



Page 1 of 19
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revision date / version: 13.08.2018 / 0007
Replacing version dated / version: 03.07.2015 / 0006
Valid from: 13.08.2018
PDF print date: 13.08.2018
ANTI FROST 500 ML
Art.: 9002944

**Safety data sheet
according to Regulation (EC) No 1907/2006, Annex II**

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

1.1 Product identifier

ANTI FROST 500 ML
Art.: 9002944

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

Anti-freeze
Sector of use [SU]:
SU 0 - Other
SU 1 - Agriculture, forestry, fishery
SU19 - Building and construction work
SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category [PC]:
PC 4 - Anti-Freeze and de-icing products
Process category [PROC]:
PROC11 - Non industrial spraying
Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet



BTI Befestigungstechnik GmbH & Co. KG, Salzstr. 51, 74653 Ingelfingen, Germany
Phone:+49 7940 141 256, Fax:+49 7940 141 9256
Stefan.Haug@bti.de, www.bti.de

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:

+49 (0) 700 / 24 112 112 (BRC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Flam. Liq.	2	H225-Highly flammable liquid and vapour.
Eye Irrit.	2	H319-Causes serious eye irritation.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)



Danger

H225-Highly flammable liquid and vapour. H319-Causes serious eye irritation.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.

P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233-

Keep container tightly closed. P280-Wear eye protection.

P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313-If eye irritation persists: Get medical advice / attention.

P501-Dispose of contents / container safely.

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3: Composition/information on ingredients

Mixture of:

Water

Alcohol

Glycol

Aromatics

Dyes

3.1 Substance

n.a.

3.2 Mixture

Ethanol	Substance with specific conc. limit(s) acc. to REACH-registration
Registration number (REACH)	01-2119457610-43-XXXX
Index	603-002-00-5
EINECS, ELINCS, NLP	200-578-6
CAS	64-17-5
content %	80-90



Page 3 of 19
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revision date / version: 13.08.2018 / 0007
Replacing version dated / version: 03.07.2015 / 0006
Valid from: 13.08.2018
PDF print date: 13.08.2018
ANTI FROST 500 ML
Art.: 9002944

Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 2, H225 Eye Irrit. 2, H319
--	--

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

Inhalation

Supply person with fresh air and consult doctor according to symptoms.

Skin contact

Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

Protective hand cream recommended.

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Rinse the mouth thoroughly with water.

Give copious water to drink - consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

Irritation of the eyes

Product removes fat.

Headaches

Dizziness

Narcotic effect.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

n.c.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

CO₂

Extinction powder

Water jet spray

Large fire:

Water jet spray / alcohol resistant foam

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:



Page 4 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

Oxides of carbon

Toxic gases

Pressure increase will result in danger of bursting.

Explosive vapour/air or gas/air mixtures.

Dangerous vapours heavier than air.

In case of spreading near the ground, flashback to distance sources of ignition is possible.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

Chemical protection suit

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure sufficient supply of air.

Remove possible causes of ignition - do not smoke.

Avoid inhalation, and contact with eyes or skin.

If applicable, caution - risk of slipping.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent surface and ground-water infiltration, as well as ground penetration.

Prevent from entering drainage system.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent) and dispose of according to Section 13.

Flush residue using copious water.

Possible build up of explosive/highly flammable vapour/air mixture.

Ensure sufficient ventilation.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.

If applicable, suction measures at the workstation or on the processing machine necessary.

Keep away from sources of ignition - Do not smoke.

Take explosion-prevention measures.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Ⓢ

Page 5 of 19
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 13.08.2018 / 0007
 Replacing version dated / version: 03.07.2015 / 0006
 Valid from: 13.08.2018
 PDF print date: 13.08.2018
 ANTI FROST 500 ML
 Art.: 9002944

