

Page 1 of 5

According to REACH Regulation EC No. 1907/2006, Annex II

Version No.10 ERIFON HD 603 HP Date of issue: 02.11.2012

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

Product details

Trade name: ERIFON HD 603 HP

Application of the substance: For use as a blow out prevention (BOP) fluid in the Offshore Oil and Gas Industry

Manufacturer/Supplier: MacDermid Canning Limited

Cale Lane, New Springs Wigan, Lancashire WN2 1JR. UK

Phone: + 44 (0) 1942 501000 Fax: + 44 (0) 1942 501110 Email: offshore@macdermid.com

Web: http://www.macdermid.com/offshore

Email contact: Phil Lea; plea@macdermid.com or Louise Whitter; lwhitter@macdermid.com

Emergency phone number: Telephone + 44 (0) 1942 501000

2. Hazards identification

Hazards description:



Xn - Harmful

Information concerning particular hazards for human and environment:

R22 – Harmful if swallowed R36/38 – Irritant to skin and eyes

Classification system:

The classification is according to the latest editions of the EU lists, and extended by company and literature data.

*3. Composition/information on ingredients

Chemical characterisation

Description: Water/glycol fluid with additives.

Dangerous components:

| Component | CAS No. | EINECS No. | Classification | Concentration % |
|-----------------------------|------------|------------|-------------------|-----------------|
| Ethylene Glycol | 107-21-1 | 203-473-3 | Xn; R22 | 25 - 35 |
| Tall Oil amide | 68155-20-4 | 268-949-5 | Xi; R36/38 | 15 – 25 |
| Oxazolidine | 66204-44-2 | 266-235-8 | C; R20/22, 34, 52 | 1 - 5 |
| Sodium N-lauroylsarcosinate | 137-16-6 | 205-281-5 | Xi;R41 | 1 - 5 |

Additional information: For the wording of the listed risk phrases refer to section 16.



Page 2 of 5

According to REACH Regulation EC No. 1907/2006, Annex II

Version No.10 ERIFON HD 603 HP Date of issue: 02.11.2012

4. First-aid measures

After inhalation: In case of symptoms refer for medical treatment. Remove to fresh air.

After skin contact: Wash with soap and water. Launder contaminated clothing before re-use. If irritation occurs seek medical attention.

After eye contact: Rinse the eye with fresh water for at least 15 minutes. If discomfort persists seek medical attention.

After swallowing: Give milk or water to drink. <u>DO NOT</u> induce vomiting, although the casualty may be allowed to vomit naturally. Seek medical attention urgently.

5. Fire-fighting measures

Suitable extinguishing agents:

Water spray, carbon dioxide, dry powder or foam.

Special hazards caused by the substance, its products of combustion or resulting gases:

Decomposition products include oxides of carbon

Protective equipment:

Self-contained breathing apparatus and full protective clothing required.

Additional information:

6. Accidental release measures

Person-related safety precautions:

Gloves and eye protection should be worn when handling the product.

Measures for environmental protection:

Prevent the spillage entering drains and watercourses.

Measures for cleaning/collecting:

Small spillages may be flushed away with a large volume of water. Large spillages should be absorbed using sand, earth or other absorbent material. Place all absorbed waste into suitable containers for subsequent disposal by a licensed contractor.

7. Handling and storage

Information for safe handling:

Gloves and eye protection should be worn when handling the product.

Storage:

Store away from foodstuffs and out of direct sunlight.

Requirements to be met by storerooms and receptacles:

Store in dry conditions away from heat and direct sunlight, preferably in a bunded area.



Page 3 of 5

According to REACH Regulation EC No. 1907/2006, Annex II

Version No.10 ERIFON HD 603 HP Date of issue: 02.11.2012

8. Exposure controls/personal protection

Ingredients with limit values that require monitoring in the workplace:

Ethylene glycol (EH40)

LTEL = 10 mg/m³ (particulate) SKIN LTEL = 52 mg/m³ (vapour) SKIN STEL = 104 mg/m³ (vapour) SKIN

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapours or by direct skin contact.

