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| Product name: | DP-LUBRICANT BLUE | Page: | 1/12 |
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| Document No.: | M0015 | SDS-ID: | GB-EN/23.0 |

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name: DP-LUBRICANT BLUE
Cat. No. 40700005, 40700006, 40700056

Container size: 1 l, 5 l, 10 l

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

Application: Cooling and lubricating agent for grinding and polishing of materialographic specimens.

Uses advised against: No specific uses advised against are identified. (*)

1.3. Details of the supplier of the safety data sheet

Supplier: Struers ApS
Pederstrupvej 84
DK-2750 Ballerup
Tel:+45 44 600 800

Responsible for safety data sheet authoring: Responsible for safety data sheet authoring: DHI
Any questions to the contents of this safety data sheet should be sent to:
struers@struers.dk

1.4. Emergency telephone number

NHS: 111

+45 44 600 800
(Only during office hours)

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP: Flam. Liq. 2;H225
Eye Irrit. 2;H319
STOT RE 2;H373K

2.2. Label elements



Danger

Contains:

Ethenediol

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H373K May cause damage to organs (kidneys) through prolonged or repeated exposure.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves, eye and face protection.

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.

P501 Dispose of contents/container in accordance with local regulations.

2.3. Other hazards

PBT/vPvB:

Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

The product contains: organic solvents and pigments .

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CLP:

| <u>%:</u> | <u>CAS-No.:</u> | <u>EC No.:</u> | <u>REACH Reg. No:</u> | <u>Chemical name:</u> | <u>Hazard classification:</u> | <u>Notes:</u> |
|-----------|-----------------|----------------|-----------------------|-----------------------|--|---------------|
| 70-85 | 64-17-5 | 200-578-6 | 01-2119457610-43-xxxx | Ethanol | Flam. Liq. 2;H225 Eye Irrit. 2;H319 | |
| 10-15 | 107-21-1 | 203-473-3 | 01-2119456816-28-xxxx | Ethanediol | Acute Tox. 4;H302 STOT RE 2;H373K | |
| 5-<10 | 67-63-0 | 200-661-7 | 01-2119457558-25-xxxx | Propan-2-ol | Flam. Liq. 2;H225 Eye Irrit. 2;H319 STOT SE 3;H336 | |
| <1 | 94277-77-7 | 304-661-9 | - | Blue dye | Aquatic Chronic 3;H412 | |

References: The full text for all hazard statements is displayed in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

Inhalation: Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring along these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

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

Symptoms/effects: See section 11 for more detailed information on health effects and symptoms.

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

Medical attention/treatments: Treat symptomatically.

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SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards: The product is highly flammable, and explosive vapours/air mixtures may be formed even at normal room temperatures. Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember.

5.3. Advice for firefighters

Protective equipment for fire-fighters: Use air-supplied respirator during fire fighting.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Do not smoke or use open fire, or other sources of ignition. Do not breathe vapour. Avoid contact with skin and eyes. For personal protection, see section 8.

For emergency responders: No specific recommendations. For personal protection, see section 8.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Large quantities of concentrate should not be discharged into the drain but removed with absorbing material. Do not use sawdust or other combustible material.

6.4. Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Do not breathe vapour. Avoid contact with skin and eyes. Observe good chemical hygiene practices.

Technical measures: Do not smoke or use open fire or other sources of ignition.

Technical precautions: Local exhaust is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: Follow rules for flammable liquids.

Storage conditions: Store in a cool and well-ventilated place. Avoid contact with oxidising agents.

7.3. Specific end use(s)

Specific use(s): No information available.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits:

| <u>CAS-No.:</u> | <u>Chemical name:</u> | <u>As:</u> | <u>Exposure limits:</u> | | <u>Type:</u> | <u>Notes:</u> | <u>References:</u> |
|-----------------|------------------------------|------------|-------------------------|------------|--------------|---------------|--------------------|
| 67-63-0 | Propan-2-ol | - | 400 ppm | 999 mg/m3 | TWA | - | EH40 |
| | | - | 500 ppm | 1250 mg/m3 | STEL | 15min | |
| 107-21-1 | Ethane-1,2-diol, vapour | - | 20 ppm | 52 mg/m3 | TWA | Sk | EH40 |
| | | - | 40 ppm | 104 mg/m3 | STEL | Sk; 15min | |
| 107-21-1 | Ethane-1,2-diol, particulate | - | | 10 mg/m3 | TWA | Sk | EH40 |
| 64-17-5 | Ethanol | - | 1000 ppm | 1920 mg/m3 | TWA | - | EH40 |

Notes: Sk: Can be absorbed through skin.

8.2. Exposure controls

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours.

Personal protection: Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Respiratory equipment: In case of inadequate ventilation and work of brief duration, use suitable respiratory equipment. Use respiratory equipment with gas filter, type A2.

