



Eni Antifreeze Ready

Safety Data Sheet

According to Regulation (EU) No. 830/2015

Revision date: 14/02/2020 Supersedes: 08/06/2017 Version: 4.0

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

1.1. Product identifier

Product form : Mixture
Trade name : Eni Antifreeze Ready
Product code : 1611
Type of product : Automotive Care Products
Formula : 1402-2020
Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use, Consumer use
Industrial/Professional use spec : Wide dispersive use
Used in closed systems
Use of the substance/mixture : Antifreeze fluids

Do not use the product for any purposes that have not been advised by the manufacturer.
Function or use category : Anti-freezing agents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ENI S.p.A.
P.le E. Mattei 1 - 00144 Rome Italy
Phone: (+39) 06 59821
www.eni.com

Contact:
Refining & Marketing

Competent person responsible for the Safety Data Sheet (Reg. EC nr. 1907/2006): SDSInfo@eni.com

1.4. Emergency telephone number

Emergency number : CNIT +39 0382 24444 (24h) (IT + EN)

Poison centre (UK):
National Poisons Information Service Edinburgh (24h)
(+44) 844 892 0111
0870 600 6266 (UK only)
(Source: UN-WHO)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]

Acute toxicity (oral), Category 4 H302
Specific target organ toxicity — Repeated exposure, Category 2 H373
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Harmful if swallowed. May cause damage to organs (kidneys) through prolonged or repeated exposure (Oral). For specific information about the toxicological/ecotoxicological properties and classification of this product, see Sect. 11 and/or Sect. 12.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS08

CLP Signal word :

Warning

Hazardous ingredients and/or with relevant occupational exposure limits :

Ethandiol

Hazard statements (CLP) :

H302 - Harmful if swallowed.
H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (Oral).

Precautionary statements (CLP) :

P102 - Keep out of reach of children.
P260 - Do not breathe mist, spray, Vapours.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P301+P312 - IF SWALLOWED: Call a POISON CENTER, a doctor if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P330 - Rinse mouth.
P501 - Dispose of contents/container to according to national or local regulations.

2.3. Other hazards (not relevant for classification)

Other hazards not contributing to the classification :

Any substance, in case of accidents involving pressurized circuits and the like, may be accidentally injected under the skin, even without external damage. In such a case, the victim should be brought to a hospital as soon as possible, to get specialized medical treatment. Do not wait for symptoms to develop.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Notes : Composition/ Information on ingredients:
Ethylene glycol.
Additives
Water

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Ethandiol	(CAS-No.) 107-21-1 (EC-No.) 203-473-3 (EC Index-No.) 603-027-00-1 (REACH-no) 01-2119456816-28	30 - 60	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
2-ethylhexanoic acid (Additive)	(CAS-No.) 149-57-5 (EC-No.) 205-743-6 (EC Index-No.) 607-230-00-6 (REACH-no) 01-2119488942-23	< 1	Repr. 2, H361d
disodium tetraborate pentahydrate; borax pentahydrate (Additive) Substance included in REACH Candidate List (Disodium tetraborate, anhydrous)	(CAS-No.) 12179-04-3 (EC-No.) 215-540-4 (EC Index-No.) 005-011-02-9 (REACH-no) 01-2119490790-32-0002	< 1	Eye Irrit. 2, H319 Repr. 1B, H360FD

Specific concentration limits:

Name	Product identifier	Specific concentration limits
disodium tetraborate pentahydrate; borax pentahydrate (Additive)	(CAS-No.) 12179-04-3 (EC-No.) 215-540-4 (EC Index-No.) 005-011-02-9 (REACH-no) 01-2119490790-32-0002	(C >= 6,5) Repr. 1B, H360FD

Full text of H-statements: see section 16

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: In case of doubt or persistent symptoms, consult always a physician.
First-aid measures after inhalation	: In case of disturbances owing to inhalation of vapours or mists, remove the victim from exposure; keep at rest; if necessary, seek medical attention. If casualty is unconscious and not breathing: ensure that there is no obstruction to breathing and give artificial respiration by trained personnel. Place in the recovery position.
First-aid measures after skin contact	: Take off contaminated clothing and shoes. Wash thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do so. Rinse eyes thoroughly for at least 15 minutes. Keep eyelids well apart. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.
First-aid measures after ingestion	: Rinse mouth thoroughly with water. Do not induce vomiting. Give nothing to drink. In case of spontaneous vomiting, keep head low, to avoid the risk of aspiration into the lungs. Get medical advice/attention.

