

MATERIAL SAFETY DATA SHEET

Product Trade Name: EZ MUL® NT SA

Revision Date: 14-Feb-2014

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: EZ MUL® NT SA

Synonyms: None

Chemical Family: Blend

Application: Emulsifier

Manufacturer/Supplier Baroid Fluid Services
Product Service Line of Halliburton
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000
Emergency Telephone: (281) 575-5000

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances | CAS Number | PERCENT (w/w) | ACGIH TLV-TWA | OSHA PEL-TWA |
|--|-------------|---------------|----------------|----------------|
| Carboxylic acid terminated fatty polyamide | Proprietary | 60 - 100% | Not applicable | Not applicable |
| Hydrotreated light petroleum distillate | 64742-47-8 | 5 - 10% | Not applicable | Not applicable |
| Polyalkylene glycol | Proprietary | 5 - 10% | Not applicable | Not applicable |
| Proprietary Component | Proprietary | 1 - 5% | Not applicable | Not applicable |

3. HAZARDS IDENTIFICATION

Hazard Overview May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed.
Combustible

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.

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. Give nothing by mouth. Obtain immediate medical attention.

Notes to Physician Not Applicable

5. FIRE FIGHTING MEASURES

| | |
|---|----------------|
| Flash Point/Range (F): | 219.2 |
| Flash Point/Range (C): | 104 |
| Flash Point Method: | PMCC |
| Autoignition Temperature (F): | Not Determined |
| Autoignition Temperature (C): | Not Determined |
| Flammability Limits in Air - Lower (%): | Not Determined |
| Flammability Limits in Air - Upper (%): | Not Determined |

Fire Extinguishing Media All standard firefighting media.

Special Exposure Hazards 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.

NFPA Ratings: Health 2, Flammability 1, Reactivity 0
HMIS Ratings: Health 2, Flammability 1, Physical Hazard 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment.

Environmental Precautionary Measures Prevent from entering sewers, waterways, or low areas.

Procedure for Cleaning / Absorption Isolate spill and stop leak where safe. 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. Avoid breathing mist.

Storage Information Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Store in a cool well ventilated area. Store away from direct sunlight. Product has a shelf life of 24 months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

| | |
|-------------------------------|--|
| Respiratory Protection | If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Organic vapor respirator. |
| 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: | Brown |
| Odor: | Hydrocarbon |
| pH: | 5 (15%) |
| Specific Gravity @ 20 C (Water=1): | 0.95 |
| Density @ 20 C (lbs./gallon): | 7.91 |
| Bulk Density @ 20 C (lbs/ft3): | Not Determined |
| Boiling Point/Range (F): | Not Determined |
| Boiling Point/Range (C): | Not Determined |
| Freezing Point/Range (F): | Not Determined |
| Freezing Point/Range (C): | Not Determined |
| 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): | Not Determined |
| Solubility in Solvents (g/100ml): | Not Determined |
| VOCs (lbs./gallon): | Not Determined |
| Viscosity, Dynamic @ 20 C (centipoise): | 20000 |
| Viscosity, Kinematic @ 20 C (centistokes): | Not Determined |
| Partition Coefficient/n-Octanol/Water: | Not Determined |
| Molecular Weight (g/mole): | Not Determined |

10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability Data: | Stable |
| Hazardous Polymerization: | Will Not Occur |
| Conditions to Avoid | Keep away from heat, sparks and flame. |
| Incompatibility (Materials to Avoid) | Strong oxidizers. |
| Hazardous Decomposition Products | Oxides of nitrogen. Hydrocarbons. 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

Acute Toxicity

Inhalation

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

Eye Contact

May cause severe eye irritation.

Skin Contact

May cause skin irritation.

Ingestion

Irritation of the mouth, throat, and stomach. 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.

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 1% are chronic health hazards.

Toxicology data for the components

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|-------------|---|---|--------------------|
| Carboxylic acid terminated fatty polyamide | Proprietary | > 2020 mg/kg (Rat) | > 2000 mg/kg (Rat) | No data available |
| Hydrotreated light petroleum distillate | 64742-47-8 | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | 5.28 mg/L (Rat) 4h |
| Polyalkylene glycol | Proprietary | > 5000 mg/kg (Rat) > 2000 mg/kg (Rat) | 6540 mg/kg (Rat) 3540 mg/kg (Rabbit) (similar substance – 2-(2-(2-butoxyethoxy)ethoxy)ethanol) | No data available |
| Proprietary Component | Proprietary | 3384 mg/kg (Rat) 6560 mg/kg (Rat) 5660 mg/kg (Rat) 2406 mg/kg (Mouse) 2000 mg/kg (Guinea pig) | 2700 mg/kg (Rabbit) 2764 mg/kg (Rabbit) | No data available |

