

FL DYE-580



1. Identification Of The Substance / Preparation And The Company / Undertaking

1.1 Product Identifier

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

Use as leak tracing and hydro testing chemical, laboratory use. For use in offshore or onshore oil and gas industry and industrial use.

1.3 Details of the supplier of the safety data sheet

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2. Hazards Identification

2.1 Classification of substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP].

STOT RE 2, H373. (Kidneys) (oral).

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP].

Hazard Pictograms			
Signal Word	Warning		

Hazard Statements

H373 – May cause damage to organs through prolonged or repeated exposure (Kidneys).

Precautionary Statements

Prevention

P260 – Do not breathe vapour.

Response

P314 – Get medical attention if you feel unwell.

Storage

Not applicable.

Disposal

P501 – Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous Ingredients

Ethylene Glycol

Supplemental Label Elements.

None.

Supplemental Packaging Requirements.

Containers to be fitted

Not applicable.

with child resistant fastenings.

Tactile Warning of danger

Not applicable.

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Supplemental Hazard Information None.

2.3 Other Hazards

Other hazards which do not result in classification

Physical-Chemical Properties

Contaminated surfaces may be stained due to intense colour of product.

High Pressure Applications

Injections through the skin as a result of contact with the product at high pressures constitute a major medical emergency. See notes to physician in section 4.3 of this safety data sheet.

3. Composition / Information On Ingredients**3.2 Mixture**

Ingredient Name	Identifiers	Conc. (%)	Regulation (EC) No 1272/2008 (CLP) Classification	Type
Ethanediol	CAS 107-21-1 EC 203-473-3 Index 603-027-00-1	15 -25%	Acute Tox. 4, H302. STOT RE2, H373 (kidneys) (oral)	(1) (2)
Acetic Acid	CAS 64-19-7 EC 200-580-7 Index 607-002-00-6	<2%	Flam. Liq. 3, H226 Skin Corr. 1A, H314	(1) (2)
Dye	Confidential	<10%	Eye Irrit. 2, H319 Skin Irrit. 2, H315	(1)

Type

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] Substance meets the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII.

[4] Substance meets the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, the registration date has not yet come due or this information is proprietary.

See section 8 for Occupational Exposure Limits, if available.

See sections 11 and 12 for more detailed information on health effects, symptoms and environmental hazards.

For the full text of the EU H-Statements in this section, see section 16.

4. First Aid Measures**4.1 Description of first aid measures****General Advice**

Seek medical advice if irritation or symptoms persist and show this safety data sheet.

Skin contact

Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.

Eye contact

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Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.

Inhalation

Move the exposed person to fresh air.

Ingestion

DO NOT INDUCE VOMITING. Never give anything to an unconscious person. If swallowed, seek medical advice immediately and show this container or label. Contains ethanediol for which ingestion may cause nausea and vomiting. Ingestion of ethanediol is irritating to the respiratory tract and may cause damage to the central nervous system.

Protection of First Aiders

No action should be taken without suitable training or which involves any personal risk. It may be dangerous to the person providing aid to give mouth to mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

Symptoms may be delayed in the case of inhalation of decomposition products in a fire, and the exposed person may need to be kept under medical surveillance for 48 hours. Treatment should be symptomatic and directed to relieving any effects in general.

If significant quantities have been ingested in the previous 4 hours, gastric lavage is indicated.

The metabolism of ethanediol to oxalic acid may be delayed by intravenous administration of ethanol (as a 5% solution in physiological saline to maintain a blood level of 1 – 2 mg / ml). This treatment has been shown to be effective provided treatment is started within about 6 hours of exposure. Ethanediol may be removed by dialysis, however oxalates are not readily removed.

High Pressure Applications

Injections through the skin due to contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious immediately, but within a few hours tissue can become discoloured, swollen, and painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Extensive and thorough debridement of the wound and underlying tissue is necessary to minimise tissue loss and to limit or prevent permanent damage. It should be noted that high pressure may force the product a considerable distance along tissue planes.

5. Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing media appropriate to the surrounding fire conditions: Carbon Dioxide (CO₂), dry chemical, foam, water fog.

Unsuitable extinguishing media

Do not use solid water stream as it may scatter and spread fire.

5.2 Special Hazards arising from the substance or mixture

Hazardous Combustion Products

Burning produces irritating, toxic and obnoxious fumes including carbon, sulphur and nitrogen oxides.

