

HIGHTEC ANTIFREEZE AN (USA)

Revision date: 11.01.2018

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

1.1. Product identifier

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

Use of the substance/mixture

Radiator anti-freeze

1.3. Details of the supplier of the safety data sheet

Company name:	ROWE MINERALOELWERK GMBH	
Street:	Langgewann 101	
Place:	D-67547 Worms	
Telephone:	+49 (0)6241 5906-0	Telefax: +49 (0)6241 5906-999
e-mail:	info@rowe-mineraloel.com	
Internet:	www.rowe-mineraloel.com	
Responsible Department:	Kundenservice	

1.4. Emergency telephone number: Giftnotruf Mainz (DE; E) +49 (0)6131-19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

29 CFR Part 1910.1200

Hazard categories:
 Acute toxicity: Acute Tox. 4
 Specific target organ toxicity - repeated exposure: STOT RE 2
 Hazard Statements:
 Harmful if swallowed.
 May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

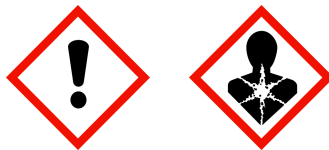
29 CFR Part 1910.1200

Hazard components for labelling

ethanediol, ethylene glycol

Signal word: Warning

Pictograms:



Hazard statements

H302 Harmful if swallowed.
 H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 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/doctor if you feel unwell.
 P330 Rinse mouth.
 P314 Get medical advice/attention if you feel unwell.
 P501 Dispose of contents/container to of the disposal according to local regulations.

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2.3. Other hazards

Following inhalation: Vapour and mist concentrations above the allowable levels or unusually high concentrations may cause irritation to the nose and throat as well as headache, nausea and drowsiness.
 After skin contact: Brief contact with the product may cause slight skin irritation. Prolonged contact (e.g. through soaked clothing) may result in serious skin irritation with symptoms such as redness and swelling.
 Following eye contact: Conjunctival redness.
 after ingestion: Oral ingestion of small amounts causes kidney damage.
 Caution if victim vomits: Risk of aspiration!

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
107-21-1	ethanediol, ethylene glycol			60-98 %
	203-473-3	603-027-00-1	01-2119456816-28	
	Acute Tox. 4, STOT RE 2; H302 H373			
532-32-1	Natriumbenzoat			1-5 %
	208-534-8		01-2119460683-35	
	Eye Irrit. 2; H319			
12179-04-3	disodium tetraborate pentahydrate; borax pentahydrate			0,1-1%
	215-540-4	005-011-02-9		
	Repr. 1B; H360FD			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off contaminated clothing.
 Self-protection of the first aider

After inhalation

Medical treatment necessary. Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.
 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

After contact with skin

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.
 IF ON SKIN: Wash with plenty of water/?.
 If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. Induce vomiting when the affected person is not unconscious.
 Medical treatment necessary. If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting.

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

No information available.

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

Treat symptomatically. Ethylene glycol poisoning may cause initial symptoms such as behavioral disorders, drowsiness, vomiting, diarrhea, thirst and spasms. Kidney damage and kidney failure along with metabolic acidosis are late poisoning symptoms. Prompt medical treatment complemented by haemodialysis, if necessary, can reduce the toxic effect. Intravenous administration of ethanol in a sodium bicarbonate solution is a recognized antidote. For further treatment information, please consult the Poison Control Centre.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings. The product itself does not burn.
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. The product itself does not burn. Special exposure hazards arising from the substance itself, combustion products, resulting gases: Carbon monoxide. Pyrolysis products, toxic. carbon black.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Suppress gases/vapours/mists with water spray jet. Use water spray jet to protect personnel and to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Provide adequate ventilation.
Do not breathe gas/fumes/vapour/spray.
Avoid contact with skin, eyes and clothes.
Wear personal protection equipment. Special danger of slipping by leaking/spilling product.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

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7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. No special measures required when used in accordance with the instructions. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep container tightly closed. Store in a place accessible by authorized persons only.

Advice on storage compatibility

Do not store together with: Oxidizing agents.
Do not store together with: Food and fodder

Further information on storage conditions

Keep away from heat.

