

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

EZ MUL® LA

Revision Date: 08-Apr-2014

Revision Number: 4

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

1.1 Product Identifier

Product Name EZ MUL® LA

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

Recommended Use Emulsifier

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

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4 Emergency telephone number

+44 1224 795277 or +1 281 575 5000

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

2. Hazards Identification

2.1 Classification of the substance or mixture

REGULATION (EC) No 1272/2008

| | |
|--|-------------------|
| Acute Inhalation Toxicity - Vapors | Category 4 - H332 |
| Skin Corrosion / irritation | Category 2 - H315 |
| Serious Eye Damage / Eye Irritation | Category 2 - H319 |
| Skin Sensitization | Category 1 - H317 |
| Carcinogenicity | Category 2 - H351 |
| Specific Target Organ Toxicity - (Repeated Exposure) | Category 2 - H373 |

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 | Xn - Harmful. |
| Risk Phrases | R20 Harmful by inhalation. R40 Limited evidence of a carcinogenic effect. 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
H332 - Harmful if inhaled
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

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

P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
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 triethylenetetramine
Diesel fuel
Ethylene glycol monobutyl ether
Diethylene glycol monobutyl ether

CAS Number

68990-47-6
68334-30-5
111-76-2
112-34-5

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 triethylenetetramine | 273-601-0 | 68990-47-6 | 60 - 100% | Xi; R43 | Skin Sens. 1 (H317) | 01-2119496070-42 |

| | | | | | | |
|-----------------------------------|-----------|------------|----------|--|--|-------------------|
| Diesel fuel | 269-822-7 | 68334-30-5 | 10 - 30% | Carc.Cat.3; R40 Xn;; R20 R65 Xi; R38 | Acute Tox. 4 (5332) Skin Irrit. 2 (H315) Carc. 2 (H351) STOT-RE 2 (H373) | No data available |
| Ethylene glycol monobutyl ether | 203-905-0 | 111-76-2 | 1 - 5% | Xn; R20/21/22 Xi; R36/38 | Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) | 01-2119475108-36 |
| Diethylene glycol monobutyl ether | 203-961-6 | 112-34-5 | 1 - 5% | Xi; R36 | Eye Irrit. 2 (H319) | 01-2119475104-44 |

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

| | |
|-------------------|---|
| 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. |
| 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. |
| Skin | In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. |
| Ingestion | 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. Potential carcinogen. May be harmful if inhaled

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 8 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. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

6.4 Reference to other sections

See Section 8 and 13 for additional information.

7. Handling and Storage

7.1 Precautions for Safe Handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.

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. Product has a shelf life of 12 months.

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 triethylenetetramine | 68990-47-6 | Not applicable | Not applicable | Not applicable | Not applicable |
| Diesel fuel | 68334-30-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Ethylene glycol monobutyl ether | 111-76-2 | Not applicable | STEL: 50 ppm STEL: 246 mg/m ³ TWA: 25 ppm TWA: 123 mg/m ³ | TWA: 100 mg/m ³ STEL: 246 mg/m ³ | 2 ppm |
| Diethylene glycol monobutyl ether | 112-34-5 | STEL: 15 ppm STEL: 101.2 mg/m ³ TWA: 10 ppm TWA: 67.5 mg/m ³ | STEL: 15 ppm STEL: 101.2 mg/m ³ TWA: 10 ppm TWA: 67.5 mg/m ³ | TWA: 50 mg/m ³ STEL: 100 mg/m ³ | 10 ppm |

| Substances | CAS Number | Germany MAK/TRK | Spain | Portugal | Finland |
|--|------------|--|--|----------------------------|---|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Not applicable | Not applicable | Not applicable | Not applicable |
| Diesel fuel | 68334-30-5 | Not applicable | Not applicable | TWA: 100 mg/m ³ | Not applicable |
| Ethylene glycol monobutyl ether | 111-76-2 | TWA: 20 ppm TWA: 98 mg/m ³ MAK: 10 ppm MAK: 49 mg/m ³ | 50 ppm VLA-EC; 245 mg/m ³ VLA-EC VLA-ED: 20 ppm VLA-ED: 98 mg/m ³ | TWA: 20 ppm | STEL: 50 ppm STEL: 250 mg/m ³ TWA: 20 ppm TWA: 98 mg/m ³ |
| Diethylene glycol monobutyl ether | 112-34-5 | TWA: 100 mg/m ³ MAK: 10 ppm MAK: 67 mg/m ³ | 15 ppm VLA-EC; 101.2 mg/m ³ VLA-EC VLA-ED: 10 ppm VLA-ED: 67.5 mg/m ³ | Not applicable | TWA: 10 ppm TWA: 68 mg/m ³ |

