



# SAFETY DATA SHEET

US OSHA Hazard Communication Standard (29 CFR 1910.1200)  
Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA)  
and the Hazardous Products Regulation (HPR)

## METALGUARD® E-5000 Additive

*Low-Conductivity Inhibitor Package for use with Ethylene Glycol*

Version number: 1.0

Date: 10-September-2024

NGHS / English

SDS Number: 150

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name

**METALGUARD E-5000 Additive**

Product number

E5000

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

Relevant identified uses

Corrosion inhibitor for electric vehicle coolant  
Industrial use  
Professional use

Uses advised against

Do not use for other than recommended use

#### 1.3 Details of the supplier of the safety data sheet

WEBA Technology  
500 Cummings Center, Suite 6050  
Beverly, MA 01915  
United States

Telephone: +1 681-265-2314

e-mail: info@webacorp.com

e-mail (competent person)

info@webacorp.com

#### 1.4 Emergency telephone number

Emergency information service

CHEMTREC: +1-703-527-3887 (INTERNATIONAL)  
This number is only available during the following office hours: Mon-  
Fri 09:00 - 17:00

| Poison center |          |                                                                 |
|---------------|----------|-----------------------------------------------------------------|
| Country       | Name     | Telephone                                                       |
| United States | CHEMTREC | +1-703-527-3887 (INTERNATIONAL) +1-800-424-9300 (NORTH AMERICA) |

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

| Section | Hazard class                      | Category | Hazard class and category | Hazard state-ment |
|---------|-----------------------------------|----------|---------------------------|-------------------|
| A.10    | acute toxicity (oral)             | 4        | Acute Tox. 4              | H302              |
| A.3     | serious eye damage/eye irritation | 2        | Eye Irrit. 2              | H319              |
| A.7     | reproductive toxicity             | 2        | Repr. 2                   | H361              |

For full text of H-phrases: see SECTION 16

#### 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- signal word

Warning

## - pictograms

GHS07, GHS08



## - hazard statements

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

## - precautionary statements

P202 Do not handle until all safety precautions have been read and understood.

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

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 If exposed or concerned: Get medical advice/attention.

P330 Rinse mouth.

P337+P313 If eye irritation persists: Get medical advice/attention.

P405 Store locked up.

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

## - hazardous ingredients for labelling

Contains: Methyl-1H-benzotriazole; 2,2'-oxybisethanol; 1,2,3-Benzotriazole.

**2.3 Other hazards**

Hazards not otherwise classified

Toxic to aquatic life with long lasting effects (GHS category 2: aquatic toxicity - acute and/or chronic).

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

Endocrine disrupting properties

Contains an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ . (Section 11 & 12).**SECTION 3: Composition/information on ingredients****3.1 Substances**

Not relevant (mixture).

**3.2 Mixtures**

The product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

| Name of sub-stance      | Identifier        | Wt%       | Classification acc. to GHS                                  | Pictograms | Notes | Remarks |
|-------------------------|-------------------|-----------|-------------------------------------------------------------|------------|-------|---------|
| 2,2'-oxybisethanol      | CAS No 111-46-6   | 50 – < 75 | Acute Tox. 4 / H302                                         |            |       |         |
| 1,2,3-Benzotriazole     | CAS No 95-14-7    | 10 – < 25 | Acute Tox. 4 / H302<br>Eye Irrit. 2 / H319<br>HNOC009       |            |       |         |
| Methyl-1H-benzotriazole | CAS No 29385-43-1 | 10 – < 25 | Acute Tox. 4 / H302<br>Repr. 2 / H361<br>HNOC002<br>HNOC009 |            |       |         |

### Consideration of other advice

In compliance with OSHA Hazard Communication Standard 29 CFR 1910.1200(i), the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a Trade Secret.

### Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

#### Following skin contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Induce vomiting when the affected person is not unconscious. Call a POISON CENTER/doctor.

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

Symptoms and effects are not known to date.

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

For specialist advice physicians should contact the poison center.

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water spray; Alcohol resistant foam; Dry extinguishing powder; Carbon dioxide (CO<sub>2</sub>);  
Coordinate firefighting measures to the fire surroundings.