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

Symptoms/effects after inhalation	: None under normal conditions at ambient temperatures.
Symptoms/effects after skin contact	: None under normal conditions at ambient temperatures.
Symptoms/effects after eye contact	: Contact with eyes may cause a light transient irritation.
Symptoms/effects after ingestion	: Ingestion of significant quantities (see sect. 11) may cause kidney damages, coma and death. The effects may be delayed.
Symptoms/effects upon intravenous administration	: No information available.
Chronic symptoms	: May cause damage to kidneys through prolonged or repeated exposure if swallowed.

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

Treat symptomatically. Obtain medical attention if casualty has an altered state of consciousness or if symptoms do not resolve.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Small-size fires: carbon dioxide, dry chemicals, foam. Large fires: foam or water fog (mist). These means should be used by trained personnel only.
Unsuitable extinguishing media	: None specific.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not flammable. Product with a very low risk of fire. It can create flammable mixtures or burn only when the water content has evaporated.
Explosion hazard	: Heat may build pressure in tank and containers, rupturing closed vessels, spreading fire and increasing risk of burns and injuries.
Hazardous decomposition products in case of fire	: Incomplete combustion will generate poisonous carbon monoxide, carbon dioxide and other toxic gases. Oxygenated compounds (aldehydes, etc.). BOx.

5.3. Advice for firefighters

Firefighting instructions	: Shut off source of product, if possible. Move undamaged containers from immediate hazard area if it can be done safely. Spilled product which is not burning should be covered with sand or foam. Use water sprays to cool containers and surfaces exposed to the flames. If the fire cannot be controlled, evacuate area.
Special protective equipment for firefighters	: Personal protection equipment for firefighters (see also sect. 8). Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. EN 443. EN 469. EN 659.
Other information	: In case of fire, do not discharge residual product, waste materials and runoff water: collect separately and use a proper treatment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Stop or contain leak at the source, if safe to do so. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares). Avoid direct contact with released material.
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6.1.1. For non-emergency personnel

Protective equipment	: See Section 8.
Emergency procedures	: Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency.

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6.1.2. For emergency responders

- Protective equipment : Small spillages: normal antistatic working clothes are usually adequate. Large spillages: full body suit of chemically resistant and antistatic material. If necessary heat resistant and insulated. Work gloves (preferably gauntlets) providing adequate chemical resistance. Gloves made of PVA are not water-resistant, and are not suitable for emergency use. If contact with hot product is possible or anticipated, gloves should be heat-resistant and thermally insulated. Work helmet. Antistatic non-skid safety shoes or boots. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory protection: A half or full-face respirator with combined dust/organic vapour filter(s), or a Self-Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.
- Emergency procedures : Notify local authorities according to relevant regulations.

6.2. Environmental precautions

Prevent product from entering sewers, rivers or other bodies of water. In case of contamination of environment compartments (soil, subsoil, surface or underground waters), remove contaminated soil when possible, and in any case treat all involved compartments in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

- For containment : Contain spilled liquid with sand, earth or other suitable absorbents. Recover free liquid in suitable containers. Clean contaminated area. Dispose of according to local regulations. If in water: This product is soluble in water, and usually no special measures are feasible. If possible, collect spilled product with mechanical means. Notify official Authorities when required. Dispose of in accordance with relevant local regulations. Do not use solvents or dispersants, unless specifically advised by an expert, and, if required, approved by local authorities.
- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. This material and its container must be disposed of in a safe way, and according to local legislation.
- Other information : Local regulations may also prescribe or limit actions to be taken. Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. For this reason, local experts should be consulted when necessary.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour. Store the product in cool, well ventilated surroundings. Before entering storage tanks and commencing any operation in a confined area (e.g. tunnels), carry out an adequate clean-up, and check the atmosphere for oxygen content and flammability. Flammable vapours may accumulate in the container. Keep away from heat/sparks/open flames/hot surfaces.
- Hygiene measures : Ensure that proper housekeeping measures are in place. Avoid contact with skin. Do not breathe fume/ mist/ vapours. Do not ingest. Do not smoke. Do not eat and do not drink during use. Do not clean hands with dirty or oil-soaked rags. Do not re-use clothes, if they are still contaminated. Keep away from food and beverages. Take off immediately all contaminated clothing and wash it before reuse. Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in dry, well ventilated area. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. If the product is supplied in containers: Keep only in the original container or in a suitable container for this kind of product. Keep containers tightly closed and properly labelled.
- Incompatible products : Keep away from: strong acids and strong oxidants. Alkali metals.
- Incompatible materials : None in normal conditions.
- Storage area : Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Storage installations should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations.
- Packaging materials : Keep only in the original container. Do not cut, weld, bore, burn or incinerate emptied containers, unless they have been cleaned and declared safe.

