

SAFETY DATA SHEET

In accordance with 1907/2006 Annex II (2015/830) and 1272/2008
(All references to EU regulations and directives are abbreviated into only the numeric term)
Issued 2017-08-21
Replaces issued SDS 2017-07-14
Version number 2.1



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

1.1. Product identifier

Trade name Bio Protect 2

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

Identified uses Added to diesel oil etc.

1.3. Details of the supplier of the safety data sheet

Company Maritim Consultants AS
P.O.Box 83
NO-5346 Aagotnes
Norway
Telephone +47 56311760
E-mail post@maritim.as
Website www.dieseldyr.no

1.4. Emergency telephone number

Acute cases: Call 112, request poison information.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Flammable liquids (Category 3), H226
Acute toxicity (Category 4 oral), H302
Corrosive (Category 1B), H314
May cause an allergic skin reaction (Category 1A), H317
Acute toxicity (Category 4 dust/mist), H332
Risk of allergic reaction or asthma if inhaled (Category 1), H334
Specific target organ toxicity - single exposure; May cause respiratory irritation (Category 3 resp), H335
Specific target organ toxicity - Single exposure (Category 3, Narcosis effect), H336
Harmful to aquatic life with long-lasting effects (Category Chronic 3), H412

2.2. Label elements

Hazard pictogram



Signal word Danger

Hazard statements

H226 Flammable liquid and vapour
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction
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
H412 Harmful to aquatic life with long lasting effects

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P260 Do not breathe gas, mist, vapours, or spray
P280 Wear protective gloves, protective clothing and eye or face protection

P284	Wear respiratory protection
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTER or doctor/physician

Supplemental hazard information

EUH071 Corrosive to the respiratory tract.

Contains: PROPAN-2-OL, GLUTARALDEHYDE

2.3. Other hazards

This product does not contain any substances that are assessed to be a PBT or a vPvB

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Note that the table shows known hazards of the ingredients in pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d.

Constituent	Classification	Concentration
PROPAN-2-OL		
CAS No: 67-63-0 EC No: 200-661-7 Index No: 603-117-00-0 REACH: 01-2119457558-25	Flam Liq 2, Eye Irrit 2, STOT SE <i>3drow</i> ; H225, H319, H336	60 %
GLUTARALDEHYDE		
CAS No: 111-30-8 EC No: 203-856-5 Index No: 605-022-00-X	Acute Tox <i>2dust-mist</i> , Acute Tox <i>3oral</i> , Skin Corr 1B, <i>Resp corr 1</i> , Resp Sens 1, Skin Sens 1A, STOT SE <i>3resp</i> , Aquatic Acute 1, Aquatic Chronic 2; H330, H301, H314, EUH071, H334, H317, H335, H400, H411	20 %
2-BROMO-2-NITRO-1,3-PROPANEDIOL		
CAS No: 52-51-7 EC No: 200-143-0 Index No: 603-085-00-8	Acute Tox <i>4dermal</i> , Acute Tox <i>4oral</i> , Skin Irrit 2, Eye Dam 1, STOT SE <i>3resp</i> , Aquatic Acute 1; <i>M = 10</i> ; H312, H302, H315, H318, H335, H400	0.1 %

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complements used in the calculation of the classification of this mixture, see Section 16b.

SECTION 4: First aid measures

4.1. Description of first aid measures

Generally

In case of concern, or if symptoms occur, call a doctor/physician.

Never attempt to administer liquid, or anything else, to an unconscious person via the mouth.

Upon breathing in

Bring the injured person out into fresh air. Give artificial respiration if breathing has stopped. If breathing is difficult let trained personnel administer oxygen. Let the injured person rest in a warm place with fresh air and seek medical advice immediately.

Upon eye contact

Remove contact lenses immediately if possible.

Flush eyes immediately with lukewarm water for 15 - 20 minutes with wide-open eyes. Seek medical attention at once.

Important! Also flush during transport to hospital (eye specialist).

Upon skin contact

Remove clothes which have been splattered.

Wash with large quantities of water (emergency shower) and seek medical assistance.

Upon ingestion

Rinse mouth out thoroughly first with water, then SPIT OUT the rinse water. Drink at least half a litre of water and seek medical advice. DO NOT INDUCE VOMITING.

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

Upon breathing in

Harmful if inhaled.

May cause allergy or asthma symptoms or breathing difficulties.

Can cause irritation to airways, dizziness, nausea and headache if inhaled.

May cause chemical burns in mouth and throat if inhaled, as well as coughing and at high concentrations breathing difficulties.

Upon eye contact

Irritation.

Smarting pain.

Risk of permanent eye damage.

Upon skin contact

Allergic reactions.

Irritation on the skin (Dermatitis).

Redness.

Smarting pain.

Rash and itching.