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

- Keep out of access to unauthorised individuals.
 - Observe special storage conditions.
 - Not to be stored in gangways or stair wells.
 - Store product closed and only in original packing.
 - Do not store with oxidizing agents.
 - Solvent resistant floor
 - Do not store with flammable or self-igniting materials.
 - Store cool.
 - Protect from direct sunlight and warming.
 - Store in a well ventilated place.
- 7.3 Specific end use(s)**
 No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ⓢ	Chemical Name	Ethanol	Content %:80-90
	WEL-TWA: 1000 ppm (1920 mg/m3)	WEL-STEL: ---	---
	Monitoring procedures:	- Compur - KITA-104 SA (549 210) - Draeger - Alcohol 25/a Ethanol (81 01 631) DFG (D) (Loesungsmittelgemische), Methode Nr. 6 DFG (E) (Solvent mixtures) - 1998, 2002 - EU project - BC/CEN/ENTR/000/2002-16 card 63-2 (2004)	
	BMGV: ---	Other information: ---	
Ⓢ	Chemical Name	Propane-1,2-diol	Content %:
	WEL-TWA: 150 ppm (474 mg/m3) (total, vapour and particulates), 10 mg/m3 (particulates)	WEL-STEL: ---	---
	Monitoring procedures:	- Draeger - Alcohol 100/a (CH 29 701)	
	BMGV: ---	Other information: ---	

Ⓢ WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). (8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). (8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
 ** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

8.2 Exposure controls

Ethanol



Page 6 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,96	mg/l	
	Environment - marine		PNEC	0,79	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	2,75	mg/l	
	Environment - sewage treatment plant		PNEC	580	mg/l	
	Environment - sediment, freshwater		PNEC	3,6	mg/kg	
	Environment - soil		PNEC	0,63	mg/kg dry weight	
	Environment - oral (animal feed)		PNEC	0,72	mg/kg feed	
	Environment - sediment, marine		PNEC	2,9	mg/kg dry weight	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	950	mg/m ³	
Consumer	Human - dermal	Short term, local effects	DNEL	950	mg/m ³	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	114	mg/m ³	
Consumer	Human - oral	Long term, systemic effects	DNEL	87	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	206	mg/kg bw/d	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	1900	mg/m ³	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	950	mg/m ³	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	343	mg/kg bw/d	

Propane-1,2-diol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	260	mg/l	
	Environment - marine		PNEC	26	mg/l	
	Environment - sewage treatment plant		PNEC	2000	mg/l	



Page 7 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

	Environment - sediment, freshwater		PNEC	572	mg/kg	
	Environment - sediment, marine		PNEC	57,2	mg/kg	
	Environment - soil		PNEC	50	mg/kg	
	Environment - water, sporadic (intermittent) release		PNEC	183	mg/l	
Consumer	Human - dermal	Long term, systemic effects	DNEL	213	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	50	mg/m ³	
Consumer	Human - oral	Long term, systemic effects	DNEL	85	mg/kg	
Consumer	Human - inhalation	Long term, local effects	DNEL	10	mg/m ³	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	168	mg/m ³	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	10	mg/m ³	

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. BS EN 14042.

BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

With danger of contact with eyes.

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Rubber gloves (EN 374).

Protective Neoprene® / polychloroprene gloves (EN 374).

Protective nitrile gloves (EN 374)

Minimum layer thickness in mm:

0,4

Permeation time (penetration time) in minutes:

> 480



Page 8 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Protective hand cream recommended.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:

Normally not necessary.

If OES or MEL is exceeded.

Gas mask filter A (EN 14387), code colour brown

If applicable

Protective respirator with independent air supply.

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Blue
Odour:	Alcoholic, Slightly perfumed
Odour threshold:	Not determined
pH-value:	n.a.
Melting point/freezing point:	-114 °C
Initial boiling point and boiling range:	78 °C
Flash point:	15 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	3,5 Vol-%
Upper explosive limit:	15 Vol-%



Page 9 of 19
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 13.08.2018 / 0007
 Replacing version dated / version: 03.07.2015 / 0006
 Valid from: 13.08.2018
 PDF print date: 13.08.2018
 ANTI FROST 500 ML
 Art.: 9002944

Vapour pressure:	57 mbar (20°C)
Vapour density (air = 1):	Not determined
Density:	0,83 g/ml (20°C)
Bulk density:	Not determined
Solubility(ies):	Not determined
Water solubility:	Mixable
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	371 °C (Ignition temperature)
Auto-ignition temperature:	No
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Possible build up of explosive/highly flammable vapour/air mixture. Product is not explosive.
Oxidising properties:	Not determined
9.2 Other information	
Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

Heating, open flame, ignition sources

10.5 Incompatible materials

Avoid contact with strong oxidizing agents.