7.3. Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethandiol (107-21-1)		
EU	IOELV TWA (mg/m ³)	52 mg/m ³ Vapours
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m ³)	104 mg/m ³ Vapours
EU	IOELV STEL (ppm)	40 ppm
Austria	MAK (mg/m ³)	26 mg/m ³ Vapours
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m ³)	52 mg/m ³ Vapours
Austria	MAK Short time value (ppm)	20 ppm
Belgium	Limit value (mg/m ³)	52 mg/m ³ (Inhalable aerosol)
Belgium	Short time value (mg/m ³)	104 mg/m ³ (Inhalable aerosol)
Denmark	Grænseværdi (langvarig) (mg/m ³)	26 mg/m ³ (Inhalable aerosol)
Denmark	Grænseværdi (langvarig) (ppm)	10 ppm
Denmark	Grænseværdi (kortvarig) (mg/m ³)	52 mg/m ³ (Inhalable aerosol)
Denmark	Grænseværdi (kortvarig) (ppm)	20 ppm
France	VME (mg/m ³)	52 mg/m ³ Vapours
France	VME (ppm)	20 ppm
France	VLE (mg/m ³)	104 mg/m ³ Vapours
France	VLE (ppm)	40 ppm
Germany	Occupational exposure limit value (mg/m ³)	26 mg/m ³ (Inhalable aerosol) (15 min)
Germany	Occupational exposure limit value (ppm)	10 ppm
Germany	Limitation of exposure peaks (mg/m ³)	52 mg/m ³ (Inhalable aerosol) (15 min)
Germany	Limitation of exposure peaks (ppm)	20 ppm
Ireland	OEL (8 hours ref) (mg/m ³)	52 mg/m ³ Vapours
Ireland	OEL (8 hours ref) (ppm)	20 ppm
Ireland	OEL (15 min ref) (mg/m ³)	104 mg/m ³ Vapours
Ireland	OEL (15 min ref) (ppm)	40 ppm
Italy	OEL TWA (mg/m ³)	52 mg/m ³ Skin
Italy	OEL TWA (ppm)	20 ppm Skin
Italy	OEL STEL (mg/m ³)	104 mg/m ³ Skin
Italy	OEL STEL (ppm)	40 ppm Skin
Netherlands	MAC TGG 8h (mg/m ³)	52 mg/m ³ Vapours
Netherlands	MAC TGG 15 min (mg/m ³)	104 mg/m ³ Vapours
Poland	NDS (mg/m ³)	15 mg/m ³ (Inhalable aerosol)
Spain	VLA-ED (mg/m ³)	52 mg/m ³ (Inhalable aerosol)
Spain	VLA-EC (mg/m ³)	104 mg/m ³ (Inhalable aerosol)
Spain	Notes	skin
Sweden	Nivågränsvärde (NVG) (mg/m ³)	25 mg/m ³ Vapours
Sweden	Nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	Kortidsvärde (KTV) (mg/m ³)	50 mg/m ³ Vapours
Sweden	Kortidsvärde (KTV) (ppm)	20 ppm
United Kingdom	WEL TWA (mg/m ³)	52 mg/m ³ (Inhalable aerosol)
United Kingdom	WEL TWA (ppm)	20 ppm
United Kingdom	WEL STEL (mg/m ³)	104 mg/m ³ (Inhalable aerosol)
United Kingdom	WEL STEL (ppm)	40 ppm
Switzerland	MAK (mg/m ³)	26 mg/m ³ (Inhalable aerosol)
Switzerland	MAK (ppm)	10 ppm (Inhalable aerosol)
Switzerland	VLE (mg/m ³)	52 mg/m ³ (Inhalable aerosol)
Switzerland	VLE (ppm)	20 ppm (Inhalable aerosol)
USA - ACGIH	ACGIH TLV®-STEL Ceiling (mg/m ³)	100 mg/m ³
2-ethylhexanoic acid (149-57-5)		
Belgium	Limit value (mg/m ³)	5 mg/m ³