| Substances | CAS Number | Austria | Ireland | Switzerland | Norway |
|--|------------|----------------|----------------|----------------|---|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Not applicable | Not applicable | Not applicable | Not applicable |
| Diesel fuel | 68334-30-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Ethylene glycol monobutyl ether | 111-76-2 | Not applicable | Not applicable | Not applicable | STEL: 20 ppm STEL: 75 mg/m ³ TWA: 10 ppm TWA: 50 mg/m ³ |
| Diethylene glycol monobutyl ether | 112-34-5 | Not applicable | Not applicable | Not applicable | STEL: 20 ppm STEL: 102 mg/m ³ TWA: 10 ppm TWA: 68 mg/m ³ |

| Substances | CAS Number | Italy | Poland | Hungary | Czech Republic |
|--|------------|---|---|--|----------------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Not applicable | Not applicable | Not applicable | Not applicable |
| Diesel fuel | 68334-30-5 | Not applicable | NDS: 0.5 mg/m ³ | Not applicable | Not applicable |
| Ethylene glycol monobutyl ether | 111-76-2 | STEL: 50 ppm STEL: 246 mg/m ³ TWA: 20 ppm TWA: 98 mg/m ³ | NDSch: 200 mg/m ³ NDS: 98 mg/m ³ | TWA: 98 mg/m ³ STEL: 246 mg/m ³ | TWA: 100 mg/m ³ |
| Diethylene glycol monobutyl ether | 112-34-5 | STEL: 15 ppm STEL: 101.2 mg/m ³ TWA: 10 ppm TWA: 67.5 mg/m ³ | NDSch: 100 mg/m ³ NDS: 67 mg/m ³ | TWA: 67.5 mg/m ³ STEL: 101.2 mg/m ³ | TWA: 100 mg/m ³ |

| Substances | CAS Number | Denmark |
|--|------------|---|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Not applicable |
| Diesel fuel | 68334-30-5 | Not applicable |
| Ethylene glycol monobutyl ether | 111-76-2 | TWA: 20 ppm TWA: 98 mg/m ³ |
| Diethylene glycol monobutyl ether | 112-34-5 | TWA: 10 ppm TWA: 67.5 mg/m ³ |

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

| Substances | Long-term exposure - systemic effects, Inhalation | Acute / short term exposure - systemic effects, Inhalation | Long-term exposure - local effects, Inhalation | Acute / short term exposure - local effects, Inhalation | Long-term exposure - systemic effects, Dermal | Acute / short term exposure - systemic effects, Dermal | Long-term exposure - local effects, Dermal | Acute / short term exposure - local effects, Dermal | Hazards for the eyes - local effects |
|--|---|--|--|---|---|--|--|---|--------------------------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 14693 µg/m ³ | 29386 µg/m ³ | 14693 µg/m ³ | 14693 µg/m ³ | 16666 µg/kg bw/day | 33332 µg/kg bw/day | 1388 µg/cm ² | 1388 µg/cm ² | Not available |
| Ethylene glycol monobutyl ether | 98 mg/m ³ | 663 mg/m ³ | Not available | 246 mg/m ³ | 75 mg/kg bw/day | 89 mg/kg bw/day | Not available | Not available | Not available |
| Diethylene glycol monobutyl ether | 67.5 mg/m ³ | Not available | 67.5 mg/m ³ | 101.2 mg/m ³ | 20 mg/kg bw/day | Not available | Not available | Not available | Not available |

