



SAFETY DATA SHEET

Issuing Date: 05-28-2015

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Version 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1.

Product identifier

Product Code(s) (ES): 01273200-M
Product Name HOUGHTO-SAFE 273 CTF
Product Registration number
Denmark -
Norway -
Sweden -
EC #
Pure substance/preparation Contains Ethane-1,2-diol

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

Recommended use Fire-resistant hydraulic fluid

Uses advised against Any other purpose.

1.3. Details of the supplier of the safety data sheet

Manufacturer, Importer, Supplier

Houghton plc
Beacon Road
Trafford Park
Manchester
M17 1AF
Tel: +44 (0)161 874 5000
E-mail: MSDS@uk.houghtonglobal.com

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BP 60041
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Kosuyolu Mah
Asma Dall Sok
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İstanbul
Türkiye
Phone Number: +90 216 325 15 15

1.4. Emergency telephone number

3E Company: (+)1 760 476 3961 (Code 333938)

Austria	Notfall-Telefonnummer +43 (0) 1 406 4343
Bulgaria	Телефон за спешни случаи +359 2 9154 409
Switzerland	145; +41 (0) 44 254 51 51
Czech Republic	Telefonní číslo pro naléhavé situace +420 224 919 293
Denmark	Ring til Giftlinjen på +45 82 12 12 12
Finland	Hätäpuhelinumero +358 09 471 977
France	Numéro d'appel d'urgence +33 (0)1 45 42 5959
Hungary	Díjmentesen hívható zöld szám +36 80 20 11 99
Ireland	Emergency telephone number +353 01 809 2166
Netherlands	Telefoonnummer voor +31 30 274 88 88
Norway	Nødnummer +47 22 59 13 00
Poland	112
Portugal	Número de telefone de emergência +351 808 250 143
Romania	Număr de telefon care poate fi apelat în caz de urgență +021 318 36 06 (08:00-15:00)
Spain	Número de teléfono de emergencia +34 91 562 0420
Sweden	Telefonnummer för nödsituationer +46 08 33 12 31 (09:00-17:00)
Turkey	(+)1 760 476 3959 (Code 333938)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Toxicity - Oral	Category 4 - (H302)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)

2.2. Label Elements

Contains Ethane-1,2-diol

**Signal Word**

WARNING

Hazard Statements

H302 - Harmful if swallowed

H373 - May cause damage to organs through prolonged or repeated exposure

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

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P330 - Rinse mouth

P314 - Get medical advice/attention if you feel unwell

2.3. Other hazards

No information available.

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0.0025 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

SECTION 3: Composition/information on ingredients

3.1. Substances / 3.2. Mixtures

This product is a mixture. Health hazard information is based on its ingredients

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Ethane-1,2-diol	203-473-3	107-21-1	25% - 50%	Acute Tox. 4 (H302) STOT RE 2 (H373)	01-2119456816-28-xxx x
Neutralised Dibutylamine	203-921-8	111-92-2*	0% - 1%	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Acute Tox. 2 (H330) Flam Liq. 3 (H226)	01-2119475606-30-xxx x

Full text of H- and EUH-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first-aid measures**General advice**

Do not get in eyes, on skin, or on clothing. When symptoms persist or in all cases of doubt seek medical advice. Do not breathe dust/fume/gas/mist/vapors/spray.

Inhalation

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

After cleaning, flush away traces with water.

6.4. Reference to other sections

See Section 8/12/13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep container tightly closed in a dry and well-ventilated place.

Recommended Shelf Life

No information available.