#### Unsuitable extinguishing media

Water jet.

### 5.2 Special hazards arising from the substance or mixture

#### Hazardous combustion products

During fire hazardous fumes/smoke could be produced: nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>).

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

#### Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection.

## 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

## 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomite, diatomaceous earth, acid binder, universal binder, sawdust).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

## 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

# SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feed stuffs.

## 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- flammability hazards

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

- incompatible substances or mixtures

Oxidizing substances, acids.

Control of the effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed. Do not use pressure to empty container or it may rupture with explosive force.

- packaging compatibilities

Keep only in original container.

## 7.3 Specific end use(s)

See section 1.2.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

No information available.

#### Relevant DNELs/DMELs/PNECs and other threshold levels

| Relevant DNELs of components of the mixture |            |           |                        |                                    |                               |                            |
|---------------------------------------------|------------|-----------|------------------------|------------------------------------|-------------------------------|----------------------------|
| Name of substance                           | CAS No     | End-point | Threshold level        | Protection goal, route of exposure | Used in                       | Exposure time              |
| 2,2'-oxybisethanol                          | 111-46-6   | DNEL      | 44 mg/m <sup>3</sup>   | human, inhalatory                  | worker (industry)             | chronic - systemic effects |
| 2,2'-oxybisethanol                          | 111-46-6   | DNEL      | 60 mg/m <sup>3</sup>   | human, inhalatory                  | worker (industry)             | chronic - local effects    |
| 2,2'-oxybisethanol                          | 111-46-6   | DNEL      | 43 mg/kg bw/day        | human, dermal                      | worker (industry)             | chronic - systemic effects |
| 2,2'-oxybisethanol                          | 111-46-6   | DNEL      | 12 mg/m <sup>3</sup>   | human, inhalatory                  | consumer (private households) | chronic - systemic effects |
| 2,2'-oxybisethanol                          | 111-46-6   | DNEL      | 12 mg/m <sup>3</sup>   | human, inhalatory                  | consumer (private households) | chronic - local effects    |
| 2,2'-oxybisethanol                          | 111-46-6   | DNEL      | 21 mg/kg bw/day        | human, dermal                      | consumer (private households) | chronic - systemic effects |
| 1,2,3-Benzotriazole                         | 95-14-7    | DNEL      | 4.2 mg/m <sup>3</sup>  | human, inhalatory                  | worker (industry)             | chronic - systemic effects |
| 1,2,3-Benzotriazole                         | 95-14-7    | DNEL      | 0.24 mg/kg bw/day      | human, dermal                      | worker (industry)             | chronic - systemic effects |
| 1,2,3-Benzotriazole                         | 95-14-7    | DNEL      | 2.1 mg/m <sup>3</sup>  | human, inhalatory                  | consumer (private households) | chronic - systemic effects |
| 1,2,3-Benzotriazole                         | 95-14-7    | DNEL      | 0.12 mg/kg bw/day      | human, dermal                      | consumer (private households) | chronic - systemic effects |
| 1,2,3-Benzotriazole                         | 95-14-7    | DNEL      | 0.12 mg/kg bw/day      | human, oral                        | consumer (private households) | chronic - systemic effects |
| 1,2,3-Benzotriazole                         | 95-14-7    | DNEL      | 0.12 mg/kg bw/day      | human, oral                        | consumer (private households) | acute - systemic effects   |
| Methyl-1H-benzotriazole                     | 29385-43-1 | DNEL      | 0.25 mg/kg bw/day      | human, oral                        | consumer (private households) | acute - systemic effects   |
| Methyl-1H-benzotriazole                     | 29385-43-1 | DNEL      | 21.2 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry)             | chronic - systemic effects |
| Methyl-1H-benzotriazole                     | 29385-43-1 | DNEL      | 0.3 mg/kg bw/day       | human, dermal                      | worker (industry)             | chronic - systemic effects |
| Methyl-1H-benzotriazole                     | 29385-43-1 | DNEL      | 350 µg/m <sup>3</sup>  | human, inhalatory                  | consumer (private households) | chronic - systemic effects |
| Methyl-1H-benzotriazole                     | 29385-43-1 | DNEL      | 0.01 mg/kg bw/day      | human, dermal                      | consumer (private households) | chronic - systemic effects |
| Methyl-1H-benzotriazole                     | 29385-43-1 | DNEL      | 0.01 mg/kg bw/day      | human, oral                        | consumer (private households) | chronic - systemic effects |

