

## SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

### EZ MUL® NT NS

Revision Date: 26-Sep-2013

Revision Number: 11

#### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

##### 1.1 Product Identifier

**Product Name** EZ MUL® NT NS

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

|                           |   |
|---------------------------|---|
| <b>Recommended Use</b>    | Emulsifier  |
| <b>Sector of use</b>      | SU2 - Mining, (including offshore industries)   |
| <b>Product category</b>   | PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific |
| <b>Process categories</b> | PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises                  |

##### 1.3 Details of the supplier of the safety data sheet

Halliburton Manufacturing Services, Ltd.  
Halliburton House, Howemoss Crescent  
Kirkhill Industrial Estate  
Dyce  
Aberdeen, AB21 0GN  
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

[www.halliburton.com](http://www.halliburton.com)

For further information, please contact

**E-Mail address:** [fdunexchem@halliburton.com](mailto:fdunexchem@halliburton.com)

##### 1.4 Emergency telephone number

+44 1224 795277 or +1 281 575 5000

| Emergency telephone - §45 - (EC)1272/2008 |   |
|---|---|
| <b>Europe</b>                             | <b>112</b>  |
| <b>Denmark</b>                            | Poison Control Hotline (DK): +45 82 12 12 12  |
| <b>France</b>                             | ORFILA (FR): + 01 45 42 59 59   |
| <b>Germany</b>                            | Poison Center Berlin (DE): +49 030 30686 790  |
| <b>Italy</b>                              | Poison Center, Milan (IT): +39 02 6610 1029   |
| <b>Netherlands</b>                        | National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals) |
| <b>Norway</b>                             | Poisons Information (NO): + 47 22 591300  |
| <b>Poland</b>                             | Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97                                  |
| <b>Spain</b>                              | Poison Information Service (ES): +34 91 562 04 20   |
| <b>United Kingdom</b>                     | NHS Direct (UK): +44 0845 46 47   |

#### 2. HAZARDS IDENTIFICATION

##### Classification of the substance or mixture

##### REGULATION (EC) No 1272/2008

|                                     |                   |
|-------------------------------------|-------------------|
| Skin Corrosion / irritation         | Category 2 - H315 |
| Serious Eye Damage / Eye Irritation | Category 2 - H319 |
| Skin Sensitization                  | Category 1 - H317 |

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**  
 For the full text of the R-phrases mentioned in this Section, see Section 16

**Classification** Xi - Irritant.

**Risk Phrases** R43 May cause sensitization by skin contact.  
 R36/38 Irritating to eyes and skin.

## 2.2 Label Elements

### Hazard Pictograms



**Signal Word** Warning

### Hazard Statements

H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H319 - Causes serious eye irritation

### Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/eye protection/face protection  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 P332 + P313 - If skin irritation occurs: Get medical advice/attention  
 P362 - Take off contaminated clothing and wash before reuse  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P337 + P313 - If eye irritation persists: Get medical advice/attention

### Contains

#### Substances

Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine  
 Hydrotreated light petroleum distillate

#### CAS Number

68990-47-6

64742-47-8

## 2.3 Other Hazards

None known

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances  | EINECS    | CAS Number | PERCENT (w/w) | EEC Classification | EU - CLP Substance Classification                                  | REACH No.        |
|---|-----------|------------|---------------|--------------------|--|------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine | 273-601-0 | 68990-47-6 | 60 - 100%     | Xi; R36/38         | Eye Irrit. 2 (H319)<br>Skin Irrit. 2 (H315)<br>Skin Sens. 1 (H317) | 01-2119496070-42 |
| Hydrotreated light petroleum distillate   | 265-149-8 | 64742-47-8 | 10 - 30%      | Xn; R65            | Asp. Tox. 1 (H304)   | 01-2119484819-18 |

For the full text of the R-phrases mentioned in this Section, see Section 16

## 4. FIRST AID MEASURES

**4.1 Description of first aid measures**

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | 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. |
| <b>Eyes</b>       | 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.     |
| <b>Skin</b>       | Wash with soap and water. Get medical attention if irritation persists.   |
| <b>Ingestion</b>  | Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.   |

**4.2 Most important symptoms and effects, both acute and delayed**

May cause eye and skin irritation. May cause allergic skin reaction.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically

**5. FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**5.2 Special hazards arising from the substance or mixture****Special Exposure Hazards**

Decomposition in fire may produce toxic gases.

**5.3 Advice for firefighters****Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment.

See Section 12 for additional information

**6.2 Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3 Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

**6.4 Reference to other sections**

See Section 12 for additional information.

**7. HANDLING AND STORAGE****7.1 Precautions for Safe Handling**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

**7.2 Conditions for safe storage, including any incompatibilities**

Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use.

**7.3 Specific End Use(s)**

**Exposure Scenario** No information available

**Other Guidelines** No information available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters****Exposure Limits**

| Substances  | CAS Number | EU             | UK OEL         | Netherlands    | France OEL     |
|---|------------|----------------|----------------|----------------|----------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine | 68990-47-6 | Not applicable | Not applicable | Not applicable | Not applicable |
| Hydrotreated light petroleum distillate   | 64742-47-8 | Not applicable | Not applicable | Not applicable | Not applicable |

| Substances  | CAS Number | Germany MAK/TRK | Spain          | Portugal       | Finland        |
|---|------------|-----------------|----------------|----------------|----------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine | 68990-47-6 | Not applicable  | Not applicable | Not applicable | Not applicable |
| Hydrotreated light petroleum distillate   | 64742-47-8 | Not applicable  | Not applicable | Not applicable | Not applicable |

| Substances  | CAS Number | Austria        | Ireland        | Switzerland    | Norway         |
|---|------------|----------------|----------------|----------------|----------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine | 68990-47-6 | Not applicable | Not applicable | Not applicable | Not applicable |
| Hydrotreated light petroleum distillate   | 64742-47-8 | Not applicable | Not applicable | Not applicable | Not applicable |

| Substances  | CAS Number | Italy          | Poland         | Hungary        | Czech Republic |
|---|------------|----------------|----------------|----------------|----------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine | 68990-47-6 | Not applicable | Not applicable | Not applicable | Not applicable |
| Hydrotreated light petroleum distillate   | 64742-47-8 | Not applicable | Not applicable | Not applicable | Not applicable |

| Substances  | CAS Number | Denmark        |
|---|------------|----------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine | 68990-47-6 | Not applicable |
| Hydrotreated light petroleum distillate   | 64742-47-8 | Not applicable |

**Derived No Effect Level (DNEL)  
Worker**

No information available.