General Population

| Substances | Long-term exposure - systemic effects, Inhalation | Acute / short term exposure - systemic effects, Inhalation | Long-term exposure - local effects, Inhalation | Acute / short term exposure - local effects, Inhalation | Long-term exposure - systemic effects, Dermal | Acute / short term exposure - systemic effects, Dermal | Long-term exposure - local effects, Dermal | Acute / short term exposure - local effects, Dermal | Long-term exposure - systemic effects, Oral | Acute / short term exposure - local effects, Oral | Hazards for the eyes - local effects |
|--|---|--|--|---|---|--|--|---|---|---|--------------------------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 3623 µg/m ³ | 7246 µg/m ³ | 3623 µg/m ³ | 3623 µg/m ³ | 8333 µg/kg bw/day | 16666 µg/kg bw/day | 694 µg/cm ² | 694 µg/cm ² | 8333 µg/kg bw/day | 16666 µg/kg bw/day | Not available |
| Ethylene glycol monobutyl ether | 49 mg/m ³ | 426 mg/m ³ | Not available | 123 mg/m ³ | 38 mg/kg bw/day | 44.5 mg/kg bw/day | Not available | Not available | 3.2 mg/kg bw/day | 13.4 mg/kg bw/day | Not available |
| Diethylene glycol monobutyl ether | 34 mg/m ³ | Not available | 34 mg/m ³ | 50.6 mg/m ³ | 10 mg/kg bw/day | Not available | Not available | Not available | 1.25 mg/kg bw/day | Not available | Not available |

Predicted No Effect Concentration (PNEC)

| Substances | Freshwater | Marine water | Intermittent release | Sewage treatment plant | Sediment (freshwater) | Sediment (marine water) | Air | Soil | Secondary poisoning |
|--|--------------|---------------|----------------------|------------------------|-----------------------|-------------------------|---------------|--------------------|---------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 0.00217 mg/L | 0.000217 mg/L | 0.0217 mg/L | 1 mg/L | 180 mg/kg sediment dw | 18 mg/kg sediment dw | Not available | 146 mg/kg soil dw | 33.34 mg/kg food |
| Ethylene glycol monobutyl ether | 8.8 mg/L | 0.88 kg/L | 9.1 mg/L | 463 mg/L | 34.6 mg/kg | 3.46 mg/kg | Not available | 3.13 mg/kg soil dw | 0.02 g/kg food |
| Diethylene glycol monobutyl ether | 1.0 mg/L | 0.1 mg/L | 3.9 mg/L | 200 mg/L | 4.0 mg/kg | 0.4 mg/kg | Not available | 0.4 mg/kg | 56 mg/kg food |

8.2 Exposure controls**Engineering Controls**

A well ventilated area to control dust levels. 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)

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

Physical State: Liquid

Color: Dark amber

Odor: Hydrocarbon

Odor Threshold: No information available

PropertyValues

Remarks/ - Method

pH:

4-7

Freezing Point/Range

No data available

Melting Point/Range

No data available

Boiling Point/Range

No data available

Flash Point

81 °C PMCC

Evaporation rate

No data available

Vapor Pressure

No data available

Vapor Density

No data available

Specific Gravity

0.948

Water Solubility

Slightly soluble

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

9.2 Other information

VOC Content (%)

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. Strong alkalis.

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 severe eye irritation.

Skin Contact

May cause skin irritation.

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

Contains petroleum distillates which have been shown to cause skin cancer in laboratory animals. Prolonged or repeated exposure may cause liver damage.

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 triethylenetetramine | 68990-47-6 | > 2020 mg/kg (Rat) | > 2000 mg/kg (Rat) | No data available |
| Diesel fuel | 68334-30-5 | > 5000 mg/kg (Rat) 7600 mg/kg (Rat) | > 2000 mg/kg (Rabbit) > 4300 mg/kg (Rabbit) | 4.1 mg/L (Rat, vapour, 4h) |
| Ethylene glycol monobutyl ether | 111-76-2 | 470 mg/kg (Rat) 1414 mg/kg (Guinea pig) 1746 mg/kg (Rat) 320 mg/kg (Rabbit) 530 mg/kg (Rat) 560 mg/kg (Rat) 3000 mg/kg (Rat) 2400 (Rat) | 220 mg/kg (Rabbit) 2270 mg/kg (Rat) 200 mg/kg (Guinea pig) >2000 mg/kg (Rabbit) 841 mg/kg (Rabbit) 435 mg/kg (Rabbit) >2000 mg/kg (Guinea pig) >2000 mg/kg (Rat) 100 mg/kg (Rabbit) 207 mg/kg (Guinea pig) 400-500 mg/kg (Rabbit) | 450 ppm (Rat) 4h 2.174 mg/L (Rat) 4h 2.21 mg/L (Rat) 4h 450-486 ppm (Rat) 4h 925 ppm (Rat) 4h >633 ppm (Guinea pig) 1h |
| Diethylene glycol monobutyl ether | 112-34-5 | 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 |