Chemical burns may occur.

Upon ingestion

Harmful if swallowed.

Ingestion causes pain, nausea and vomiting, which can cause burns to the esophagus.

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

Symptomatic treatment.

Upon contact with a doctor, make sure to have the label or this safety data sheet with you.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing agents

Extinguish with water mist, powder, carbon dioxide or alcoholresistant foam.

Unsuitable extinguishing agents

May not be extinguished with water dispersed under high pressure.

5.2. Special hazards arising from the substance or mixture

In case of fire corrosive and poisonous gases may form, e.g. nitrogen oxides and carbon oxides.

Avoid that water used for extinguishing fire reaches drains. Water used for extinguishing fire should be handled according to current regulations.

Emits flammable vapours which may form an explosive mixture with air.

5.3. Advice for fire-fighters

Evacuate all not-authorized personnel.

Protective measures should be taken regarding other material at the site of the fire.

In case of fire use a respirator mask.

Wear full protective clothing.

Vapors are heavier than air and may spread along floors.

Cool closed containers that were exposed to fire with water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

The area should be ventilated with fresh air.

Keep unauthorized and unprotected people at a safe distance.

Do not inhale vapours and avoid contact with skin, eyes and clothes when cleaning up the spillage.

Use recommended safety equipment, see section 8.

Ensure good ventilation.

Switch off equipment which has an exposed flame, glows, or has a heat source of some other kind.

Note that there is a risk of slipping if product is leaking/spilling.

6.2. Environmental precautions

Avoid release to drains, soil or watercourses.

Please contact involved authorities if unintended release occurs.

6.3. Methods and material for containment and cleaning up

Stop leak if safe to do so.

Absorb the liquid with an inert absorbent, vermiculite, for example. Collect the material for disposal at a waste disposal facility.

Clean contaminated area with suitable detergent.

6.4. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid spillage, inhalation and contact with eyes and skin.

Local exhaust ventilation may be necessary.

Do not eat, drink or smoke in premises where this product is handled.

Store this product separately from food items and keep it out of the reach of children and pets.

Wash your hands after using the product.

Remove clothes which have been splattered.

Wash contaminated clothing before reuse.

Work in order to avoid spillage. If spillage does occur, address it immediately in accordance with the directions specified in Section 6 of this safety data sheet.

Avoid open fire, hot items, sparks or other ignition sources.

Take precautionary measures against static discharge.

Handle and open container with care.

Read and follow the instructions for handling.

Take off work clothes and protective gear before meals.

7.2. Conditions for safe storage, including any incompatibilities

Always use sealed and visibly labeled packages.

Store in dry and cool area.

Store in a well-ventilated and locked place.

Store only in the original package.

7.3. Specific end uses

See identified uses in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National limit values

PROPAN-2-OL

United Kingdoms (EH40/2005)

Time-weighted-average exposure limit (TWA) 400 ppm / 999 mg/m³

Short term exposure limit (STEL) 500 ppm / 1250 mg/m³

DNEL

PROPAN-2-OL

	Type of exposure	Route of exposure	Value
Consumer	Chronic Systemic	Inhalation	89 mg/m ³
Worker	Chronic Systemic	Dermal	888 mg/kg
Worker	Chronic Systemic	Inhalation	500 mg/m ³
Consumer	Chronic Systemic	Oral	26 mg/kg
Consumer	Chronic Systemic	Dermal	319 mg/kg

PNEC

PROPAN-2-OL

Environmental protection target	PNEC value
Fresh water	140.9 mg/l
Freshwater sediments	552 mg/kg
Marine water	140.9 mg/l
Marine sediments	552 mg/kg
Microorganisms in sewage treatment	2251 mg/l
Soil (agricultural)	28 mg/kg

GLUTARALDEHYDE

Environmental protection target	PNEC value
Fresh water	0.0025 mg/l

Freshwater sediments	0.527 mg/kg
Marine water	0.00025 mg/l
Marine sediments	0.0527 mg/kg
Microorganisms in sewage treatment	0.8 mg/l
Soil (agricultural)	0.03 mg/kg

8.2. Exposure controls

Wash hands thoroughly after handling and before food intake or smoking.

Select working methods to minimise skin contact.

Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them.

To prevent occupational risks the health hazards for this product or any of the ingredients should be taken into account (see sections 2, 3 and 11), according to EU Directive 89/391 and 98/24 and national jurisdiction for occupational risks.

8.2.1. Appropriate engineering controls

Handle in premises which have modern ventilation standards.

Use local exhaust ventilation.

Emergency showers and eye-rinsing facilities must be available at the workplace.

Eye/face protection

Use protective glasses with tight seals according to standard EN166.

Never use contact lenses when working with this product.

Skin protection

Selection of gloves should take into consideration other chemicals being handled, physical conditions and mobility needs.