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5.3 Advice for Fire-fighters

Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operating in positive pressure mode. Clothing conforming to European Standard EN469 will give a basic level of protection for chemical incidents. Use water spray to cool unopened containers.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For Non-Emergency Personnel

Contact emergency personnel. No action should be taken without suitable training or involving personal risk. Evacuate surrounding areas and keep unnecessary and unprotected personnel from entering. Ensure adequate ventilation of the working area. Wear suitable protective equipment. Contaminated surfaces will be extremely slippery. Remove all sources of ignition. Do not breathe vapour or mist. Do not touch or walk through spilt material.

For Emergency Responders

Wear a suitable chemical protective suit, gloves and chemical boots. See also information in “For non-emergency personnel”.

6.2 Environmental precautions

Avoid dispersal of spilt and runoff and contact with soil, drains, sewers or waterways. Prevent further spillage if safe. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil).

6.3 Methods and material for containment and cleaning up

Small Spill

Stop leak if possible without risk. Move containers from the spill area. Absorb with inert, absorbent material, transfer to suitable, labelled containers for disposal. Dispose of via a licensed water disposal contractor.

Large Spill

Contact emergency personnel immediately. Stop leak if possible without risk. Move containers from the spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements and confined areas. Collect and contain spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and transfer to suitable, labelled containers for disposal. Dispose of via a licensed water disposal contractor.

6.4 Reference to other sections

For personal protective equipment refer to Section 8.

For disposal refer to Section 13.

7. Handling And Storage

7.1 Precautions for safe handling

Advice for safe handling

Wear suitable personal protective equipment. Avoid contact with eyes and skin and clothing. Avoid breathing vapours or spray mist. Keep in the original container or an approved alternative made from a compatible material and keep tightly closed when not in use. Do not reuse containers.

Advice on General Occupational Hygiene

Smoking, eating and drinking should be prohibited in areas where this material is handled, stored or processed. Wash thoroughly after use. Contaminated clothing and personal protective

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equipment should be removed before entering eating areas. Ensure that eyewash stations and chemical safety showers are close to the working location.

7.2 Conditions for safe storage, including any incompatibilities

Store in correctly labelled containers. Store in a cool, dry, well-ventilated area away from heat and direct sunlight. Keep containers tightly closed until ready for use. Where possible, design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from moisture and frost. Store in accordance with local regulations, away from incompatible materials (see section 10).

7.3 Specific end uses

Refer to section 1.2 and exposure scenarios in annex if applicable.

8. Exposure Controls / Personal Protection**8.1 Control Parameters****Occupational Exposure Limits**

Product / Ingredient Name	Exposure Limit Values
Ethanediol	EH40/2005 WELs (United Kingdom UK). Absorbed through the skin. TWA: 10mg/m ³ 8 hours (Particulate) STEL 104 mg/m ³ 15 minutes (Vapour) STEL 40ppm 15 minutes (Vapour) TWA 52 mg/m ³ 8 hours (Vapour) TWA 20 ppm 8 hours (Vapour) EU IO ELV. Absorbed through the skin. STEL 104 mg/m ³ 15 minutes (Vapour) STEL 40ppm 15 minutes (Vapour) TWA 52 mg/m ³ 8 hours (Vapour) TWA 20 ppm 8 hours (Vapour)
Acetic Acid	Europe, Commission Directive 91/322/EEC on establishing indicative limit values. TWA 10 ppm 25 mg/m ³

Whilst specific OELs for certain components may be listed in this section, other components may be present in any vapour, mist or dust produced. Thus the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Recommended Monitoring Procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or necessity to use respiratory protective equipment. Reference should be made to European Standard EN689 for methods of assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived No effect Level

No DELs available.

Predicated No effect Concentration

No PNECs available.

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8.2 Exposure Controls

Individual Protection Measures

Eye / Face Protection

Safety glasses with side shields are considered minimum protection.

Respiratory protection

Not normally required where there is adequate ventilation to control exposure. In case of insufficient ventilation, use suitable respiratory equipment.

Skin Protection

Hand protection

Wear chemical resistant gloves. Nitrile gloves with a minimum thickness of 0.4mm are recommended. Most gloves provide only a short time of protection before they should be discarded and replaced. Gloves should be chosen in consultation with the supplier / manufacturer and with a full assessment of the working conditions. This information does not replace suitability tests since glove protection varies depending on the conditions under which the product is used.

Body Protection

Use of protective clothing is good industrial practice. Personal protective equipment for the body should be selected based on the task being performed. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that does not soak through to the skin. Overalls should be washed regularly. When the risk of exposure is high (e.g. if cleaning spillages or when at risk of splashing), chemical resistant aprons and or imperious chemical suits and boots will be required.

