Determined |
| Solubility in Water (g/100ml): | Soluble |
| Solubility in Solvents (g/100ml): | Not Determined |
| VOCs (g/l): | Not Determined |
| Viscosity, Dynamic @ 20 C (centipoise): | 2- 15 |
| Viscosity, Kinematic @ 20 C (centistokes): | Not Determined |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|----------------|
| Partition Coefficient/n-Octanol/Water: | Not Determined |
| Molecular Weight (g/mole): | Not Determined |
| Decomposition Temperature (C): | Not Determined |

10. STABILITY AND REACTIVITY

| | |
|--------------------------------------|---|
| Stability Data: | Stable |
| Hazardous Polymerization: | Will Not Occur |
| Conditions to Avoid | None known. |
| Incompatibility (Materials to Avoid) | Strong oxidizers. |
| Hazardous Decomposition Products | Oxides of nitrogen. Carbon monoxide and carbon dioxide. |
| Additional Guidelines | Not Applicable |

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure Eye or skin contact, inhalation.

Symptoms related to exposure **Inhalation**

May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Skin Contact

Prolonged or repeated contact may cause ulceration of the skin. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.

Eye Contact

May cause eye irritation.

Ingestion

May be fatal or cause blindness if swallowed. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions. May cause liver and kidney damage.

Aggravated Medical Conditions

Liver and kidney disorders. Skin disorders. Eye ailments.

Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause eye, blood, lung, liver, kidney, heart, central nervous system and spleen damage.

Other Information

None known.

Toxicity Tests

| | |
|-----------------------------------|----------------|
| Oral Toxicity: | Not determined |
| Dermal Toxicity: | Not determined |
| Inhalation Toxicity: | Not determined |
| Primary Irritation Effect: | Not determined |
| Carcinogenicity | Not determined |
| Genotoxicity: | Not determined |

Reproductive / Developmental Toxicity: Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air) Not determined

Persistence/Degradability Not determined

Bio-accumulation Not determined

Ecotoxicological Information

Acute Fish Toxicity: Not determined

Acute Crustaceans Toxicity: Not determined

Acute Algae Toxicity: Not determined

Chemical Fate Information Not determined

Other Information Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

ADR

UN1993, Flammable Liquid, N.O.S. (Contains Methanol), 3, III

Air Transportation

ICAO/IATA

UN1993, Flammable Liquid, N.O.S., 3, III
(Contains Methanol)

Sea Transportation

IMDG

UN1993, Flammable Liquid, N.O.S. (Contains Methanol), 3, III, (27.8 C)
EmS F-E, S-E

Other Transportation Information

Labels: Flammable Liquid

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory
New Zealand Inventory of Chemicals
US TSCA Inventory
EINECS Inventory

Product contains one or more components not listed on inventory.
This product does not comply with NZIOC

All components listed on inventory or are exempt.
This product does not comply with EINECS

Classification

F - Highly Flammable.
T - Toxic.

Risk Phrases

R11 Highly flammable.
R23/24/25 Toxic by inhalation, by contact with skin, and if swallowed.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin, and if swallowed.

Safety Phrases

S7 Keep container tightly closed.
S16 Keep away from sources of ignition - No Smoking.
S45 In case of accident or if you feel unwell, seek medical advice immediately.
S1/2 Keep locked up and out of reach of children.
S36/37 Wear suitable protective clothing and gloves.

16. OTHER INFORMATION

The following sections have been revised since the last issue of this SDS
Not applicable

Contact

Australian Poisons Information Centre

24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

New Zealand National Poisons Centre

0800 764 766

Additional Information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

Disclaimer Statement

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*****END OF MSDS*****