It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimise dermal exposures should be considered.

Personal protective equipment:

General protective and hygienic measures:

Adhere to good laboratory practice (GLP).

Wash hands before breaks and at the end of work.

Protection of hands:

Protective gloves should be worn.

Material of gloves:

We recommend latex, neoprene, nitrile or natural rubber.

Penetration time of glove material:

Penetration time > 8 hours.

Eye protection:

Safety glasses should be worn. Goggles or a face shield are recommended where there is a risk of accidental splashing.

Body protection:

Overalls should be worn when handling the product.

9. Physical and chemical properties

General information:

Form: Mobile liquid Colour: Dark green Odour: Mild amide

Change in condition:

Melting point/Meting range: N/A Boiling point/Boiling range: 100°C

Flashpoint: Closed cup: >100°C (>212°F)

Self-igniting: Not applicable

Danger of explosion: Not applicable Vapour pressure: 2.33 KN.m⁻² Specific gravity @ 15.6°C: 1.062

Solubility: Soluble in water, not soluble in fats and oils.

Viscosity @ 20°C: Approx. 20.0 centistokes

pH value at 20°C: 10.0 at 100%

Other information:



Page 4 of 5

According to REACH Regulation EC No. 1907/2006, Annex II

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10. Stability and reactivity

Stability:

Stable.

Materials to be avoided:

None known

Hazardous reactions:

None known.

Hazardous decomposition products:

None known.

11. Toxicological information

Acute toxicity:

For ethylene glycol

Oral, human: Lethal dose = 100ml Oral, rat: LD50 = 4700 mg/kg Dermal, rabbit: LD50 = 9530 mg/kg

Primary effects:

After skin contact:

May cause itching on prolonged contact.

After eye contact:

May cause discomfort and/or stinging.

After ingestion:

May cause nausea and/or vomiting. Ingestion of 100ml of ethylene glycol has been proved to be fatal.

After inhalation:

Irritation to the nose and upper respiratory tract (only applicable if a mist).

Sensitisation:

No sensitising effects known.

12. Ecological information

Ecotoxic effects:

Product is biodegradable and does not bioaccumulate.

Aquatic toxicity:

This product is of low toxicity.

13. Disposal considerations

Product:

The product should be disposed of as hazardous waste, in accordance with local regulations.

Packaging:

Contaminated packaging must be disposed of in the same matter as the product.

Non-contaminated packaging may be recycled. Contact you local service providers for more information.



Page 5 of 5

According to REACH Regulation EC No. 1907/2006, Annex II

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14. Transport information

Land transport ADR/RID (cross border):

Not regulated.

Maritime transport IMDG:

Not regulated.

Air transport ICAO/IATA Class:

Not regulated.

15. Regulatory information

Labelling according to EC guidelines:

The product has been labelled in accordance with EC directives

Code letter and hazard designation of product:

Xn - Harmful

Risk phrases:

R22 – Harmful if swallowed R36/38 – Irritating to skin and eyes

Safety phrases:

S2 – Keep out of reach of children S37/39 – Wear suitable gloves and eye/face protection

*16. Other information

This information is based on our present knowledge and every effort has been made to ensure that the information in this safety data sheet is accurate and reliable. The company does not accept liability for any loss, injury or damage resulting from the use of this product. Data given in this safety data sheet is to be used solely for the guidance in safe handling and use of the product by customers, it does not constitute a specification. Customers are reminded that there may be applications of our products, which are protected by patent, under which they have no rights whatsoever. If any difficulties should arise, we will be happy to discuss them. Customers are encouraged to carry out their own tests.

Before using any product, read the label carefully.

Sources of key data: Suppliers safety data sheets, CHIP Regulations

Relevant R-phrases:

R20/22 - Harmful by inhalation and if swallowed

R22 - Harmful if swallowed

R34 - Causes burns

R36/38 – Irritant to skin and eyes

R41 - Risk of serious damage to eyes

R52 – Harmful to aquatic organisms

Reason for update: Classification change in section 3

Prepared by: Phil Lea & Louise Whitter