Incompatible Materials

Strong oxidizing agents, Strong acids, Strong bases

7.3. Specific end uses

Specific use(s) Fire-resistant hydraulic fluid

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain
Ethane-1,2-diol	S* TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³	STEL: 40 ppm STEL: 104 mg/m ³ TWA: 20 ppm TWA: 52 mg/m ³ TWA: 10 mg/m ³ Skin	VME: 20 ppm VME: 52 mg/m ³ VLCT: 40 ppm VLCT: 104 mg/m ³	S* STEL: 40 ppm STEL: 104 mg/m ³ TWA: 20 ppm TWA: 52 mg/m ³

Chemical Name	Germany	Italy	Portugal	The Netherlands
Ethane-1,2-diol	MAK: 10 ppm MAK: 26 mg/m ³ Ceiling / Peak: 20 ppm Ceiling / Peak: 52 mg/m ³ Skin TWA: 10 ppm TWA: 26 mg/m ³	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ Skin	Ceiling: 100 mg/m ³	Skin STEL: 104 mg/m ³ TWA: 52 mg/m ³ TWA: 10 mg/m ³
Neutralised Dibutylamine	TWA: 5 ppm TWA: 29 mg/m ³			

Chemical Name	Austria	Switzerland	Poland	Ireland
Ethane-1,2-diol	Skin STEL 20 ppm STEL 52 mg/m ³ MAK: 10 ppm MAK: 26	Skin STEL: 20 ppm STEL: 52 mg/m ³ MAK: 10 ppm MAK: 26	NDSch: 50 mg/m ³ NDS: 15 mg/m ³	TWA: 10 mg/m ³ TWA: 20 ppm STEL: 40 ppm STEL: 104 mg/m ³

	mg/m ³	mg/m ³		Skin
Neutralised Dibutylamine	Skin STEL 5 ppm STEL 29 mg/m ³ MAK: 5 ppm MAK: 29 mg/m ³ Ceiling 5 ppm Ceiling 29 mg/m ³			

Chemical Name	Finland	Denmark	Norway	Sweden
Ethane-1,2-diol	TWA: 20 ppm TWA: 50 mg/m ³ STEL: 40 ppm STEL: 100 mg/m ³ Skin	TWA: 10 ppm TWA: 26 mg/m ³ TWA: 10 mg/m ³ Skin	Skin Ceiling: 20 ppm 52 mg/m ³ STEL: 40 ppm 104 mg/m ³	LLV: 10 ppm LLV: 25 mg/m ³ H STV: 20 ppm STV: 50 mg/m ³
Neutralised Dibutylamine	STEL: 5 ppm STEL: 27 mg/m ³ Skin			

Chemical Name	Czech Republic	Hungary	Bulgaria	Romania
Ethane-1,2-diol	Ceiling: 100 mg/m ³ TWA: 50 mg/m ³ Skin	STEL: 104 mg/m ³ TWA: 52 mg/m ³ Skin	STEL: 104.0 mg/m ³ TWA: 52.0 mg/m ³ Skin	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ Skin
Neutralised Dibutylamine				STEL: 1.1 ppm STEL: 6 mg/m ³

Workers Systemic toxicity

Chemical Name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Ethane-1,2-diol		106 mg/kg	35 mg/m ³			
Neutralised Dibutylamine			29 mg/m ³			29 mg/m ³

Workers Local effects

Chemical Name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Ethane-1,2-diol						35 mg/m ³
Neutralised Dibutylamine			29 mg/m ³			29 mg/m ³

Consumers Systemic toxicity

Chemical Name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Ethane-1,2-diol		53 mg/kg				

Consumers Local effects

Chemical Name	Long term - Oral exposure	Long term - Dermal exposure	Long term - Inhalation exposure	Short term - Oral Exposure	Short term - Dermal exposure	Short term - Inhalation exposure
Ethane-1,2-diol			7 mg/m ³			

Predicted No Effect Concentration (PNEC)

Chemical Name	Fresh water	Sea water	Fresh water sediment	Sea sediment	Soil
Ethane-1,2-diol	10 mg/L	1 mg/L	37 mg/kg	3.7 mg/kg	1.53 mg/kg
Neutralised Dibutylamine	0.084 mg/L	0.0084 mg/L	11.4 mg/kg	1.14 mg/kg	2.23 mg/kg