Environmental Exposure Controls

Emission from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels below their respective threshold limit value.

9. Physical And Chemical Properties

9.1 Information on basic physical and chemical properties

(a) Appearance	Liquid
(b) Odour	Pungent
(c) Odour Threshold	No data available
(d) pH	3 – 4.
(e) Melting / freezing point	< -15°C
(f) Initial boiling point and boiling range	>100 °C
(g) Flash Point	>100 °C
(h) Evaporation rate	Below 110 kPa (1.1 Bar)
(i) Flammability (solid, gas)	No data available
(j) Upper / Lower Explosion Limit	No data available
(k) Vapour Pressure	No data available
(l) Vapour density	No data available
(m) Relative density	1.04 gcm ⁻³ @ 20 °C
(n) Water solubility	Soluble
(o) Partition coefficient	No data available

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n-octanol / water	
(p) Auto ignition temperature	No data available
(q) Decomposition temperature	No data available
(r) Viscosity	2.5cst @ 20 °C
(s) Explosive properties	No data available
(t) Oxidising properties	No data available

9.2 Other information

No additional information.

10. Stability And Reactivity

10.1 Reactivity

No data available.

10.2 Chemical Stability

Stable under normal operating conditions.

10.3 Possibility of hazardous reactions

None expected under normal operating conditions.

10.4 Conditions to avoid

Spark, ignition sources, flames.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products

Stable under normal conditions. Decomposition products may include carbon, sulphur and nitrogen oxides.

11. Toxicological Information

11.1 Information on toxicological effects

Information on likely routes of exposure

Routes of anticipated entry: Inhalation, Dermal.

Product Information

Potential Acute Health Effects

Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	Contains ethanediol which is harmful if swallowed and may cause metabolic acidosis, kidney damage, central nervous system depression and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).
Skin Contact	Defatting to the skin, may cause skin irritation and dryness.
Eye Contact	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin Contact	Adverse symptoms may include irritation dryness, cracking and discolouration (staining) of skin.
Eye Contact	No known significant effects or critical hazards.

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Delayed and immediate effects and also chronic effects from short and long term exposure

Inhalation	Overexposure to inhalation of airborne droplets, mist or fumes may cause respiratory tract irritation.
Ingestion	Ingestion of large quantities may cause nausea and diarrhoea.
Skin Contact	Prolonged or repeated contact may lead to irritation and / or dermatitis.
Eye Contact	Potential risk of transient stinging or redness if accidental eye contact occurs.
Potential Chronic Health Effects	
General	May cause damage to organs through prolonged or repeated exposure (kidney).
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Developmental effects	Birth defects and decreased foetal weight have been observed in laboratory animals fed ethylene glycol in large amounts repeatedly during pregnancy.
Fertility effects	No known significant effects or critical hazards.

Component Information.

Acute Toxicity

Ethanediol

Lethal dose in humans is approximately 1.6 g/kg (ethanediol)

LD50 Oral Rat 4700 mg/kg

LD50 Dermal Rabbit 10626 mg/kg

Acetic Acid

LD50 Oral Rat 3310 mg/kg

LD50 Inhalation Mouse – 1h – 5620 mg/kg

LD50 Inhalation Rat – 4h – 11.4mg/L

LD50 Dermal Rabbit 1112 mg/kg

12. Ecological Information

12.1 Toxicity

All components are classified as non hazardous for the environment.

12.2 Persistence and degradability

All components are readily biodegradable.

12.3 Bioaccumulative potential

All components are not considered bioaccumulative.

12.4 Mobility in soil

Soil / Water partition coefficient (K_{oc}) Not Available.

Mobility Not Available.

12.5 Results of PBT and vPvB assessment

All components are not considered to be PBT or vPvB.

12.6 Other adverse effects

No known significant effects or critical hazards.

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13. Disposal Considerations

13.1 Waste Treatment methods

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Waste from Residues / Unused Product

Dispose of through a licensed disposal company in accordance with the European Directives on waste and hazardous waste. Where possible recycling is preferred to disposal or incineration. using a licensed disposal company.

Soiled packaging:

Empty containers completely. Retain label(s) on container. Dispose of through a licensed disposal company in accordance with the European Directives on waste and hazardous waste. Where possible recycling is preferred to disposal or incineration.

EWC Waste Disposal No:

The following waste codes are only suggestions:- 16 10 03 – aqueous concentrates containing dangerous substances.

According to the European Waste Catalogue, Waste Codes are not product specific. Waste codes should be assigned by the user based on the application for which the product was used.