Avoid contact with strong alkalis.

Avoid contact with strong acids.

10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

ANTI FROST 500 ML						
Art.: 9002944						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.

®

Page 10 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.
Other information:						According to current knowledge that mixture does not endanger man under normal conditions of application., Classification according to calculation procedure.

Ethanol						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	10470	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	124,7	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant



Page 11 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test)	Negative
Carcinogenicity:	NOAEL	>3000	mg/kg	Rat	OECD 451 (Carcinogenicity Studies)	24 mon
Reproductive toxicity:	NOAEL	5200	mg/kg bw/d	Rat		
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAL	>20	mg/l	Rat	OECD 403 (Acute Inhalation Toxicity)	Male
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	1730	mg/kg/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Female
Aspiration hazard:				Human being		No indications of such an effect.

®

Page 12 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

Symptoms:						respiratory distress, drowsiness, unconsciousness, drop in blood pressure, vomiting, coughing, headaches, intoxication, drowsiness, mucous membrane irritation, dizziness, nausea
Experiences in humans:						Excessive alcohol consumption during pregnancy induces the foetus alcohol syndrome (reduced weight at birth, physical and mental disorders)., There is no sign that this syndrome is also caused by dermal or inhalative absorption.

Propane-1,2-diol						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>20000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	>20	mg/l/4h	Rabbit		Vapours
Skin corrosion/irritation:						Not irritant

®

Page 13 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

Respiratory or skin sensitisation:							Not sensitising
Germ cell mutagenicity:						in vitro	Negative

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

ANTI FROST 500 ML Art.: 9002944							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							Biodegradable
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Other adverse effects:							n.d.a.
Other information:							According to the recipe, contains no AOX.

Ethanol							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.3. Bioaccumulative potential:	Log Pow		-0,32				Bioaccumulation is unlikely (LogPow < 1).
12.1. Toxicity to fish:	LC50	96h	13000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	LC50	48h	12340	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	NOEC/NOEL		9,6	mg/l	Ceriodaphnia spec.		



Page 14 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

12.2. Persistence and degradability:			97	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.1. Toxicity to algae:	EC50	72h	275	mg/l	Chlorella vulgaris	OECD 201 (Alga, Growth Inhibition Test)	
12.3. Bioaccumulative potential:	BCF		0,66 - 3,2				
Other organisms:	NOEC/NOEL		280	mg/l	Lemna gibba	OECD 201 (Alga, Growth Inhibition Test)	
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.4. Mobility in soil:	H (Henry)		0,000 138				
Toxicity to bacteria:			440	mg/l			
Other information:	COD		1,9	g/g			
Other information:	BOD5		1	g/g			

Propane-1,2-diol							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	40613	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	LC50	48h	18340	mg/l	Ceriodaphnia spec.	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	7d	13020	mg/l	Ceriodaphnia spec.		
12.1. Toxicity to algae:	EC50	48h	19000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	



Page 15 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

12.2. Persistence and degradability:		28d	81,7	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	BCF		0,09				valued
Toxicity to bacteria:	NOEC/NOEL	18h	>2000	mg/l	Pseudomonas putida		
Other information:	COD		1585	mg/g			

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

07 01 04 other organic solvents, washing liquids and mother liquors

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

SECTION 14: Transport information

General statements

14.1. UN number: 1170

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

UN 1170 ETHANOL SOLUTION

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Classification code: F1

LQ: 1 L

14.5. Environmental hazards: Not applicable

Tunnel restriction code: D/E

Transport by sea (IMDG-code)

14.2. UN proper shipping name:

ETHANOL SOLUTION





Page 16 of 19
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 13.08.2018 / 0007
 Replacing version dated / version: 03.07.2015 / 0006
 Valid from: 13.08.2018
 PDF print date: 13.08.2018
 ANTI FROST 500 ML
 Art.: 9002944

14.3. Transport hazard class(es): 3
 14.4. Packing group: II
 EmS: F-E, S-D
 Marine Pollutant: n.a
 14.5. Environmental hazards: Not applicable

Transport by air (IATA)

14.2. UN proper shipping name:
 Ethanol solution

14.3. Transport hazard class(es): 3
 14.4. Packing group: II
 14.5. Environmental hazards: Not applicable



14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.
 All persons involved in transporting must observe safety regulations.
 Precautions must be taken to prevent damage.