8.2. Exposure controls

Engineering Measures	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	
Eye Protection	Safety glasses with side-shields.
Hand Protection	Protective gloves complying with EN 374. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Skin and body protection	Long sleeved clothing.
Respiratory protection	No special protective equipment required. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Hygiene measures	Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.
Environmental Exposure Controls	No special environmental precautions required.
Thermal hazards	None under normal use conditions

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state @20°C	liquid	Appearance	No information available
Odor	No information available	Odor Threshold	Not Applicable

<u>Property</u>	<u>Values</u>	<u>Note</u>
pH	9.6	
Melting Point / Freezing Point	No information available.	
Boiling point/boiling range	No information available.	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
upper flammability limit	No information available.	
Lower flammability limit	No information available.	
Vapor pressure	No information available.	
Vapor density	No information available.	
Relative density	1.0900	@15.5°C
Solubility(ies)	No information available.	
Partition coefficient: n-octanol/water	Not Applicable	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Explosive properties	Not Applicable	
Oxidizing Properties	Not Applicable	

9.2 Other information

Viscosity, kinematic (100°C)	No information available
Pour point	No information available
VOC Content	No information available

SECTION 10: Stability and reactivity**10.1. Reactivity**

None under normal use conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal use conditions

10.4. Conditions to avoid

Do not freeze

10.5. Incompatible Materials

Strong oxidizing agents, Strong acids, Strong bases

10.6. Hazardous decomposition products

None under normal use conditions

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Product Information - Principle Routes of Exposure**

Inhalation None known

Eye contact None known

Skin contact None known

Ingestion Harmful if swallowed; Ingestion constitutes the main danger because of the toxicity of ethylene glycol; May cause adverse liver effects; May cause adverse kidney effects

Acute toxicity - Product Information

Harmful if swallowed.

LD50 Oral: 1351.35 mg/kg

Acute toxicity - Component Information

Non-hazardous ingredients

Chemical Name	LD50 Oral (Rat)	LD50 Dermal (Rat/Rabbit)	LC50 Inhalation
Ethane-1,2-diol	4000 mg/kg (Rat)	= 9530 µL/kg (Rabbit)	
Neutralised Dibutylamine	550 mg/kg (Rat)	= 768 mg/kg (Rabbit)	

Skin corrosion/irritation None known.

Serious eye damage/eye irritation None known.

Sensitization

Respiratory Sensitization None known.

Skin sensitization None known.

Germ Cell Mutagenicity None known.

Carcinogenicity None known.

Reproductive toxicity None known.

Specific target organ systemic toxicity (single exposure)	None known
Specific target organ systemic toxicity (repeated exposure)	May cause damage to organs through prolonged or repeated exposure if swallowed
Aspiration hazard	None known.

SECTION 12: Ecological information

12.1. Toxicity

No special environmental measures are necessary.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Ethane-1,2-diol	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	41000: 96 h Oncorhynchus mykiss mg/L LC50 14-18: 96 h Oncorhynchus mykiss ml/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 40000-60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static		46300: 48 h Daphnia magna mg/L EC50
Neutralised Dibutylamine	16.9: 72 h Scenedesmus subspicatus mg/L EC50	5.5: 96 h Oncorhynchus mykiss mg/L LC50		65.98: 48 h Daphnia magna mg/L EC50 8.4: 48 h Ceriodaphnia dubia mg/L EC50

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available

Chemical Name	log Pow
Ethane-1,2-diol	-1.93
Neutralised Dibutylamine	2.06

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

None known

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from Residues / Unused Products	Dispose of in accordance with local regulations
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Observe all label precautions until container is cleaned, reconditioned or destroyed.
Other Data	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

14.1. UN-Number

Not regulated

14.2. UN proper shipping name

Not regulated

14.3. Transport hazard class

Not regulated

14.4. Packing group

Not regulated

14.5. Environmental Hazards

None.

14.6. Special precautions for users

None.