Use protective clothing with long sleeves.

Glove material	Glove thickness	Breakthrough time
Nitrile rubber	≥ 0,11 mm	≥ 480 min
Splash contact: Nitrile rubber	≥ 0,11 mm	≥ 480 min

Respiratory protection

Use proper protective breathing protection.

ABEK type filters are recommended if ventilation is insufficient.

For prolonged exposure, use a positive-pressure air-supplied respirator.

8.2.3. Environmental exposure controls

Work with the product should take place in such a way that the product does not get into drains, waterways, soil and air.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- | | |
|---|--|
| a) Appearance | Form: liquid. Colour: green. |
| b) Odour | strong |
| c) Odour threshold | Not indicated |
| d) pH | Not indicated |
| e) Melting point/freezing point | Not indicated |
| f) Initial boiling point and boiling range | ≈89 °C |
| g) Flash point | ≈24 °C |
| h) Evaporation rate | Not indicated |
| i) Flammability (solid, gas) | Not applicable |
| j) Upper/lower flammability or explosive limits | Not indicated |
| k) Vapour pressure | Not indicated |
| l) Vapour density | Not indicated |
| m) Relative density | Not indicated |
| n) Solubility | Solubility in water: Miscible |
| o) Partition coefficient: n-octanol/water | Not applicable |
| p) Auto-ignition temperature | Not indicated |
| q) Decomposition temperature | Not indicated |
| r) Viscosity | 3.5 (40 °C) ASTM D 7042 |
| s) Explosive properties | May form an explosive mixture with air |
| t) Oxidising properties | Not applicable |

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

10.2. Chemical stability

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

No hazardous reactions known during normal use.

10.4. Conditions to avoid

Avoid heat, sparks and open flames.

Avoid frost.

Protect from direct sunlight.

10.5. Incompatible materials

Avoid contact with acids, bases and oxidizing agents.

10.6. Hazardous decomposition products

None under normal conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Ingestion causes pain, nausea and vomiting, which can cause burns to the esophagus.

Acute toxicity

Harmful if swallowed.

Harmful when inhaled.

PROPAN-2-OL

LD50 rabbit 24h: 15800 mg/kg Dermally

LD50 rat 24h: > 12800 mg/kg Dermally

LC50 rat 4h: 72.6 mg Inhalation

LC50 rat 4h: 64000 ppmV Inhalation

LC50 rat 8h: 16000 ppmV Inhalation

LD50 rat 24h: 5045 mg/kg Orally

GLUTARALDEHYDE

LD50 rat 24h: > 2500 mg/kg Dermally

LC50 rat 4h: 0.48 mg/L Inhalation

LD50 rat 24h: 134 mg/kg Orally

Skin corrosion/irritation

The product may cause corrosive wounds, burning and cracked skin.

Serious eye damage/irritation

Strong irritant with danger of severe eye injury.

Respiratory or skin sensitisation

The product contain allergenic substances.

Can cause respiratory sensibility (asthma).

May cause sensitisation by skin contact.

Germ cell mutagenicity

No mutagenic effects have been reported for the substance in this mixture.

Carcinogenicity

No carcinogenic effects have been reported for the substances in this product.

Reproductive toxicity

No toxic effects to reproduction have been reported for the substances in this mixture.

STOT-single exposure

Irritation or burns may occur in the respiratory tract if inhaled or ingested.

Fumes may cause drowsiness or grogginess.

STOT-repeated exposure

The criteria for classification cannot be considered fulfilled based on available data.

Aspiration hazard

The product is not classified as being toxic for aspiration.

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Prevent release on land, in water and drains.

PROPAN-2-OL

LC50 fathead minnow (Pimephales promelas) 96h: 9640 mg/L
LC50 Freshwater water flea (Daphnia magna) 48h: 2285 mg/L
EC50 Freshwater water flea (Daphnia magna) 48 h: 13299 mg/l
LC50 Fish 96h: 1000 mg/l
EC50 Freshwater water flea (Daphnia magna) 24h: 10 - 100 mg/l
EC50 Algae 24h: 1 - 10 mg/l

GLUTARALDEHYDE

EC50 Freshwater water flea (Daphnia magna) 48 h: 11.5 mg/L
EC50 Algae 72 h: 0.08 mg/L
LC50 Fish 96h: 5 mg/L

12.2. Persistence and degradability

The components of the product degrades in the natural environment.

12.3. Bioaccumulative potential

There is no information regarding bioaccumulation.

12.4. Mobility in soil

The product is miscible with water and is therefore variable in soil and water.

12.5. Results of PBT and vPvB assessment

This product does not contain any substances that are assessed to be a PBT or a vPvB.

12.6. Other adverse effects

Data lacking.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste handling of the product

Product as well as packaging must be disposed of as hazardous waste.