| Substances | CAS Number | Skin corrosion/irritation |
|--|------------|---|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Non-irritating to the skin |
| Diesel fuel | 68334-30-5 | Causes moderate skin irritation. (rabbit) |
| Ethylene glycol monobutyl ether | 111-76-2 | Irritating to skin. (rabbit) |

| | | |
|-----------------------------------|----------|----------------------|
| Diethylene glycol monobutyl ether | 112-34-5 | Mild skin irritation |
|-----------------------------------|----------|----------------------|

| Substances | CAS Number | Eye damage/irritation |
|--|------------|------------------------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Non-irritating to the eye |
| Diesel fuel | 68334-30-5 | Non-irritating to the eye (rabbit) |
| Ethylene glycol monobutyl ether | 111-76-2 | Irritating to eyes. (rabbit) |
| Diethylene glycol monobutyl ether | 112-34-5 | May cause eye irritation (rabbit) |

| Substances | CAS Number | Skin Sensitization |
|--|------------|--|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Skin sensitizer in guinea pig |
| Diesel fuel | 68334-30-5 | No information available |
| Ethylene glycol monobutyl ether | 111-76-2 | Did not cause sensitization on laboratory animals (guinea pig) |
| Diethylene glycol monobutyl ether | 112-34-5 | Did not cause sensitization on laboratory animals (guinea pig) |

| Substances | CAS Number | Respiratory Sensitization |
|--|------------|--|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | No information available |
| Diesel fuel | 68334-30-5 | Did not cause sensitization on laboratory animals (guinea pig) |
| Ethylene glycol monobutyl ether | 111-76-2 | No information available |
| Diethylene glycol monobutyl ether | 112-34-5 | No information available |

| Substances | CAS Number | Mutagenic Effects |
|--|------------|--|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | In vivo tests did not show mutagenic effects |
| Diesel fuel | 68334-30-5 | In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects |
| Ethylene glycol monobutyl ether | 111-76-2 | In vivo tests did not show mutagenic effects In vitro tests did not show mutagenic effects |
| Diethylene glycol monobutyl ether | 112-34-5 | In vivo tests did not show mutagenic effects In vitro tests did not show mutagenic effects |

| Substances | CAS Number | Carcinogenic Effects |
|--|------------|--|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Did not show carcinogenic effects in animal experiments |
| Diesel fuel | 68334-30-5 | Contains petroleum distillates which have been shown to cause skin cancer in laboratory animals. |
| Ethylene glycol monobutyl ether | 111-76-2 | Did not show carcinogenic effects in animal experiments |
| Diethylene glycol monobutyl ether | 112-34-5 | No information available. |

| Substances | CAS Number | Reproductive toxicity |
|--|------------|---|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Animal testing did not show any effects on fertility. |
| Diesel fuel | 68334-30-5 | Animal testing did not show any effects on fertility. (similar substances) |
| Ethylene glycol monobutyl ether | 111-76-2 | Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. |
| Diethylene glycol monobutyl ether | 112-34-5 | Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. |

| Substances | CAS Number | STOT - single exposure |
|--|------------|--|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | No significant toxicity observed in animal studies at concentration requiring classification. |
| Diesel fuel | 68334-30-5 | No significant toxicity observed in animal studies at concentration requiring classification. (similar substances) |
| Ethylene glycol monobutyl ether | 111-76-2 | No significant toxicity observed in animal studies at concentration requiring classification. |
| Diethylene glycol monobutyl ether | 112-34-5 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | STOT - repeated exposure |
|--|------------|--|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | No significant toxicity observed in animal studies at concentration requiring classification. |
| Diesel fuel | 68334-30-5 | Causes damage to organs through prolonged or repeated exposure in contact with skin thymus (Liver) bone marrow |
| Ethylene glycol monobutyl ether | 111-76-2 | No significant toxicity observed in animal studies at concentration requiring classification. |
| Diethylene glycol monobutyl ether | 112-34-5 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | Aspiration hazard |
|--|------------|---|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Not applicable |
| Diesel fuel | 68334-30-5 | Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. |
| Ethylene glycol monobutyl ether | 111-76-2 | Not applicable |
| Diethylene glycol monobutyl ether | 112-34-5 | Not applicable |