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2-ethylhexanoic acid (149-57-5)		
Ireland	OEL (8 hours ref) (mg/m ³)	4 mg/m ³
USA - ACGIH	ACGIH TLV®-TWA (mg/m ³)	5 mg/m ³
disodium tetraborate pentahydrate; borax pentahydrate (12179-04-3)		
Belgium	Limit value (mg/m ³)	2 mg/m ³ (Boric acid and sodium borate)
Belgium	Short time value (mg/m ³)	6 mg/m ³ (Boric acid and sodium borate)
Denmark	Grænseværdi (langvarig) (mg/m ³)	1 mg/m ³
Denmark	Grænseværdi (kortvarig) (mg/m ³)	2 mg/m ³
France	VME (mg/m ³)	1 mg/m ³
Germany	Occupational exposure limit value (mg/m ³)	5 mg/m ³ (Inhalable aerosol)
Germany	Limitation of exposure peaks (mg/m ³)	5 mg/m ³ (Inhalable aerosol)
Ireland	OEL (8 hours ref) (mg/m ³)	1 mg/m ³
Spain	VLA-ED (mg/m ³)	2 mg/m ³ (Boric acid and sodium borate)
Spain	VLA-EC (mg/m ³)	6 mg/m ³ (Boric acid and sodium borate)
United Kingdom	WEL TWA (mg/m ³)	1 mg/m ³
Switzerland	MAK (mg/m ³)	1 mg/m ³ (Inhalable aerosol)
Switzerland	VLE (mg/m ³)	1 mg/m ³ (Inhalable aerosol)
USA - ACGIH	ACGIH TLV®-TWA (mg/m ³)	2 mg/m ³ (Borates, inorganic)
USA - ACGIH	ACGIH TLV®-STEL (mg/m ³)	6 (Borates, inorganic)
USA - NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³

Monitoring methods

Monitoring methods	Monitoring procedures should be chosen according to the indications set by national authorities or labour contracts, Refer to relevant legislation and in any case to the good practice of industrial hygiene.
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DNEL/DMEL (additional information)	
Additional information	Not applicable
PNEC (additional information)	
Additional information	Not applicable

Ethandiol (107-21-1)

DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	106 mg/kg bodyweight/day
Long-term - local effects, inhalation	35 mg/m ³
DNEL/DMEL (General population)	
Acute - local effects, inhalation	7 mg/m ³
Long-term - systemic effects, dermal	53 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	10 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	37 mg/kg dwt
PNEC sediment (marine water)	3,7 mg/kg dwt
PNEC (Soil)	
PNEC soil	1,53 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	199,5 mg/l

2-ethylhexanoic acid (149-57-5)

DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	2 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	14 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3,5 mg/m ³
Long-term - systemic effects, dermal	1 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0,36 mg/l

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2-ethylhexanoic acid (149-57-5)	
PNEC aqua (marine water)	0,036 mg/l
PNEC aqua (intermittent, freshwater)	0,493 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	6,37 mg/kg dwt
PNEC sediment (marine water)	0,637 mg/kg dwt
PNEC (Soil)	
PNEC soil	1,06 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	71,4 mg/l
disodium tetraborate pentahydrate; borax pentahydrate (12179-04-3)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	17 mg/m ³
Long-term - systemic effects, dermal	32432 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	6,7 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	0,79 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3,4 mg/m ³
Long-term - systemic effects, dermal	159,5 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	2,9 mg/l
PNEC aqua (marine water)	2,9 mg/l
PNEC aqua (intermittent, freshwater)	13,7 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1,8 mg/kg dwt
PNEC sediment (marine water)	1,8 mg/kg dwt
PNEC (Soil)	
PNEC soil	5,7 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	79 mg/kg bodyweight
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

Note : The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Minimize exposure to mists/vapours/aerosol. Before commencing any operation in a confined area (e.g. tunnels), check the atmosphere for oxygen content and flammability.