| Relevant PNECs of components |            |           |                 |                       |                              |                              |
|------------------------------|------------|-----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance            | CAS No     | End-point | Threshold level | Organism              | Environmental compartment    | Exposure time                |
| 2,2'-oxybisethanol           | 111-46-6   | PNEC      | 10 mg/l         | aquatic organisms     | water                        | intermittent release         |
| 2,2'-oxybisethanol           | 111-46-6   | PNEC      | 10 mg/l         | aquatic organisms     | freshwater                   | short-term (single instance) |
| 2,2'-oxybisethanol           | 111-46-6   | PNEC      | 1 mg/l          | aquatic organisms     | marine water                 | short-term (single instance) |
| 2,2'-oxybisethanol           | 111-46-6   | PNEC      | 199.5 mg/l      | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| 2,2'-oxybisethanol           | 111-46-6   | PNEC      | 20.9 mg/kg      | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| 2,2'-oxybisethanol           | 111-46-6   | PNEC      | 2.09 mg/kg      | aquatic organisms     | marine sediment              | short-term (single instance) |
| 2,2'-oxybisethanol           | 111-46-6   | PNEC      | 1.53 mg/kg      | terrestrial organisms | soil                         | short-term (single instance) |
| 1,2,3-Benzotriazole          | 95-14-7    | PNEC      | 97 µg/l         | aquatic organisms     | freshwater                   | short-term (single instance) |
| 1,2,3-Benzotriazole          | 95-14-7    | PNEC      | 9.7 µg/l        | aquatic organisms     | marine water                 | short-term (single instance) |
| 1,2,3-Benzotriazole          | 95-14-7    | PNEC      | 9.4 mg/l        | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| 1,2,3-Benzotriazole          | 95-14-7    | PNEC      | 1.1 mg/kg       | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| 1,2,3-Benzotriazole          | 95-14-7    | PNEC      | 0.11 mg/kg      | aquatic organisms     | marine sediment              | short-term (single instance) |
| 1,2,3-Benzotriazole          | 95-14-7    | PNEC      | 0.169 mg/kg     | terrestrial organisms | soil                         | short-term (single instance) |
| Methyl-1H-benzotriazole      | 29385-43-1 | PNEC      | 0.086 mg/l      | aquatic organisms     | water                        | intermittent release         |
| Methyl-1H-benzotriazole      | 29385-43-1 | PNEC      | 0.008 mg/l      | aquatic organisms     | freshwater                   | short-term (single instance) |
| Methyl-1H-benzotriazole      | 29385-43-1 | PNEC      | 20 µg/l         | aquatic organisms     | marine water                 | short-term (single instance) |
| Methyl-1H-benzotriazole      | 29385-43-1 | PNEC      | 39.4 mg/l       | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| Methyl-1H-benzotriazole      | 29385-43-1 | PNEC      | 0.117 mg/kg     | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| Methyl-1H-benzotriazole      | 29385-43-1 | PNEC      | 0.292 mg/kg     | aquatic organisms     | marine sediment              | short-term (single instance) |
| Methyl-1H-benzotriazole      | 29385-43-1 | PNEC      | 18.7 µg/kg      | terrestrial organisms | soil                         | short-term (single instance) |

## 8.2 Exposure controls

### Appropriate engineering controls

General ventilation. Provide eyewash stations and safety showers at the workplace.

## Individual protection measures (personal protective equipment)

## Eye/face protection



Use safety goggle with side protection

## Skin protection



Chemical protective clothing.

## Hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

## - type of material

PVC: polyvinyl chloride, Nitrile rubber, Polychloroprene

## - material thickness

Use gloves with a minimum material thickness:  $\geq 0.11$  mm.

## - breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

## - other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

## Respiratory protection

In case of inadequate ventilation wear respiratory protection. Type: ABEK-P2 (combined filters against gases, vapors and particles, color code: Brown/Grey/Yellow/Green/White). Observe the OSHA respirator regulations cited in 29 CFR 1910.134 and use NIOSH/MSHA approved respirators.

## Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

|                |                              |
|----------------|------------------------------|
| Physical state | liquid                       |
| Color          | clear - light yellow - amber |
| Particle       | not relevant (liquid)        |
| Odor           | characteristic               |

#### Other safety parameters

|                                         |                                                |
|-----------------------------------------|------------------------------------------------|
| pH (value)                              | not available                                  |
| Melting point/freezing point            | not determined                                 |
| Initial boiling point and boiling range | 244.9 °C at 1,013 hPa<br>472.8 °F at 1,013 hPa |

|                           |                                                                                                       |
|---------------------------|-------------------------------------------------------------------------------------------------------|
| Flash point               | 124 °C<br>305 °C                                                                                      |
| Evaporation rate          | not determined                                                                                        |
| Flammability (solid, gas) | not relevant, (fluid)                                                                                 |
| Explosive limits          | LEL: UEL: not determined                                                                              |
| Vapor pressure            | 0.03 mmHg at 20 °C<br>0.03 mmHg at 68 °F<br>calculated value, referring to a component of the mixture |
| Density                   | 1.150-1.155                                                                                           |
| Vapor density             | not determined                                                                                        |

**Solubility**

|                    |                            |
|--------------------|----------------------------|
| - water solubility | miscible in any proportion |
|--------------------|----------------------------|

|                             |                                                                                                                                    |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| - n-octanol/water (log KOW) | this information is not available                                                                                                  |
| Auto-ignition temperature   | 372 °C<br>701.6 °F<br>(auto-ignition temperature (liquids and gases))<br>calculated value, referring to a component of the mixture |
| Decomposition temperature   | no data available                                                                                                                  |

Viscosity not determined

|                       |                |
|-----------------------|----------------|
| - kinematic viscosity | not determined |
| Explosive properties  | none           |
| Oxidizing properties  | none           |

**9.2 Other information**

|                                          |                                                                      |
|------------------------------------------|----------------------------------------------------------------------|
| Miscibility                              | Completely miscible with water.                                      |
| Electrical conductivity                  | <6 $\mu\text{S}/\text{m}$                                            |
| Temperature class (USA, acc. to NEC 500) | T2 (maximum permissible surface temperature on the equipment: 300°C) |

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

This material is not reactive under normal ambient conditions.

**10.2 Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**

No known hazardous reactions.

**10.4 Conditions to avoid**

Incompatible materials.

**10.5 Incompatible materials**

Acids, oxidizers.

**10.6 Hazardous decomposition products**

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Test data are not available for the complete mixture.

**Classification procedure**

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)****Acute toxicity**

Harmful if swallowed.

- acute toxicity estimate (ATE)

| Exposure route | ATE         |
|----------------|-------------|
| Oral           | 527.6 mg/kg |

| Acute toxicity estimate (ATE) of components |            |                |           |
|---------------------------------------------|------------|----------------|-----------|
| Name of substance                           | CAS No     | Exposure route | ATE       |
| 2,2'-oxybisethanol                          | 111-46-6   | oral           | 500 mg/kg |
| 1,2,3-Benzotriazole                         | 95-14-7    | oral           | 500 mg/kg |
| Methyl-1H-benzotriazole                     | 29385-43-1 | oral           | 720 mg/kg |

| Acute toxicity of components |            |                |          |              |         |
|------------------------------|------------|----------------|----------|--------------|---------|
| Name of substance            | CAS No     | Exposure route | Endpoint | Value        | Species |
| 2,2'-oxybisethanol           | 111-46-6   | dermal         | LD50     | 13,300 mg/kg | rabbit  |
| Methyl-1H-benzotriazole      | 29385-43-1 | oral           | LD50     | 720 mg/kg    | rat     |
| Methyl-1H-benzotriazole      | 29385-43-1 | dermal         | LD50     | >2,000 mg/kg | rabbit  |

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Respiratory or skin sensitization**

Shall not be classified as a respiratory or skin sensitizer.

**Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

**Carcinogenicity**

Shall not be classified as carcinogenic.

**Reproductive toxicity**

Suspected of damaging the unborn child. Suspected of damaging fertility.

**Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**11.2 Information on other hazards****Endocrine disrupting properties**

Contains an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ .

| Endocrine Disruptor lists |         |                                      |                                         |           |
|---------------------------|---------|--------------------------------------|-----------------------------------------|-----------|
| Name of substance         | CAS No  | Endocrine disruptor for human health | Endocrine disruptor for the environment | Listed in |
| 1,2,3-Benzotriazole       | 95-14-7 |                                      | yes                                     | List II   |

Legend

List II Substances under evaluation for endocrine disruption under an EU legislation

**SECTION 12: Ecological information****12.1 Toxicity**

Toxic to aquatic life with long lasting effects.

| Aquatic toxicity (acute) of components of the mixture |            |                         |                        |                       |               |
|-------------------------------------------------------|------------|-------------------------|------------------------|-----------------------|---------------|
| Name of substance                                     | CAS No     | Endpoint                | Value                  | Species               | Exposure time |
| 2,2'-oxybisethanol                                    | 111-46-6   | EC50                    | $>10,000 \text{ mg/l}$ | aquatic invertebrates | 24 h          |
| 2,2'-oxybisethanol                                    | 111-46-6   | LC50                    | $75,222 \text{ mg/l}$  | fish                  | 96 h          |
| 2,2'-oxybisethanol                                    | 111-46-6   | NOEC                    | $>100 \text{ mg/l}$    | algae                 | 72 h          |
| 1,2,3-Benzotriazole                                   | 95-14-7    | LC50                    | $240 \text{ mg/l}$     | fish                  | 24 h          |
| 1,2,3-Benzotriazole                                   | 95-14-7    | EC50                    | $15.8 \text{ mg/l}$    | aquatic invertebrates | 48 h          |
| 1,2,3-Benzotriazole                                   | 95-14-7    | ErC50                   | $75 \text{ mg/l}$      | algae                 | 72 h          |
| 1,2,3-Benzotriazole                                   | 95-14-7    | NOEC                    | $10 \text{ mg/l}$      | algae                 | 72 h          |
| 1,2,3-Benzotriazole                                   | 95-14-7    | growth (EbCx) 10%       | $8.56 \text{ mg/l}$    | aquatic invertebrates | 48 h          |
| 1,2,3-Benzotriazole                                   | 95-14-7    | growth rate (Er-Cx) 10% | $10.5 \text{ mg/l}$    | algae                 | 72 h          |
| Methyl-1H-benzotriazole                               | 29385-43-1 | LC50                    | $240 \text{ mg/l}$     | fish                  | 24 h          |
| Methyl-1H-benzotriazole                               | 29385-43-1 | EC50                    | $15.8 \text{ mg/l}$    | aquatic invertebrates | 48 h          |
| Methyl-1H-benzotriazole                               | 29385-43-1 | ErC50                   | $75 \text{ mg/l}$      | algae                 | 72 h          |
| Methyl-1H-benzotriazole                               | 29385-43-1 | NOEC                    | $30 \text{ mg/l}$      | fish                  | 96 h          |

| Aquatic toxicity (acute) of components of the mixture |            |                         |           |                       |               |
|-------------------------------------------------------|------------|-------------------------|-----------|-----------------------|---------------|
| Name of substance                                     | CAS No     | Endpoint                | Value     | Species               | Exposure time |
| Methyl-1H-benzotriazole                               | 29385-43-1 | growth (EbCx) 10%       | 8.56 mg/l | aquatic invertebrates | 48 h          |
| Methyl-1H-benzotriazole                               | 29385-43-1 | growth rate (Er-Cx) 10% | 1.18 mg/l | algae                 | 72 h          |