Avoid discharge into sewers.

Observe local regulations.

See also national waste regulations.

SECTION 14: Transport information

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

14.1. UN number

2920

14.2. UN proper shipping name

CORROSIVE LIQUID, FLAMMABLE, N.O.S. (PROPAN-2-OL, GLUTARALDEHYDE)

14.3. Transport hazard class(es)

Class

8: Corrosive substances

Classification code (ADR/RID)

CF1: Corrosive substances, flammable: Liquid

Subsidiary risk (IMDG)

IMDG-class 3 (Flammable liquid)

Labels



14.4. Packing group

Packing group II

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Tunnel restrictions

Tunnel category: D/E

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

14.8 Other transport information

Transport category: 2; Highest total quantity per transported unit 333 kg or liters

Stowage category not indicated (IMDG)

SECTION 15: Regulatory information

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

Not indicated.

15.2. Chemical safety assessment

Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

SECTION 16: Other information

16a. Indication of where changes have been made to the previous version of the safety data sheet

Revisions of this document

Earlier versions

2014-03-31 Changes in section 2. The composition of this product was changed

2017-07-14 Changes in section(s) 1.

16b. Legend to abbreviations and acronyms used in the safety data sheet

Full texts for Hazard Class and Category Code mentioned in section 3

Flam Liq 2	Flammable liquids (Category 2)
Eye Irrit 2	Irritates eyes (Category 2)
STOT SE 3 <i>drow</i>	Specific target organ toxicity - Single exposure (Category 3, Narcosis effect)
Acute Tox 2 <i>dust-mist</i>	Acute toxicity (Category 2 dust/mist)
Acute Tox 3 <i>oral</i>	Acute toxicity (Category 3 oral)
Skin Corr 1B	Corrosive (Category 1B)
<i>Resp corr 1</i>	Corrosive to the respiratory tract
Resp Sens 1	Risk of allergic reaction or asthma if inhaled (Category 1)
Skin Sens 1A	May cause an allergic skin reaction (Category 1A)
STOT SE 3 <i>resp</i>	Specific target organ toxicity - single exposure; May cause respiratory irritation (Category 3 resp)
Aquatic Acute 1	Very toxic to aquatic life (Category Acute 1)
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects (Category Chronic 2)
Acute Tox 4 <i>dermal</i>	Acute toxicity (Category 4 skin)
Acute Tox 4 <i>oral</i>	Acute toxicity (Category 4 oral)
Skin Irrit 2	Skin Irritant (Category 2)
Eye Dam 1	Irreversible Eye Effects (Category 1)
Aquatic Acute 1; M = 10	Very toxic to aquatic life (Category Acute 1 M=10)

Explanations of the abbreviations in Section 14

ADR European Agreement concerning the International Transport of Dangerous Goods by Road

RID Regulations concerning the International Transport of Dangerous Goods by Rail

IMDG International Maritime Dangerous Goods Code

ICAO International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)

IATA The International Air Transport Association

Tunnel restriction code: D/E; Transport by bulk or via tank: Passage forbidden through tunnels of category D and E, Other transportation means: Passage forbidden through tunnels of category E

Transport category: 2; Highest total quantity per transported unit 333 kg or liters

16c. Key literature references and sources for data

Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I, as updated to 2017-08-21.

Where such data was not available, alternative documentation used to establish the official classification was used, e.g. IUCLID (International Uniform Chemical Information Database). As a second alternative, information was used from reputable international chemical industries, and as a third alternative other available information was used, e.g. material safety data sheets from other suppliers or information from non-profit associations, where reliability of the source was assessed by expert opinion. If, in spite of this, reliable information could not be sourced, the hazards were assessed by expert opinions based on the known hazards of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

1907/2006 Annex II (2015/830) COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

1272/2008 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

EH40/2005 EH40/2005 Workplace exposure limits

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

Hazard calculation for this mixture has been performed as a cumulative assessment with the aid of expert assessments in accordance with 1272/2008 Annex I, where all available information which may be significant to establishing the hazards of the mixture was assessed together, and in accordance with 1907/2006 Annex XI.

16e. List of relevant hazard statements and/or precautionary statements

Full texts for hazard statements mentioned in section 3

H225	Highly flammable liquid and vapour
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H330	Fatal if inhaled
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
EUH071	Corrosive to the respiratory tract
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
H312	Harmful in contact with skin
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment

Warning for misuse

This product can cause severe harm if used improperly. Read and follow the directions of use carefully. At professional use the employer is responsible for the staff being well aware of the risks.

Other relevant information

Editorial information



This material safety data sheet has been prepared and checked by KemRisk®, KemRisk Sweden AB, Platensgatan 8, SE-582 20 Linköping, Sweden, www.kemrisk.se