12. Ecological Information

12.1 Toxicity Ecotoxicity Effects

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|------------|------------|-------------------|------------------|----------------------------|---------------------------|
|------------|------------|-------------------|------------------|----------------------------|---------------------------|

| | | | | | |
|--|------------|--|---|--|---|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | 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) |
| Diesel fuel | 68334-30-5 | EL50(72h): 10 mg/L (Pseudokirchnerella subcapitata) NOEL(72h): 3 mg/L (Pseudokirchnerella subcapitata) | LL50(96h): 21 mg/L (Oncorhynchus mykiss) | No information available | EL50(48h): 210 mg/L (Daphnia magna) |
| Ethylene glycol monobutyl ether | 111-76-2 | EC50: 839.56 mg/l (Skeletoneema costatum) EC50(72h): 911 mg/L (biomass) EC50: > 500 mg/l (Scenedesmus subspicatus) NOEC(72h): 88 mg/L (biomass)(Pseudokirchnerella subcapitata) | LC50: > 1000 mg/l (Scophthalmus maximus juvenile) LC50(96h): 1474 mg/L (Oncorhynchus mykiss) NOEC(21d): > 100mg/L (Danio rerio) | TT/EC3(48h): 463 mg/L (Uronema parduzci) TT/EC3(72h): 73 mg/L (Entosiphon sulcatum) TT/EC3(16h): 700 mg/L (Pseudomonas putida) | EC50: >1000 mg/L (Daphnia magna) EC50 (48h): 1800 mg/L (Daphnia magna) EC50: 1875 mg/l (Daphnia magna) NOEC(21d)(reproduction): 100 mg/L (Daphnia magna) |
| Diethylene glycol monobutyl ether | 112-34-5 | 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

| Substances | CAS Number | Persistence and Degradability |
|--|------------|--------------------------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | Readily biodegradable (71% @ 28d) |
| Diesel fuel | 68334-30-5 | Biodegradable. (57.5 - 60% @ 28d) |
| Ethylene glycol monobutyl ether | 111-76-2 | Readily biodegradable (75-88% @ 28d) |
| Diethylene glycol monobutyl ether | 112-34-5 | Readily biodegradable (71% @ 28d) |

12.3 Bioaccumulative potential

| Substances | CAS Number | Log Pow |
|--|------------|--------------------------|
| Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine | 68990-47-6 | 2.4 |
| Diesel fuel | 68334-30-5 | No information available |
| Ethylene glycol monobutyl ether | 111-76-2 | 0.81 |
| Diethylene glycol monobutyl ether | 112-34-5 | 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

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 |
| Packing Group: | Not applicable |
| Environmental Hazards: | Not applicable |

RID

| | |
|------------------------------------|-----------------|
| UN Number: | Not restricted. |
| UN Proper Shipping Name: | Not restricted |
| Transport Hazard Class(es): | Not applicable |
| Packing Group: | Not applicable |
| Environmental hazard: | Not applicable |

ADR

| | |
|------------------------------------|-----------------|
| UN Number: | Not restricted. |
| UN Proper Shipping Name: | Not restricted |
| Transport Hazard Class(es): | Not applicable |
| Packing Group: | Not applicable |
| Environmental hazard: | Not applicable |

IATA/ICAO

| | |
|------------------------------------|-----------------|
| UN Number: | Not restricted. |
| UN Proper Shipping Name: | Not restricted |
| Transport Hazard Class(es): | Not applicable |
| Packing Group: | Not applicable |
| Environmental hazard: | Not applicable |

Special Precautions for User None**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:

| | |
|-------------------------------|--|
| EINECS Inventory | This product, and all its components, complies with EINECS |
| US TSCA Inventory | All components listed on inventory or are exempt. |
| Canadian DSL Inventory | 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) | Not determined. |
|---|-----------------|

15.2 Chemical Safety Assessment

No information available

| |
|------------------------------|
| 16. Other Information |
|------------------------------|

Full text of R-phrases referred to under Sections 2 and 3

R20 Harmful by inhalation.
R20/21/22 Harmful by inhalation, by contact with skin and if swallowed.
R36 Irritating to eyes.
R36/38 Irritating to eyes and skin.
R38 Irritating to skin.
R40 Limited evidence of a carcinogenic effect.
R43 May cause sensitization by skin contact.
R65 Harmful: may cause lung damage if swallowed.

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 08-Apr-2014

Revision Note

Not applicable

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

Disclaimer Statement

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End of Safety Data Sheet