7.3. Specific end use(s)

Radiator anti-freeze

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
107-21-1	Ethane-1,2-diol, vapour	20	52		TWA (8 h)	WEL
		40	104		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
107-21-1	ethanediol, ethylene glycol			
Worker DNEL, long-term		inhalation	local	35 mg/m ³
Worker DNEL, long-term		dermal	systemic	106 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	7 mg/m ³
Consumer DNEL, long-term		dermal	systemic	53 mg/kg bw/day

PNEC values

CAS No	Substance	Value
Environmental compartment		
107-21-1	ethanediol, ethylene glycol	
Freshwater		10 mg/l
Marine water		1 mg/l
Freshwater sediment		20,9 mg/kg
Soil		1,53 mg/kg

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8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. Wash hands before breaks and after work. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Do not put any product-impregnated cleaning rags into your trouser pockets.

Eye/face protection

Wear eye/face protection. Wear eye/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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. Avoid contact with skin. Tested protective gloves are to be worn: Butyl rubber. NBR (Nitrile rubber).

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. With correct and proper use, and under normal conditions, breathing protection is not required. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	greenish blue
Odour:	characteristic
pH-Value:	7,2
Changes in the physical state	
Melting point:	-18 °C
Initial boiling point and boiling range:	No data available
Flash point:	115 °C
Flammability	
Solid:	not applicable
Gas:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined

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Auto-ignition temperature

Solid: not applicable
 Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties

Not oxidizing.

Vapour pressure: not determined

Density (at 20 °C): ~1,12 g/cm³

Water solubility: completely miscible

Solubility in other solvents

not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

9.2. Other information

Solid content: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

possible with strong oxidizing agents.

This product is stable under normal conditions. Hazardous reactions are unlikely.

10.4. Conditions to avoid

none

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

none

Further information

none

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Acute toxicity, dermal.

ATEmix calculated

ATE (oral) 510,2 mg/kg

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
107-21-1	ethanediol, ethylene glycol				
	oral	ATE 500 mg/kg			
	dermal	LD50 >3500 mg/kg	Mouse		

Irritation and corrosivity

Frequently or prolonged contact with skin may cause dermal irritation.

Sensitising effects

not determined

Carcinogenic/mutagenic/toxic effects for reproduction

The product is not classified.

STOT-repeated exposure

Frequently or prolonged contact with skin may cause dermal irritation.

Specific effects in experiment on an animal

No data available

Additional information on tests

Oral ingestion of small amounts causes kidney damage.
 Contact with the eyes causes eye inflammation.
 Inhalation of mists and vapours causes impaired consciousness.

Further information

No special hazards known when the product is properly used and the precautionary measures indicated are observed.

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
107-21-1	ethanediol, ethylene glycol					
	Acute fish toxicity	LC50 72860 mg/l	96 h	Pimephales promelas (fathead minnow)		
	Acute algae toxicity	ErC50 6500 - 13000 mg/l	96 h	Selenastrum capricornutum		
	Acute crustacea toxicity	EC50 >100 mg/l	48 h	Daphnia magna		

12.2. Persistence and degradability

According to EU criteria: expected to biodegrade fast The product basis (ethylene glycol) itself is readily biodegradable.

12.3. Bioaccumulative potential

Biological degradation: Yes, rapidly

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

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12.6. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Do not allow uncontrolled discharge of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products

160114 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08); antifreeze fluids containing hazardous substances; hazardous waste

Waste disposal number of used product

160114 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08); antifreeze fluids containing hazardous substances; hazardous waste

Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself. Contaminated packaging should be emptied to the maximum possible extent. After appropriate cleaning, it can be routed to reuse. Packaging not amenable to cleaning must be disposed of in accordance with the statutory regulations.

SECTION 14: Transport information

Land transport (ADR/RID)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

Other applicable information (land transport)

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

Other applicable information (inland waterways transport)

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

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- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

Other applicable information (marine transport)

No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

Other applicable information (air transport)

No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):
disodium tetraborate pentahydrate; borax pentahydrate

Restrictions on use (REACH, annex XVII):

Entry 30: disodium tetraborate pentahydrate; borax pentahydrate

2010/75/EU (VOC): 98 %

2004/42/EC (VOC): 98 %

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 2 - clearly water contaminating

Additional information

Registration, Listing (Substance/product listed in the following inventories.):

Canada: DSL-listed

USA: TSCA-listed

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

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Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)