| Aquatic toxicity (chronic) of components of the mixture |            |                   |             |                       |               |
|---------------------------------------------------------|------------|-------------------|-------------|-----------------------|---------------|
| Name of substance                                       | CAS No     | Endpoint          | Value       | Species               | Exposure time |
| 2,2'-oxybisethanol                                      | 111-46-6   | LC50              | >1,500 mg/l | fish                  | 28 d          |
| 2,2'-oxybisethanol                                      | 111-46-6   | EC50              | 33,911 mg/l | aquatic invertebrates | 21 d          |
| 2,2'-oxybisethanol                                      | 111-46-6   | NOEC              | >40 mg/l    | fish                  | 28 d          |
| 2,2'-oxybisethanol                                      | 111-46-6   | growth (EbCx) 20% | >1,995 mg/l | microorganisms        | 30 min        |
| 1,2,3-Benzotriazole                                     | 95-14-7    | EC50              | 940 mg/l    | microorganisms        | 3 h           |
| 1,2,3-Benzotriazole                                     | 95-14-7    | NOEC              | <10 mg/l    | microorganisms        | 3 h           |
| 1,2,3-Benzotriazole                                     | 95-14-7    | growth (EbCx) 10% | 0.97 mg/l   | aquatic invertebrates | 21 d          |
| Methyl-1H-benzotriazole                                 | 29385-43-1 | LC50              | 240 mg/l    | fish                  | 24 h          |
| Methyl-1H-benzotriazole                                 | 29385-43-1 | EC50              | >37.6 mg/l  | aquatic invertebrates | 21 d          |
| Methyl-1H-benzotriazole                                 | 29385-43-1 | NOEC              | 18.4 mg/l   | aquatic invertebrates | 21 d          |
| Methyl-1H-benzotriazole                                 | 29385-43-1 | LOEC              | 37.6 mg/l   | aquatic invertebrates | 21 d          |
| Methyl-1H-benzotriazole                                 | 29385-43-1 | growth (EbCx) 10% | 0.97 mg/l   | aquatic invertebrates | 21 d          |

## 12.2 Persistence and degradability

Data are not available.

## 12.3 Bioaccumulative potential

Data are not available.

## 12.4 Mobility in soil

Data are not available.

## 12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

## 12.6 Endocrine disrupting properties

Contains an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ .

| Endocrine Disruptor lists |         |                                      |                                         |           |
|---------------------------|---------|--------------------------------------|-----------------------------------------|-----------|
| Name of substance         | CAS No  | Endocrine disruptor for human health | Endocrine disruptor for the environment | Listed in |
| 1,2,3-Benzotriazole       | 95-14-7 |                                      | yes                                     | List II   |

### Legend

List II Substances under evaluation for endocrine disruption under an EU legislation

## 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself. Do not use pressure to empty container or it may rupture with explosive force.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 DOT (US)

|                      |                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------|
| UN NUMBER:           | 3077                                                                                         |
| CLASS                | 9                                                                                            |
| PACKING GROUP        | III                                                                                          |
| PROPER SHIPPING NAME | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzotriazole, Methyl-1H-benzotriazole) |
| Marine pollutant     | yes                                                                                          |

### 14.2 IDMG

|                      |                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------|
| UN NUMBER:           | 3077                                                                                         |
| CLASS                | 9                                                                                            |
| PACKING GROUP        | III                                                                                          |
| PROPER SHIPPING NAME | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzotriazole, Methyl-1H-benzotriazole) |
| Marine pollutant     | yes                                                                                          |

### 14.3 IATA

|                      |                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------|
| UN NUMBER:           | 3077                                                                                         |
| CLASS                | 9                                                                                            |
| PACKING GROUP        | III                                                                                          |
| PROPER SHIPPING NAME | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzotriazole, Methyl-1H-benzotriazole) |
| Marine pollutant     | yes                                                                                          |

### 14.4 Environmental hazards

hazardous to the aquatic environment

Environmentally hazardous substance (aquatic environment)

### 14.5 Special precautions for user

There is no additional information.

### 14.6 Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. Packages smaller than or equal to 5 kg / L, not dangerous goods of Class 9

### 14.1 Transport in bulk according to IMO instruments

No data available.