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

Freighted as packaged goods rather than in bulk, therefore not applicable.
 Minimum amount regulations have not been taken into account.
 Danger code and packing code on request.
 Comply with special provisions.

SECTION 15: Regulatory information

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

Observe restrictions:

Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!
 Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
P5c		5000	50000

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

REGULATION (EC) No 648/2004

n.a.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information



Page 17 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

Revised sections: 8
Employee training in handling dangerous goods is required.
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Flam. Liq. 2, H225	Classification based on test data.
Eye Irrit. 2, H319	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

Flam. Liq. — Flammable liquid

Eye Irrit. — Eye irritation

Any abbreviations and acronyms used in this document:

AC Article Categories

acc., acc. to according, according to

ACGIH American Conference of Governmental Industrial Hygienists

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL Acceptable Operator Exposure Level

AOX Adsorbable organic halogen compounds

approx. approximately

Art., Art. no. Article number

ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)

BHT Butylhydroxytoluol (= 2,6-Di-*t*-butyl-4-methyl-phenol)

BMGV Biological monitoring guidance value (EH40, UK)

BOD Biochemical oxygen demand

BSEF Bromine Science and Environmental Forum

bw body weight

CAS Chemical Abstracts Service

CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids

CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques

CIPAC Collaborative International Pesticides Analytical Council



Page 18 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

COD Chemical oxygen demand

CTFA Cosmetic, Toiletry, and Fragrance Association

DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level

DOC Dissolved organic carbon

DT50 Dwell Time - 50% reduction of start concentration

DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)

dw dry weight

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EC European Community

ECHA European Chemicals Agency

EEA European Economic Area

EEC European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America)

ERC Environmental Release Categories

ES Exposure scenario

etc. et cetera

EU European Union

EWC European Waste Catalogue

Fax. Fax number

gen. general

GHS Globally Harmonized System of Classification and Labelling of Chemicals

GWP Global warming potential

HET-CAM Hen's Egg Test - Chorionallantoic Membrane

HGWPHalocarbon Global Warming Potential

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IBC Intermediate Bulk Container

IBC (Code) International Bulk Chemical (Code)

IC Inhibitory concentration

IMDG-code International Maritime Code for Dangerous Goods

incl. including, inclusive

IUCLID International Uniform Chemical Information Database

LC lethal concentration

LC50 lethal concentration 50 percent kill

LCLo lowest published lethal concentration

LD Lethal Dose of a chemical

LD50 Lethal Dose, 50% kill

LDLo Lethal Dose Low

LOAEL Lowest Observed Adverse Effect Level

LOEC Lowest Observed Effect Concentration

LOEL Lowest Observed Effect Level

LQ Limited Quantities

MARPOL International Convention for the Prevention of Marine Pollution from Ships



Page 19 of 19

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 13.08.2018 / 0007

Replacing version dated / version: 03.07.2015 / 0006

Valid from: 13.08.2018

PDF print date: 13.08.2018

ANTI FROST 500 ML

Art.: 9002944

n.a. not applicable

n.av. not available

n.c. not checked

n.d.a. no data available

NIOSH National Institute of Occupational Safety and Health (United States of America)

NOAEC No Observed Adverse Effective Concentration

NOAEL No Observed Adverse Effect Level

NOEC No Observed Effect Concentration

NOEL No Observed Effect Level

ODP Ozone Depletion Potential

OECD Organisation for Economic Co-operation and Development

org. organic

PAH polycyclic aromatic hydrocarbon

PBT persistent, bioaccumulative and toxic

PC Chemical product category

PE Polyethylene

PNEC Predicted No Effect Concentration

POCP Photochemical ozone creation potential

ppm parts per million

PROC Process category

PTFE Polytetrafluorethylene

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SADT Self-Accelerating Decomposition Temperature

SAR Structure Activity Relationship

SU Sector of use

SVHC Substances of Very High Concern

Tel. Telephone

ThOD Theoretical oxygen demand

TOC Total organic carbon

TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)

UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))

VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).

WHO World Health Organization

wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.