Personal protective equipment (for industrial or professional use):

Gloves. Protective clothing. Safety glasses. Safety shoes or boots.

Hand protection:

Adequate materials: nitrile (NBR) or PVC with a protection index > 5 (permeation time > 240 mins). Use gloves respecting all the conditions and within the limits set by the manufacturer. Replace gloves immediately in case of cuts, holes or other signs of damages or degradation. If necessary, refer to the EN 374 standard. Thickness of glove material: > 0,4 mm. Personal hygiene is a key element for an effective hand care. Gloves must be worn only with clean hands. After wearing gloves, hands must be carefully washed and dried.

Eye protection:

Safety glasses. DIN EN 166. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure

Skin and body protection:

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Long-sleeved overalls. If necessary, refer to the EN 340 and related standards, for definition of characteristics and performance according to the risk rating of the area. Wash contaminated clothing before reuse.

Respiratory protection:

Not necessary with sufficient ventilation. Independently from other possible actions (technical modifications, operating procedures, and other means to limit the exposure of workers), personal protection equipment can be used according to necessity. Open or well ventilated spaces: if the product is handled without adequate containment: use full or half-face masks with adequate filter for mists and organic vapours. (EN 136/140/145). Closed or confined areas (e.g. tank interiors): the use of protection measures for airways (masks or self-contained breathing apparatus), must be assessed according to the specific activity, as well as level and duration of predicted exposure. (EN 136/140/145). Combination filter device (DIN EN 141)

Personal protective equipment symbol(s):



Thermal hazard protection:

None in normal use conditions.

Environmental exposure controls:

Storage areas/installations should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills. Do not discharge the product into the environment. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Consumer exposure controls:

Ensure adequate ventilation. Avoid excessive or improper use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid, bright & clear.
Colour	: Turquoise blue.
Odour	: Glycol.
Odour threshold	: No data available
pH	: 7,5 - 9
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: -38 °C (ASTM D 1177)
Boiling point	: 107 - 110 °C (ASTM D 1120)
Flash point	: > 100 °C (ASTM D 92)
Auto-ignition temperature	: 398 °C (Ethylene glycol)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: < 0,1 mPa (20°C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1,04 - 1,08 kg/l (ASTM D 1122)
Solubility	: Water: Complete.
Log Pow	: Not applicable for mixtures
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 16,1 mPa·s (Ethylene glycol)
Explosive properties	: None.
Oxidising properties	: None.
Explosive limits	: 3 - 53 vol % (Ethylene glycol)

9.2. Other information

Bulk density	: 1,02 - 1,08 (20°C) (ASTM D 4052)
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SECTION 10: Stability and reactivity

10.1. Reactivity

This mixture does not offer any further hazard for reactivity, except what is reported in the following paragraphs.

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10.2. Chemical stability

Stable product, according to its intrinsic properties (in normal conditions of storage and handling).

10.3. Possibility of hazardous reactions

None (in normal conditions of storage and handling).

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidants, strong acids, alkali metals.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : Oxygenated compounds (aldehydes, etc.), Carbon dioxide, Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Oral: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: (according to composition) The toxic (fatal) dose for pure ethylene glycol has been estimated 1.4 ml/kg wt (about 100 ml for an adult person). The effects may be delayed.

Ethandiol (107-21-1)	
LD50 oral rat	7712 mg/kg bodyweight
LD50 dermal	> 3500 mg/kg (mouse)
LC50 inhalation rat (mg/l)	> 2,5 mg/l (6h)

2-ethylhexanoic acid (149-57-5)	
LD50 oral rat	3640 mg/kg bodyweight
LD50 dermal rabbit	> 2000 mg/kg bodyweight

disodium tetraborate pentahydrate; borax pentahydrate (12179-04-3)	
LD50 oral rat	3450 - 4080 mg/kg (anhydrous form)
LD50 dermal rabbit	> 2000 mg/kg (anhydrous form)
LC50 inhalation rat (mg/l)	> 2,04 mg/l/4h (LOAEL)

Skin corrosion/irritation : Slightly irritant but not relevant for classification (Based on available data, the classification criteria are not met)
pH: 7,5 - 9