**Additional information for each of the UN Model Regulations****Transport of dangerous goods by road or rail (49 CFR US DOT) - additional information**

|                                          |                                                                                                                |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Particulars in the shipper's declaration | UN 3077, Environmentally hazardous substance, liquid, n.o.s., (Benzotriazole, Methyl-1H-benzotriazole), 9, III |
| Danger label(s)                          | 9, fish and tree                                                                                               |



|                         |                                            |
|-------------------------|--------------------------------------------|
| Environmental hazards   | yes (hazardous to the aquatic environment) |
| Special provisions (SP) | 8, 146, 173, 335, 441, IB3, T4, TP1, TP29  |
| ERG No                  | 171                                        |

**International Maritime Dangerous Goods Code (IMDG) - additional information**

|                  |                                                                  |
|------------------|------------------------------------------------------------------|
| Marine pollutant | yes (hazardous to the aquatic environment) (1,2,3-Benzotriazole) |
| Danger label(s)  | 9, fish and tree                                                 |



|                          |               |
|--------------------------|---------------|
| Special provisions (SP)  | 274, 335, 969 |
| Excepted quantities (EQ) | E1            |
| Limited quantities (LQ)  | 5 L           |
| EmS                      | F-A, S-F      |
| Stowage category         | A             |

**International Civil Aviation Organization (ICAO-IATA/DGR) - additional information**

|                       |                                            |
|-----------------------|--------------------------------------------|
| Environmental hazards | yes (hazardous to the aquatic environment) |
| Danger label(s)       | 9, fish and tree                           |



|                          |                       |
|--------------------------|-----------------------|
| Special provisions (SP)  | A97, A158, A197, A215 |
| Excepted quantities (EQ) | E1                    |
| Limited quantities (LQ)  | 30 kg                 |

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations specific for the product in question****National regulations (United States)**

**Toxic Substance Control Act (TSCA)** all ingredients are listed (ACTIVE) or exempt from listing

**Superfund Amendment and Reauthorization Act (SARA TITLE III )**

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

None of the ingredients are listed.

- Specific Toxic Chemical Listings (EPCRA Section 313)

None of the ingredients are listed.

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

None of the ingredients are listed.

**Clean Air Act**

None of the ingredients are listed.

**Right to Know Hazardous Substance List**

- Cleaning Product Right to Know Act Substance List (CA-RTK)

| Name acc. to inventory | CAS No | Functionality | Authoritative Lists |
|------------------------|--------|---------------|---------------------|
| Glycol ethers          |        |               | CA TACs             |

- Toxic or Hazardous Substance List (MA-TURA)

| Name acc. to inventory | CAS No | DEP CODE | PBT / HHS / LHS | PBT / HHS Threshold | De Minimis Concentration Threshold |
|------------------------|--------|----------|-----------------|---------------------|------------------------------------|
| Glycol Ethers          |        | 1022     |                 |                     | 1.0 %                              |

- Hazardous Substances List (MN-ERTK)

| Name acc. to inventory | CAS No   | References | Remarks |
|------------------------|----------|------------|---------|
| Diethylene glycol      | 111-46-6 | I          |         |

Legend

I American Industrial Hygiene Association (AIHA), "Workplace Environmental Exposure Level Guides" (1992), available from AIHA

- Hazardous Substance List (NJ-RTK)

| Name acc. to inventory | CAS No | Remarks | Classifications |
|------------------------|--------|---------|-----------------|
| glycol, ethers         |        |         |                 |

- Hazardous Substance List (Chapter 323) (PA-RTK)

| Name acc. to inventory | CAS No   | Classification |
|------------------------|----------|----------------|
| ETHANOL, 2,2'-OXYBIS-  | 111-46-6 |                |
| GLYCOL ETHERS          |          | E              |

Legend

E Environmental hazard

- Hazardous Substance List (RI-RTK)

| Name acc. to inventory | CAS No   | References |
|------------------------|----------|------------|
| Diethylene glycol      | 111-46-6 | F          |

Legend

F Flammability (NFPA®)

**California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987**

None of the ingredients are listed.