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

Ecotoxicity Product

Acute Fish Toxicity: Not determined

Acute Crustaceans Toxicity: Not determined

Acute Algae Toxicity: Not determined

Ecotoxicity Substance

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity for Invertebrates |
|--|-------------|--|---|--|--|
| Carboxylic acid terminated fatty polyamide | Proprietary | EC50(72h): > 100 mg/L (growth rate) (Pseudokirchnerella subcapitata) | LC50(96h): > 100 mg/L (Danio rerio) | EC50(3h): > 100 mg/L (respiration rate) (Activated sludge) | IC50(48h): > 100 mg/L (Daphnia magna) |
| Hydrotreated light petroleum distillate | 64742-47-8 | EC50(72h): > 10,000 mg/L (Skeletonema costatum) (ISO 10253) | LC50 96h): > 10,000 mg/L (Scophthalmus maximus) (OSPARCOM 1995) | No information available | LC50(48h): > 10,000 mg/L (Acartia tonsa) (ISO 14669) |

| | | | | | |
|--------------------------|-------------|--|---|---|---|
| Polyalkylene glycol | Proprietary | EC50: 391 mg/l (Skeletonema costatum) EC50(72h): 391 mg/L (growth rate) (Skeletonema costatum) | EC50: 475 ppm (Abra alba) LC50(96h): > 1000 - >1800 mg/L (Scophthalmus maximus) | IC50(16h): > 5000 mg/L (Growth inhibition, Activated sludge) (similar substance – 2-(2-(2-butoxyethoxy)etho xy)ethanol) EC10(30m): > 1995 mg/L (respiration rate, activated sludge) (similar substance – 2-(2-(2-butoxyethoxy)etho xy)ethanol) | TLM48: 310 mg/l (Acartia tonsa) EC50(48h): > 3200 mg/L (Daphnia magna) (similar substance – ethanol, 2-butoxy-, manufacture of, by-products from) |
| Proprietary Component | Proprietary | EC50: > 100 mg/L (Desmodesmus subspicatus) | LC50: 1300 mg/L (Lepomis macrochirus) | EC10: >1995 mg/L (Activated sludge, industrial) | EC50: > 100 mg/L (Daphnia magna) |

12.2 Persistence and degradability

No information available

| Substances | Persistence and Degradability |
|--|-----------------------------------|
| Carboxylic acid terminated fatty polyamide | Readily biodegradable (71% @ 28d) |
| Hydrotreated light petroleum distillate | Readily biodegradable (87% @ 28d) |
| Polyalkylene glycol | Readily biodegradable (69% @ 28d) |
| Proprietary Component | Readily biodegradable (71% @ 28d) |

12.3 Bioaccumulative potential

No information available

| Substances | Log Pow |
|--|---------|
| Carboxylic acid terminated fatty polyamide | 2.4 |
| Hydrotreated light petroleum distillate | 7.5 |
| Polyalkylene glycol | 0.436 |
| Proprietary Component | 1.0 |

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

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

DOT

Not restricted

Canadian TDG

Not restricted

ADR

Not restricted

Air Transportation

ICAO/IATA
Not restricted

Sea Transportation

IMDG
Not restricted

Other Transportation Information

Labels: None

15. REGULATORY INFORMATION

US Regulations

| | |
|---|--|
| US TSCA Inventory | All components listed on inventory or are exempt. |
| EPA SARA Title III Extremely Hazardous Substances | Not applicable |
| EPA SARA (311,312) Hazard Class | Acute Health Hazard Chronic Health Hazard |
| EPA SARA (313) Chemicals | This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372). |
| EPA CERCLA/Superfund Reportable Spill Quantity | Not applicable. |
| EPA RCRA Hazardous Waste Classification | If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA. |
| California Proposition 65 | All components listed do not apply to the California Proposition 65 Regulation. |
| MA Right-to-Know Law | Does not apply. |
| NJ Right-to-Know Law | Does not apply. |
| PA Right-to-Know Law | Does not apply. |

Canadian Regulations

| | |
|------------------------|---|
| Canadian DSL Inventory | All components listed on inventory or are exempt. |
| WHMIS Hazard Class | D2B Toxic Materials |

16. OTHER INFORMATION

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

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*****