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

Not applicable

IMDG/IMO Not regulated

ADR/RID Not regulated

ICAO/IATA Not regulated

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The Classification, Labeling and Packaging of Substances and Mixtures (CLP) Regulation (EC 1272/2008)
Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)

Statutory Instruments: Control of Substances Hazardous to Health Regulations 2002. Chemicals (Hazard Information and Packaging) Regulations 2009.

Acts of Parliament: The Health and Safety at Work etc. Act 1974. Environment Protection Act 1990.

Regulation on classification, labeling, of hazardous chemicals (2002 changing 2005). Appendix VI to Regulation on classification, labeling etc. of hazardous chemicals (2002 changing 2010), list of hazardous substances (as amended). Guidelines for submission

and declaration of hazardous waste (2009). Transport of dangerous goods: ADR, RID, IMDG and IATA. Administrative norms for pollution of the atmosphere, 2009.
Workplace exposure limits (EH40)

WGK Classification

Low hazard to water/Class 1

15.2. Chemical Safety Assessment

No information available.

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet**

Repr.-Reproduction toxicity
Asp. Tox. - Aspiration Toxicity
Acute Tox. - Acute Toxicity
Aquatic Acute - Acute Aquatic Toxicity
Aquatic Chronic - Chronic Aquatic Toxicity
Eye Dam. - Eye Damage
Eye Irrit. - Eye Irritation
Skin Corr. - Skin Corrosion
Skin Irrit. - Skin Irritation
Skin Sens. - Skin Sensitizer
Resp. Sens. - Respiratory Sensitizer
STOT SE - Specific target organ systemic toxicity (Single exposure)
STOT RE - Specific target organ systemic toxicity (repeated exposure)
VOC - Volatile organic compounds

Full text of H-Statements referred to under sections 2 and 3

<ul style="list-style-type: none"> • H224 - Extremely flammable liquid and vapor • H225 - Highly flammable liquid and vapor • H226 - Flammable liquid and vapor • H270 - May cause or intensify fire; oxidizer • H271 - May cause fire or explosion; strong oxidizer • H272 - May intensify fire; oxidizer • H290 - May be corrosive to metals • H300 - Fatal if swallowed • H301 - Toxic if swallowed • H302 - Harmful if swallowed • H304 - May be fatal if swallowed and enters airways • H310 - Fatal in contact with skin • H311 - Toxic in contact with skin • H312 - Harmful in contact with skin • H314 - Causes severe skin burns and eye damage • H315 - Causes skin irritation • H317 - May cause an allergic skin reaction • H318 - Causes serious eye damage • H319 - Causes serious eye irritation • H330 - Fatal if inhaled • H331 - Toxic if inhaled • H332 - Harmful if inhaled • H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled • H335 - May cause respiratory irritation • H336 - May cause drowsiness or dizziness • H340 - May cause genetic defects 	<ul style="list-style-type: none"> • H341 - Suspected of causing genetic defects • H350 - May cause cancer • H351 - Suspected of causing cancer • H360 - May damage fertility or the unborn child • H361 - Suspected of damaging fertility or the unborn child • H362 - May cause harm to breast-fed children • H370 - Causes damage to organs • H371 - May cause damage to organs • H372 - Causes damage to organs through prolonged or repeated exposure • H373 - May cause damage to organs through prolonged or repeated exposure • H400 - Very toxic to aquatic life • H410 - Very toxic to aquatic life with long lasting effects • H411 - Toxic to aquatic life with long lasting effects • H412 - Harmful to aquatic life with long lasting effects • H413 - May cause long lasting harmful effects to aquatic life. • H360Df - May damage the unborn child. Suspected of damaging fertility • H360D - May damage the unborn child • H360FD - May damage fertility. May damage the unborn child • H360F - May damage fertility • H361d - Suspected of damaging the unborn child • H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child • H361f - Suspected of damaging fertility • EUH066 - Repeated exposure may cause skin dryness or cracking • EUH210 - Safety data sheet available on request. • EUH208 - May produce an allergic reaction
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Exposure scenario

No information available.

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Revision Note

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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 process, unless specified in the text.