**General Population****Predicted No Effect Concentration (PNEC)**

No information available.

**8.2 Exposure controls****Engineering Controls**

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

**Personal protective equipment  
Respiratory Protection**

Organic vapor respirator with a dust/mist filter. (A2P2/P3) In high concentrations, supplied air respirator or a self-contained breathing apparatus.

**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.

**Environmental Exposure Controls**

No information available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|  |   |
|--|---|
| <b>Physical State:</b> Liquid<br><b>Odor:</b> Mild hydrocarbon | <b>Color:</b> Dark amber<br><b>Odor Threshold:</b> No information available |
|--|---|

| Property<br>Remarks/ - Method                 | Values                   |
|---|--------------------------|
| <b>pH:</b>                                    | 5-7                      |
| <b>Freezing Point/Range</b>                   | No data available        |
| <b>Melting Point/Range</b>                    | No data available        |
| <b>Boiling Point/Range</b>                    | 150 °C                   |
| <b>Flash Point</b>                            | 65 °C PMCC               |
| upper flammability limit                      | 4.7                      |
| lower flammability limit                      | 0.6                      |
| <b>Evaporation rate</b>                       | No data available        |
| <b>Vapor Pressure</b>                         | No data available        |
| <b>Vapor Density</b>                          | No data available        |
| <b>Specific Gravity</b>                       | 0.89                     |
| <b>Water Solubility</b>                       | Insoluble in water       |
| <b>Solubility in other solvents</b>           | No data available        |
| <b>Partition coefficient: n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               | No data available        |
| <b>Decomposition Temperature</b>              | No data available        |
| <b>Viscosity</b>                              | No data available        |
| <b>Explosive Properties</b>                   | No information available |
| <b>Oxidizing Properties</b>                   | No information available |

### 9.2 Other information

|                        |                   |
|------------------------|-------------------|
| <b>VOC Content (%)</b> | No data available |
|------------------------|-------------------|

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Not applicable

### 10.2 Chemical Stability

Stable

### 10.3 Possibility of Hazardous Reactions

Will Not Occur

### 10.4 Conditions to Avoid

Keep away from heat, sparks and flame.

### 10.5 Incompatible Materials

Strong oxidizers.

### 10.6 Hazardous Decomposition Products

Oxides of nitrogen. Hydrocarbons. Carbon monoxide and carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects

#### 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 eye irritation.

##### Skin Contact

May cause skin irritation. May cause an allergic skin reaction.

##### Ingestion

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. 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      |
|---|------------|--------------------|-----------------------|----------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine | 68990-47-6 | No data available  | No data available     | No data available    |
| Hydrotreated light petroleum distillate   | 64742-47-8 | 5000 mg/kg ( Rat ) | 2000 mg/kg ( Rabbit ) | 5.2 mg/L ( Rat ) 4 h |

**12. ECOLOGICAL INFORMATION****12.1 Toxicity  
Ecotoxicity Effects**

| Substances  | CAS Number | Toxicity to Algae        | Toxicity to Fish                     | Toxicity to Microorganisms | Daphnia Magna (Water Flea)      |
|---|------------|--------------------------|--------------------------------------|----------------------------|---------------------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetriamine | 68990-47-6 | No information available | No information available             | No information available   | No information available        |
| Hydrotreated light petroleum distillate   | 64742-47-8 | No information available | LC50: 2.4 mg/L (Oncorhynchus mykiss) | No information available   | LC50: 4720 mg/L (Daphnia magna) |

**12.2 Persistence and degradability**

No information available

**12.3 Bioaccumulative potential**

No information available

**12.4 Mobility in soil**

No information available

**12.5 Results of PBT and vPvB assessment**

No information available.

**12.6 Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Disposal Method****Contaminated Packaging**

Disposal should be made in accordance with federal, state, and local regulations.  
Follow all applicable national or local regulations.

**14. TRANSPORT INFORMATION****IMDG/IMO**

UN Number: Not restricted.  
UN Proper Shipping Name: Not restricted  
Transport Hazard Class(es): Not applicable

**RID**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**ADR**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**IATA/ICAO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

**All of the components in the product are on the following Inventory lists:** All of the components in the product are on the following Inventory lists:

|                               |  |
|-------------------------------|--|
| <b>EINECS Inventory</b>       | This product, and all its components, complies with EINECS |
| <b>US TSCA Inventory</b>      | All components listed on inventory or are exempt.          |
| <b>Canadian DSL Inventory</b> | All components listed on inventory or are exempt.          |

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**Germany, Water Endangering Classes (WGK)** WGK 1: Low hazard to waters.

**15.2 Chemical Safety Assessment**

No information available

**16. OTHER INFORMATION****Full text of R-phrases referred to under Sections 2 and 3**

R43 May cause sensitization by skin contact.

R36/38 Irritating to eyes and skin.

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Revision Date:** 26-Sep-2013

**Revision Note**

Not applicable

**This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010**

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**End of Safety Data Sheet**