Additional information : (according to composition)

Serious eye damage/irritation : Slightly irritant but not relevant for classification (Based on available data, the classification criteria are not met)
pH: 7,5 - 9

Additional information : (according to composition)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)

Ethandiol (107-21-1)	
NOAEL (chronic, oral, animal/male, 2 years)	1500 mg/kg bodyweight Mouse

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)
This product contains a substance (disodium tetraborate pentahydrate) classified as Repr. 1B, H360fd (CLP) according to the criteria of EU. Specific concentration limit (SCL): ≥ 6.5 % m/m. May damage fertility. Suspected of damaging the unborn child.
This product contains a substance (2-ethylhexanoic acid, sodium salt) classified as Repr. 2, H361 (CLP) according to the criteria of EU
Suspected of damaging the unborn child.
The actual relevance of these effects in man is not certain.

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STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: (according to composition)
STOT-repeated exposure	: May cause damage to kidneys through prolonged or repeated exposure if swallowed.
Additional information	: (according to composition) The ethylene glycol present in this formulation may cause intoxication, central nervous system depression (incoordination, dizziness), respiratory failure, liver and kidney damage.

Ethandiol (107-21-1)	
NOAEL (oral, rat, 90 days)	150 mg/kg bodyweight/day 12 months.

2-ethylhexanoic acid (149-57-5)	
NOAEL (oral, rat, 90 days)	300 mg/kg bodyweight/day

Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: (according to composition)
Potential adverse human health effects and symptoms	: Harmful if swallowed. May cause damage to kidneys through prolonged or repeated exposure if swallowed.
Other information	: None.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. An uncontrolled release to the environment may nevertheless produce a contamination of different environmental compartments (soil, underground, surface water bodies, aquifers). Handle according to general working hygiene practices to avoid pollution and release into the environment.
Ecology - water	: This product is soluble in water.
Hazardous to the aquatic environment, short-term (acute)	: Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic)	: Not classified (Based on available data, the classification criteria are not met)

ethanediol; ethylene glycol (107-21-1)	
LC50 fish 1	15380 mg/l (LC10 - 96h)
LC50 fish 2	72860 mg/l (Pimephales promelas)
EC50 Daphnia 1	8590 mg/l (EC10 - 48h)
EC50 Daphnia 2	100 mg/l
EC50 96h algae (1)	3536 - 13000 mg/l
ErC50 (algae)	≥ 100 mg/l (EC10)
NOEC (chronic)	15380 - 32000 mg/l

2-ethylhexanoic acid (149-57-5)	
LC50 fish 1	180 mg/l (Oryzias latipes)
EC50 Daphnia 1	85,4 mg/l
EC50 72h algae (1)	49,3 mg/l (Desmodesmus subspicatus)
NOEC (chronic)	25 mg/l (21d)

disodium tetraborate pentahydrate; borax pentahydrate (12179-04-3)	
LC50 fish 1	74 - 79,7 mg/l
LC50 fish 2	79,7 mg/l (Pimephales promelas)
LC50 other aquatic organisms 1	64 - 544 mg/l (96h)
LC50 other aquatic organisms 2	133 mg/l (Daphnia Magna) (48h)
EC50 72h algae (1)	40,2 - 66 mg/l

12.2. Persistence and degradability

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Persistence and degradability	The most significant constituents of the product should be considered as "readily biodegradable".

ethanediol; ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable.
Biochemical oxygen demand (BOD)	0,36 - 0,4 g O ₂ /g substance
Chemical oxygen demand (COD)	1,21 g O ₂ /g substance
ThOD	1,26 g O ₂ /g substance

