

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

1.1. Product identifier

Borygo Plane I

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

Industry: functional liquids.

Use: Deicing/Anti-icing Fluid, Aircraft SAE Type I

1.3. Details of the supplier of the safety data sheet

Boryszew S.A.

Oddział Boryszew ERG w Sochaczewie

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tel. 46 863 02 01

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1.4 Emergency telephone number

Tel. 112 (general emergency number)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Mixture name	Symbols of danger According to Regulation No. 1272/2008:
Borygo Plane I	not classified

Human life and health hazards:

The product is not classified as posing risk to human health.

Environmental hazards:

The product is not classified as hazardous for the environment.

Other hazards:

none

2.2. Label elements

According to Regulation No. 1272/2008:

Pictograms: none

Signal word: none

H-phrases: none

P-phrases: P 102 – Keep out of reach of children.

P 201 – Obtain special instructions before use.

P 404 – Store in a closed container.

P 501 – Dispose of contents/container to selective waste collection

2.3. Other hazards

No information on PBT or vPvB criteria compliance as per attachment XIII of REACH regulation. Relevant research not conducted.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Substance name	Concentration range [%]	CAS number	EC number	Regulation (EC) No 1272/2008 (CLP)
propane-1,2-diol *	approx. 80	57-55-6	200-338-0	-

* registration number for propane-1,2-diol: 01-2119456809-23-xxxx

SECTION 4: First aid measures

4.1. Description of first aid measures

Ingestion: If swallowed in large quantities, give water. Consult a doctor immediately.

Inhalation: the occurrence of breathing difficulties, give oxygen. Remove victim to fresh air.

Skin contact: wash with soap and water.

Eyes contact: keeping victim's eyes opened flush them with water.

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

not applicable

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

If any of the symptoms occur seek medical attention immediately. Show physician product label, or packaging.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: carbon dioxide, dry chemical, alcohol resistant foam, watermist.

Unsuitable extinguishing media: Do not use a solid water stream

5.2. Special hazards arising from the substance or mixture

Not applicable

5.3. Advice for firefighters

Inform about the failure. Evacuate the danger area all persons not involved in fire fighting, if necessary, call rescue. People involved in fire fighting should be trained, equipped with protective clothing and breathing apparatus with independent air supply.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing, ensure effective ventilation.

6.2. Environmental precautions

Do not let the product into sewage and/or drainage systems, surface waters and ground waters.

6.3. Methods and material for containment and cleaning up

Stop the leak, isolate the area contaminated. Pour over with liquid-absorbent material, such as sand, soil, vermiculite, silicate earth or sawdust. Pick up mechanically to properly labeled, sealed container and directed to recycling. Residues with plenty of water.

6.4. Reference to other sections

Individual means of protection – see Section 8, improper extinguishing measures – see Section 5.
Disposal consideration – see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Follow the general rules of occupational health and safety of chemicals and good manufacturing practice, strictly observe the procedures developed and any recommendations the manufacturer. Use in well ventilated area. Do not allow to enter drains fluid released.

7.2. Conditions for safe storage, including any incompatibilities

Store only in tightly closed, properly labeled containers in a cool, ventilated area. Store in containers or containers made of HDPE. Store at temperatures <math><40^{\circ}\text{C}</math>. Packaging should be positioned vertically.

7.3. Specific end use(s)

No data on specific uses.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits (PL): not specified

Indicators of occupational exposure (UE): not specified

DNEL – propane-1,2-diol

- workers, long-term exposure, Inhalation: 168 mg/m^3 , systemic effect
- workers, long-term exposure, Inhalation: 10 mg/m^3 , local effect
- general population, long-term exposure, Inhalation: 50 mg/m^3 , systemic effect
- general population, long-term exposure, Inhalation: 10 mg/m^3 , local effect

PNEC – propane-1,2-diol

- aqua (freshwater): 260 mg/l
- aqua (marine water): 26 mg/l
- aqua (intermittent releases): 183 mg/l
- sediment (freshwater): 572 mg/kg dw
- sediment (marine water): 57,2 mg/l dw
- soil – 50 mg/kg dw
- STP: 20 000 mg/l

8.2. Exposure controls

Avoid contact with eyes or skin. Observe the general precautions required when using chemicals.

Skin protection: Appropriate protective clothing, rubber front apron and boots.

Eye protection: In conditions of exposure to vapors or aerosols to wear protective goggles.