**Industry or sector specific available guidance(s)****NPCA-HMIS® III**

Hazardous Materials Identification System. American Coatings Association.

| Category            | Rating | Description                                                                                                                                                |
|---------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chronic             | *      | chronic (long-term) health effects may result from repeated overexposure                                                                                   |
| Health              | 2      | temporary or minor injury may occur                                                                                                                        |
| Flammability        | 1      | material that must be preheated before ignition can occur                                                                                                  |
| Physical hazard     | 0      | material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive |
| Personal protection | -      |                                                                                                                                                            |

**NFPA® 704**

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category       | Degree of hazard | Description                                                                 |
|----------------|------------------|-----------------------------------------------------------------------------|
| Flammability   | 1                | material that must be preheated before ignition can occur                   |
| Health         | 1                | material that, under emergency conditions, can cause significant irritation |
| Instability    | 0                | material that is normally stable, even under fire conditions                |
| Special hazard |                  |                                                                             |

**National regulations (Canada)**

Domestic Substances List (DSL)

**All ingredients are listed.**

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

**SECTION 16: Other information, including date of preparation or last revision****Abbreviations and acronyms**

| Abbr.         | Descriptions of used abbreviations                                                                                                                                               |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 49 CFR US DOT | 49 CFR U.S. Department of Transportation                                                                                                                                         |
| Acute Tox.    | Acute toxicity                                                                                                                                                                   |
| ATE           | Acute Toxicity Estimate                                                                                                                                                          |
| CAS           | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)                                                                           |
| DEP CODE      | Department of Environmental Protection Code                                                                                                                                      |
| DGR           | Dangerous Goods Regulations (see IATA/DGR)                                                                                                                                       |
| DMEL          | Derived Minimal Effect Level                                                                                                                                                     |
| DNEL          | Derived No-Effect Level                                                                                                                                                          |
| DOT           | Department of Transportation (USA)                                                                                                                                               |
| EC50          | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| ED            | Endocrine disruptor                                                                                                                                                              |

| Abbr.          | Descriptions of used abbreviations                                                                                                                                     |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EmS            | Emergency Schedule                                                                                                                                                     |
| ErC50          | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| ERG No         | Emergency Response Guidebook - Number                                                                                                                                  |
| Eye Dam.       | Seriously damaging to the eye                                                                                                                                          |
| Eye Irrit.     | Irritant to the eye                                                                                                                                                    |
| GHS            | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations                                                              |
| HHS            | Higher hazard substance                                                                                                                                                |
| IATA           | International Air Transport Association                                                                                                                                |
| IATA/DGR       | Dangerous Goods Regulations (DGR) for the air transport (IATA)                                                                                                         |
| ICAO           | International Civil Aviation Organization                                                                                                                              |
| ICAO-TI        | Technical instructions for the safe transport of dangerous goods by air                                                                                                |
| IMDG           | International Maritime Dangerous Goods Code                                                                                                                            |
| IMDG-Code      | International Maritime Dangerous Goods Code                                                                                                                            |
| LC50           | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval                      |
| LD50           | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval                                       |
| LEL            | Lower explosion limit (LEL)                                                                                                                                            |
| LHS            | Lower hazard substance                                                                                                                                                 |
| LOEC           | Lowest Observed Effect Concentration                                                                                                                                   |
| NFPA®          | National Fire Protection Association (United States)                                                                                                                   |
| NOEC           | No Observed Effect Concentration                                                                                                                                       |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition                                                          |
| OSHA           | Occupational Safety and Health Administration (United States)                                                                                                          |
| PBT            | Persistent, Bioaccumulative and Toxic                                                                                                                                  |
| PNEC           | Predicted No-Effect Concentration                                                                                                                                      |
| Repr.          | Reproductive toxicity                                                                                                                                                  |
| RTECS          | Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)                                                                    |
| UEL            | Upper explosion limit (UEL)                                                                                                                                            |
| vPvB           | Very Persistent and very Bioaccumulative                                                                                                                               |

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for air transport (IATA).

### Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text                                                 |
|------|------------------------------------------------------|
| H302 | Harmful if swallowed.                                |
| H319 | Causes serious eye irritation.                       |
| H361 | Suspected of damaging fertility or the unborn child. |

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Prior Revision Date: None

Revision Note: No information available

Disclaimer

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\*\*\*\* End of Safety Data Sheet \*\*\*\*