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2-ethylhexanoic acid (149-57-5)				
Persistence and degradability		Readily biodegradable.		
disodium tetraborate pentahydrate; borax pentahydrate (12179-04-3)				
Persistence and degradability		Inherently biodegradable.		
12.3. Bioaccumulative potential				
Eni Antifreeze Ready				
Log Pow		Not applicable for mixtures		
Bioaccumulative potential		Not established.		
ethanediol; ethylene glycol (107-21-1)				
Log Pow		-1,36		
2-ethylhexanoic acid (149-57-5)				
Log Pow		2,7		
disodium tetraborate pentahydrate; borax pentahydrate (12179-04-3)				
Log Pow		-1,53		
12.4. Mobility in soil				
Eni Antifreeze Ready				
Ecology - soil		No data available.		
12.5. Results of PBT and vPvB assessment				
Eni Antifreeze Ready				
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII				
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII				
Results of PBT-vPvB assessment		The components in this formulation do not meet the criteria for classification as PBT or vPvB. The product should be considered as "Not persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1)		
Component				
disodium tetraborate pentahydrate; borax pentahydrate (12179-04-3)		This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII		
12.6. Other adverse effects				
Other adverse effects		: None.		
SECTION 13: Disposal considerations				
13.1. Waste treatment methods				
Waste treatment methods		: Do not dispose of the product, either new or used, by discharging into sewers, tunnels, lakes or water courses. Deliver to a qualified official collector.		
Sewage disposal recommendations		: Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Dispose of in a safe manner in accordance with local/national regulations.		
Product/Packaging disposal recommendations		: European Waste Catalogue code(s) (Decision 2001/118/CE): 16 01 14* (antifreeze fluids containing dangerous substances). This EWC code is only a general indication, and takes into account the original composition of the product and its intended use. The user has the responsibility of choosing the right EWC code, considering the actual use of the product, alterations and contaminations.		
Additional information		: Do not cut, weld, drill, burn or incinerate empty containers or drums, unless they have been cleaned, and declared safe.		
Ecology - waste materials		: The product as it is does not contain halogenated substances.		
EURAL code (EWC)		: 16 01 14* - antifreeze fluids containing dangerous substances		
SECTION 14: Transport information				
In accordance with ADN / ADR / IATA / IMDG / RID				
ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

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According to Regulation (EU) No. 830/2015

ADR	IMDG	IATA	ADN	RID
			None.	

14.6. Special precautions for user

- Overland transport

Not regulated

- Transport by sea

Not regulated

- Air transport

Not regulated

- Inland waterway transport

Not regulated

- Rail transport

Not regulated

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

IBC code : Not applicable.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	Eni Antifreeze Ready - Ethandiol - 2-ethylhexanoic acid
30. Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.	disodium tetraborate pentahydrate; borax pentahydrate

Contains a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: disodium tetraborate pentahydrate; borax pentahydrate (EC 215-540-4, CAS 12179-04-3)

Contains no REACH Annex XIV substances

Other information, restriction and prohibition regulations : Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). (et sequens). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (et sequens). Directives 89/391/CEE, 89/654/CEE, 89/655/CEE, 89/656/CEE, 90/269/CEE, 90/270/CEE, 90/394/CEE, 90/679/CEE, 93/88/CEE, 95/63/CE, 97/42/CE, 98/24/CE, 99/38/CE, 99/92/CE, 2001/45/CE, 2003/10/CE, 2003/18/CE (Health and safety on the workplace). Directive 2012/18/CE (Control of major-accident hazards involving dangerous substances). Directive 2004/42/CE (Limitation of emissions of Volatile Organic Compounds). Directive 98/24/EC (protection of the health and safety of workers from the risks related to chemical agents at work). Directive 92/85/CE (measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding). Substances Depleting the Ozone layer (1005/2009) - Annex I Substances (ODP). Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC. Regulation EU (649/2012) - Export and Import of hazardous chemicals (PIC).

15.1.2. National regulations

National adoption of EU Directives concerning health and safety on the workplace.

Relevant national laws on protection of the health of pregnant workers (National adoption of Dir. 92/85/EEC).

National adoption of EU Directives concerning control of major-accident hazards involving dangerous substances (2012/18/CE).

Relevant national laws on prevention of water pollution.