Respiratory protection: Respiratory protective equipment in case of insufficient exhaust ventilation or prolonged exposure. Recommended efficient ventilation (general, local) in the workplace.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear and homogenous fluid, free from skins, lumps and foreign materials
Colour	orange
Odor	slight or no odor
Odor threshold	not determined
pH	8,0 - 9,0 (20°C)
Freezing point	max -21°C v/v (diluted with water by volume 1:1)
Melting temperature	not determined
Boiling temperature range	min. 119°C
Ignition temperature	not determined
Flash point	above 100 °C
Self-ignition temperature	not determined
Evaporation rate	not determined
Flammability	not determined
Explosive limits	not determined
Vapour pressure	not determined
Vapour density versus air	not determined
Specific gravity (in 15,6°C)	1,036-1,066 g/cm ³
Solubility	fully soluble in water, ethanol, acetone
Partition coefficient: n-octanol/water	not determined
Decomposition temperature	not determined
Viscosity kinematic	18-22 cps (w 20°C) 186-240 (w -20°C)
Refractive index	1,4185 - 1,4215 (w 20°C)
Surface tension	32,1 dyn/cm (±10%)
Explosive properties	not determined
Oxidizing properties	not determined

9.2. Other information

No data

SECTION 10: Stability and reactivity

10.1. Reactivity

Not known at the recommended conditions of use.

10.2. Chemical stability

Product stable in recommended use and storage conditions.

10.3. Possibility of hazardous reactions

Not known at the recommended conditions of use.

10.4. Conditions to avoid

Contact with sources of heat, ignition sources.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidants.

10.6. Hazardous decomposition products

Not known in recommended use conditions

SECTION 11: Toxicological information

11.1. Information on toxicological effects

ATE mix - not applicable

Acute Toxicity (Oral LD50): mg/kg (oral rat) > 22000 (OECD 401)

Acute Toxicity (Dermal LD50): > 2000 mg/kg Rabbit

Potential acute effects

Inhalation: not classified as asp. tox.

Skin contact: not Irritating.

Eye contact: not Irritating.

Delayed effects / repeated exposure

Sensitisation - not known.

Chronic effects - none known.

STOT-single exposure - not known.

STOT-repeated exposure - not known.

Carcinogenic, Mutagenic or Reprotoxic

Carcinogenicity - none

Mutagenicity - not known

Teratogenic properties - not known.

Reproductive toxicity - none.

(data from section 11 on 100% MPG)

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic, fish

Value: 32,500 mg/l

Method of testing: LC50

Fish, species: Pimephales promelas

Duration: 96h

Acute aquatic, Daphnia

Value: 116,250 mg/l

Method of testing: LC50

Daphnia magna

Duration: 48h

data from Plane I

12.2. Persistence and degradability

Biodegradation tested in accordance with APHA Standard Methods for Examination of Water and Waste Water.

The percent of fluid biodegraded in five days at 20 °C

BOD:0,60 kg O₂/ kg concentrate

The five days theoretical total oxygen demand (TOD) of the fluid, expressed in kilograms of oxygen per kilograms of fluid

COD: 1,44 kg O₂/ kg fluid

Biodegradability 5 days BOD/COD

0,60/1,44=0,42 W 20°C

data from Plane I

12.3. Bioaccumulative potential

Bioaccumulation: Not applicable

12.4. Mobility in soil

Low potential for adsorption to soil

12.5. Results of PBT and vPvB assessment

Not applicable

12.6. Other adverse effects

Information about other harmful effects on the environment, the ability to endocrine disruption or impact on global warming are not available.

(data from section 12.3-12.6 on 100% MPG)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Do not empty into drains. Do not allow contamination of surface water and groundwater. Collect waste material to land-use (recycling) or incinerated in appropriate plants.

Waste packages give businesses involved in recycling of packaging waste.

The classification is defined according to the place of manufacture on the basis of the criteria regulations in force. If the product has been used in any further operations / processes, the end user should define the resulting waste and assign the appropriate code.

SECTION 14: Transport information

Product not subject to hazardous material transportation regulations in road and rail transport.

14.1. UN number

None

14.2. UN proper shipping name

None

14.3. Transport hazard class(es)

None

14.4. Packing group

None

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

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

Not applicable

SECTION 15: Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance).

Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work (Text with EEA relevance).

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)

15.2. Chemical safety assessment

No chemical safety assessments for substances in the mixture and the mixture.

SECTION 16: Other information

Abbreviations and acronyms, list of relevant H phrases, hazard statements used in the safety data sheet:

P 102 - Keep out of reach of children.

P 201 – Obtain special instructions before use.

P 404 - Store in a closed container.

P 501 - Dispose of contents/container to selective waste collection

Classification was made by calculation method.

Revision date

- 8.07.2016 – section 3.2, 7.2
- 23.05.2017 - section 3.2, 9, 12, 15

The information in this MSDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this MSDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.