Hand protection: Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.
Thickness: 0,5 mm
Breakthrough time: 240 min (*)

Eye protection: Wear goggles/face shield.

Skin protection: Wear apron or protective clothing in case of contact.

Environmental Exposure Controls: Not available.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Form: Liquid.
Colour: Blue.
Odour: odour of alcohol
Odour threshold: Not available.
pH: Not available.
Melting point: Not available.
Boiling point: 85°C
Flash point: 12°C
Evaporation rate: Not available.
Flammability (solid, gas): Not available.
Explosive limits 2-12%
Vapour pressure: Not available.
Vapour density: Not available.
Relative density: 0.82
Solubility: Miscible with water.
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature (°C): Not available.
Decomposition temperature (°C): Not available.
Viscosity: Not available.
Explosive properties: Not available.
Oxidising properties: Not available.

9.2. Other information

Other data: Volatile Organic Compound (VOC): 812 g/l (calculated)

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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: No data available.

10.2. Chemical stability

Stability: Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions: No data available.

10.4. Conditions to avoid

Conditions/materials to avoid: Direct sunlight. Keep away from heat, sparks and open flame.

10.5. Incompatible materials

Incompatible materials: Oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products: No information available.

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity (Oral): Based on available data, the classification criteria are not met.

Acute Toxicity (Dermal): Based on available data, the classification criteria are not met.

Acute Toxicity (Inhalation): Based on available data, the classification criteria are not met.

Skin Corrosion/Irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive Toxicity: Based on available data, the classification criteria are not met.

STOT - Single exposure: Based on available data, the classification criteria are not met.

STOT - Repeated exposure: May cause damage to organs (kidneys) through prolonged or repeated exposure.

Aspiration hazard: Based on available data, the classification criteria are not met.

Inhalation:
Small quantities: Vapours may irritate throat and respiratory system and cause coughing.
Large quantities: Vapours may irritate throat and respiratory system and cause headache, dizziness and dullness. In serious cases, unconsciousness and permanent damage to the nervous system, including the brain, and liver may be seen. Frequent inhalation of even small concentrations may cause irritability, fatigue, memory failure and in time permanent damage to the nervous system, including the brain, and possibly kidneys, too.

Skin contact: Prolonged contact may cause redness, irritation and dry skin. Contains 2-propanol which may penetrate the skin.

Ingestion: May cause intoxication, headache, dizziness, stomach pains, convulsions, and in serious cases, unconsciousness, acute kidney failure, breathing and heart failure. Lethal dose for an adult person: approx. 50-100 ml (ethanediol).

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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: The product is not expected to be hazardous to the environment.

12.2. Persistence and degradability

Degradability: The product is biodegradable. BOD₂₀ > 78%

12.3. Bioaccumulative potential

Bioaccumulative potential: The product is not bioaccumulating.

12.4. Mobility in soil

Mobility: No data available.

12.5. Results of PBT and vPvB assessment

PBT/vPvB: This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

Other adverse effects: None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues: Dispose of waste and residues in accordance with local authority requirements.
Waste is classified as hazardous waste.
EWC-code: 16 05 08

Contaminated packaging: Dispose of waste and residues in accordance with local authority requirements.

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SECTION 14: TRANSPORT INFORMATION

The product is covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

UN-No: 1993

14.2. UN proper shipping name

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S (Ethanol, Isopropylalcohol Mixture)

Additional IMDG information:

EmS: F-E , S-E

MFAG: 1

14.3. Transport hazard class(es)

Class: 3

14.4. Packing group

PG: II

14.5. Environmental hazards

Marine pollutant: No.

Environmentally Hazardous substance: No.

14.6. Special precautions for user

Special precautions: None known.

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

Transport in bulk: Not relevant.

SECTION 15: REGULATORY INFORMATION

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

Special provisions: As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.

National regulation: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.
Statutory Instruments 2008 No. 2852 - The REACH Enforcement Regulations 2008.
The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments. EH40/2005, Workplace exposure limits 2005, with amendments.
The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895).
The Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242), with amendments.

15.2. Chemical Safety Assessment

CSA status: No chemical safety assessment has been carried out.

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SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1, 8.

The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

Allan Vorup

Abbreviations and acronyms used in the safety data sheet: PBT = Persistent, Bioaccumulative and Toxic.
vPvB = very Persistent and very Bioaccumulative.

Additional information: Classification according to Regulation (EC) No. 1272/2008:
Calculation method.

Wording of H-statements:

| | |
|-------|--|
| H225 | Highly flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H373K | May cause damage to organs (kidneys) through prolonged or repeated exposure. |
| H412 | Harmful to aquatic life with long lasting effects. |

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Environment and Toxicology, Agern Allé 5, DK-2970 Hørsholm, Denmark.
www.dhigroup.com.