Germany

Reference to AwSV : Water hazard class (WGK) (D) 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

WGK remark : Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS)

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VbF class (D)	: Not applicable.
Storage class (LGK) (D)	: LGK 12 - Non-combustible liquids
Employment restrictions	: Employment prohibitions or restrictions on the protection of young people at work according to § 22 JArbSchG in the case of formation of hazardous substances have to be observed.
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)
Other information, restrictions and prohibition regulations	: TRGS 400: Hazard assessment for activities involving Hazardous Substances TRGS 401: Risks resulting from skin contact - identification, assessment, measures TRGS 402: Identification and Assessment of the Risks from Activities involving Hazardous Substances: Inhalation Exposure TRGS 500: Protective measures TRGS 555: Working instruction and information for workers TRGS 900: Occupational Exposure Limits

Netherlands

Saneringsinspanningen	: C - Minimize discharge
SZW-lijst van kankerverwekkende stoffen	: ethanediol; ethylene glycol is listed
SZW-lijst van mutagene stoffen	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	: disodium tetraborate pentahydrate; borax pentahydrate is listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	: 2-ethylhexanoic acid, disodium tetraborate pentahydrate; borax pentahydrate are listed

Denmark

Danish National Regulations	: Young people under 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with it
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15.2. Chemical safety assessment

For this mixture a chemical safety assessment has been not carried out

A chemical safety assessment has been carried out for the following components of this mixture:

Ethandiol
2-ethylhexanoic acid
disodium tetraborate pentahydrate; borax pentahydrate

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Notes
1.1	Formula	Modified	
1.2	Use of the substance/mixture	Modified	
2.1	Adverse physicochemical, human health and environmental effects	Modified	
2.3	Other hazards not contributing to the classification	Added	
3	Composition/information on ingredients	Modified	
3.2	Notes	Added	
4.1	First-aid measures after ingestion	Modified	
4.1	First-aid measures after skin contact	Modified	
4.3	Other medical advice or treatment	Modified	
5.1	Suitable extinguishing media	Modified	
5.2	Fire hazard	Modified	
5.2	Explosion hazard	Modified	
5.2	Hazardous decomposition products in case of fire	Added	
5.3	Special protective equipment for firefighters	Modified	
5.3	Firefighting instructions	Modified	
6.1	Protective equipment	Modified	
6.3	Methods for cleaning up	Added	

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6.3	For containment	Modified	
7.1	Precautions for safe handling	Modified	
7.1	Hygiene measures	Modified	
7.2	Packaging materials	Modified	
7.2	Incompatible products	Modified	
8.1	DNEL/DMEL (additional information)	Added	
8.1	PNEC (additional information)	Added	
8.1	DNEL/DMEL and PNEC values	Added	
8.2	Thermal hazard protection	Modified	
8.2	Consumer exposure controls	Modified	
8.2	Appropriate engineering controls	Modified	
9.1	Viscosity, dynamic	Added	
9.1	Density	Added	
9.1	Flammability (solid, gas)	Added	
9.1	Freezing point	Added	
9.1	Melting point	Added	
9.1	Flash point	Added	
9.1	Auto-ignition temperature	Added	
9.1	Molecular mass	Removed	
9.2	Bulk density	Modified	
10.4	Conditions to avoid	Modified	
10.6	Hazardous decomposition products	Modified	
11.1	ATE (oral)	Removed	
14.6	Special transport precautions	Removed	
15.1	Other information, restrictions and prohibition regulations	Added	
15.1	Employment restrictions	Added	
15.1	Saneringsinspanningen	Added	
15.1	REACH Annex XVII	Modified	
15.1	Other information, restriction and prohibition regulations	Added	
16	Indication of changes	Added	

Abbreviations and acronyms:

	Complete text of the H phrases quoted in this Safety Data Sheet. These phrases are reported here for information only, and MAY NOT correspond to the classification of the product.
	N/A = not applicable
	N/D = not available
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Effective concentration for 50 percent of test population (median effective concentration)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50 percent of test population (median lethal concentration)
LD50	Lethal dose for 50 percent of test population (median lethal dose)
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals, Regulation (EC) No 1907/2006
RID	Regulation concerning the International Carriage of Dangerous Goods by Railways
SDS	Safety Data Sheet
STP	Sewage treatment plant

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vPvB	Very Persistent and Very Bioaccumulative
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- Data sources : This Safety Data Sheet is based on the real characteristics of the components and their combination, taking into account the information provided by the suppliers.
- Training advice : Provide adequate training to professional operators for the use of PPEs, according to the information contained in this Safety Data Sheet.
- Other information : Do not use the product for any purposes that have not been advised by the manufacturer.

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H360FD	May damage fertility. May damage the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Acute Tox. 4 (Oral)	H302	Calculation method
STOT RE 2	H373	Calculation method

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.