Waste Treatment – relevant information.

Product will discolour water due to intense colour at low contamination levels.

Sewage Treatment – relevant information.

Waste should not be disposed of by release to sewers. Product will discolour water due to intense colour at low contamination levels.

Other waste Disposal recommendations.

None.

14. Transport Information

14.1 UN Number	Not regulated under ADR/RID, ADN, IMDG or IATA.
14.2 UN Proper Shipping Name	Not regulated under ADR/RID, ADN, IMDG or IATA.
14.3 Transport hazard class(es)	Not regulated under ADR/RID, ADN, IMDG or IATA.
14.4 Packing group	Not regulated under ADR/RID, ADN, IMDG or IATA.
14.5 Environmental hazards	Not hazardous.
14.6 Special Precautions for user	None.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not regulated.

15. Regulatory Information

15.1 Safety Health and environmental regulations / legislation specific for the substance / mixture EU regulation (EC) No. 1907/2006 (REACH).

Annex XIV – List of Substances subject to Authorisation

Substances of very high concern

None of the components are listed.

Annex XVII – Restrictions on the manufacture, placing of the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier as this product contains substances for which Chemical Safety Assessments are still required.

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16. Other Information

Full Text of Classifications [CLP/GHS]

Acute Tox.4, H302	ACUTE TOXICITY: ORAL – Category 4
Flam. Liq. 3, H226	FLAMMABLE LIQUID – Category 3
Skin Corr. 1A, H314	SKIN CORROSION – Category 1A
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE / IRRITATION – Category 2
Skin Corr. 2, H315	SKIN CORROSION / IRRITATION – Category 2
STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys)(oral)- Category 2

Full Text of abbreviated H statements

H302	Harmful if swallowed
H226	Flammable liquid and vapour
H314	Causes severe burns and eye damage
H319	Causes serious eye irritation
H315	Causes skin irritation
H373 (kidneys)	May cause damage to organs through prolonged or repeated exposure if swallowed. (kidneys).

Changes from previous version

Updated section 1.

Abbreviations and Acronyms.

ADN	European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway.
ADR	The European Agreement concerning the International Carriage of Dangerous Goods by Road.
AICS	Australian Inventory of Chemical Substances.
ATE	Acute Toxicity Estimate.
BCF	Bioconcentration Factor.
CAS	Chemicals Abstract Service.
CSA	Chemical Safety Assessment.
CSR	Chemical Safety Report.
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008].
DMEL	Derived Minimal effect Level
DNEL	Derived No effect Level.
EC	European Commission.
EINECS	European Inventory of Existing Commercial chemical Substances.
ENCS	Existing and New Chemical Substances.
ES	Exposure Scenario.
EU	European Union.
EU H Statement	CLP Specific Hazard Statement.

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EWC	European Waste Catalogue.
GHS	Globally Harmonised System of Classification and Labelling of Chemicals.
IATA	International Air Transport Association.
IBC	Intermediate Bulk Container.
IESCS	Inventory of Existing Chemical Substances Produced or Imported in China.
IMDG	International Maritime Dangerous Goods.
KECI	Korea Existing Chemicals Inventory.
Koc	Soil Organic Carbon-Water Partitioning Coefficient.
MARPOL	Marine Pollution.
MARPOL 73/78	International Convention for the Prevention of Pollution From Ships 1973 as modified by the protocol of 1978.
OECD	Organisation for Economic Cooperation and Development.
PBT	Persistent, Bioaccumulative and Toxic.
PICCS	Philippines Inventory of Chemicals and Chemical Substances.
PNEC	Predicted No Effect Concentration.
REACH	Registration, Evaluation, Authorisation and restriction of Chemicals.
RID	The Regulations concerning the International Carriage of Dangerous Goods by Rail.
STOT–RE	Specific Target Organ Toxicity – Repeated Exposure.
STOT–SE	Specific Target Organ Toxicity – Single Exposure.
SVHC	Substance of Very High Concern.
TSCI	Taiwan Chemical Substance Inventory.
TWA	Time Weighted Average.
UN	United Nations.
UVCB	Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.
VOC	Volatile Organic Compound.
vPvB	Very Persistent and Very Toxic.

Key Literature and sources for data.

Regulations (EC) No. 1907/2006 (REACH), 1272/28808 (CLP), 453/2010 as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC and 2009 161/EC.

National Threshold Limit Values of the corresponding countries amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

Safety Data Sheets and REACH registration data for individual components.

Internal company information.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Calculation method.

Revision Date 25th January 2018.

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Further information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.