

**VA-065**

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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**

engine coolant

**Uses advised against**

No information available.

**1.3. Details of the supplier of the safety data sheet**

Company name: Vierol AG  
Street: Karlstrasse 19  
Place: D-26123 Oldenburg  
Telephone: +49 (0) 441 – 210 20 – 0  
e-mail: info@vierol.de  
Internet: www.vierol.de  
Telefax: +49 (0) 441 – 210 20 –111

**1.4. Emergency telephone number:**

Giftinformationszentrum Nord (Göttingen)  
+49 (0)551/19240

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**GB CLP Regulation**

Acute Tox. 4; H302  
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

**2.2. Label elements**

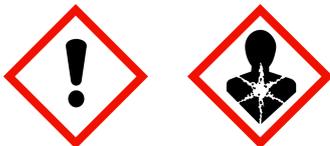
**GB CLP Regulation**

**Hazard components for labelling**

Ethane-1,2-diol

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.  
P314 Get medical advice/attention if you feel unwell.  
P330 Rinse mouth.  
P501 Dispose of contents / container in accordance with official regulations.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
107-21-1	Ethane-1,2-diol			90 - 100 %
	203-473-3	603-027-00-1	01-2119456816-28	
	Acute Tox. 4, STOT RE 2; H302 H373			
2492-26-4	Sodium benzothiazol-2-yl sulphide			0,1 - < 0,25 %
	219-660-8			
	Met. Corr. 1, Skin Corr. 1B, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H290 H314 H317 H400 H410			

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

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
107-21-1	203-473-3	Ethane-1,2-diol	90 - 100 %
	dermal: LD50 = > 3500 mg/kg; oral: LD50 = 7712 mg/kg		

**Further Information**

This mixture contains no substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

Take off contaminated clothing and wash it before reuse.  
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

Remove person to fresh air and keep comfortable for breathing.  
In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap.  
In case of skin irritation, consult a physician.

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.  
Remove contact lenses, if present and easy to do. Continue rinsing.

**After ingestion**

Rinse mouth thoroughly with water.  
Let water be drunk in little sips (dilution effect).  
Do NOT induce vomiting.  
When in doubt or if symptoms are observed, get medical advice.

**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**

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Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### **Suitable extinguishing media**

Use water spray jet to protect personnel and to cool endangered containers.

Co-ordinate fire-fighting measures to the fire surroundings.

- alcohol resistant foam
- Extinguishing powder
- Carbon dioxide (CO<sub>2</sub>)
- Water mist

##### **Unsuitable extinguishing media**

Full water jet

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

Non-flammable. Formation of toxic gases is possible during heating or in case of fire.

In case of fire may be liberated:

- Carbon monoxide (CO)
- Carbon dioxide (CO<sub>2</sub>).
- Pyrolysis products, toxic

#### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Suppress gases/vapours/mists with water spray jet.

#### **Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Dispose of waste according to applicable legislation.

### SECTION 6: Accidental release measures

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

##### **General advice**

Do not breathe gas/fumes/vapour/spray.

Avoid contact with skin, eyes and clothes.

Use personal protection equipment.

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

#### 6.3. Methods and material for containment and cleaning up

##### **For containment**

Stop leak if safe to do so.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

##### **For cleaning up**

Collect in closed and suitable containers for disposal.

Treat the recovered material as prescribed in the section on waste disposal.

Clean contaminated articles and floor according to the environmental legislation.

#### 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

#### 7.1. Precautions for safe handling

### Advice on safe handling

Always close containers tightly after the removal of product.  
Do not put any product-impregnated cleaning rags into your trouser pockets.  
Clear spills immediately.  
Use only in well-ventilated areas.

### Advice on protection against fire and explosion

No special fire protection measures are necessary.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.  
Keep only in the original container. Store in a cool dry place.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Hints on joint storage

Do not store together with:

- Materials capable of ignition under almost all normal temperature conditions
- Explosives

### 7.3. Specific end use(s)

engine coolant

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	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	Ethane-1,2-diol			
Worker DNEL, long-term		inhalation	local	35 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	106 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	7 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	53 mg/kg bw/day

#### PNEC values

CAS No	Substance	Value
107-21-1	Ethane-1,2-diol	
Freshwater		10 mg/l
Freshwater (intermittent releases)		10 mg/l
Marine water		1 mg/l
Freshwater sediment		37 mg/kg
Marine sediment		3,7 mg/kg
Micro-organisms in sewage treatment plants (STP)		199,5 mg/l
Soil		1,53 mg/kg

**8.2. Exposure controls**



**Appropriate engineering controls**

Provide adequate ventilation as well as local exhaust at critical locations.

**Protective and hygiene measures**

Take off contaminated clothing and wash it before reuse.

Wash hands and face before breaks and after work and take a shower if necessary.

When using do not eat, drink, smoke, sniff. Keep away from food, drink and animal feedingstuffs.

**Eye/face protection**

During filling, metering, mixing and sampling must be used:

Wear eye/face protection. EN 166

**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.

Recommended glove articles: EN ISO 374

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,4 mm

Breakthrough times and swelling properties of the material must be taken into consideration. Breakthrough time: > 8h

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.

**Skin protection**

Wear suitable protective clothing. EN 14605

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	violet
Odour:	characteristic
Odour threshold:	not determined
pH-Value (at 20 °C):	7,5 - 9,0

**Changes in the physical state**

Melting point/freezing point:	-12 °C
Boiling point or initial boiling point and boiling range:	197 °C
Flash point:	> 111 °C
Sustaining combustion:	No data available

**Flammability**

Solid/liquid:	not applicable
Gas:	not applicable

**Explosive properties**

The product is not: Explosive.

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Auto-ignition temperature:	>400 °C
<b>Self-ignition temperature</b>	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined
<b>Oxidizing properties</b>	
The product is not: oxidising.	
Density (at 20 °C):	1,13 g/cm <sup>3</sup>
Water solubility:	completely miscible
<b>Solubility in other solvents</b>	
not determined	
Partition coefficient n-octanol/water:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Relative vapour density:	not determined
Evaporation rate:	not determined

**9.2. Other information**

Solid content:	not determined
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**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**

No known hazardous reactions.

**10.4. Conditions to avoid**

Avoid: Thermal decomposition

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Safe handling: see section 7

**10.5. Incompatible materials**

No information available.

**10.6. Hazardous decomposition products**

Hazardous combustion products:

- Carbon monoxide (CO)
- Carbon dioxide (CO<sub>2</sub>).
- Pyrolysis products, toxic

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in GB CLP Regulation**

**Acute toxicity**

Harmful if swallowed.

**ATEmix calculated**

ATE (oral) 526,3 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
107-21-1	Ethane-1,2-diol				
	oral	LD50 7712 mg/kg	Rat	Study report (1968)	according to BASF-internal standards
	dermal	LD50 > 3500 mg/kg	Mouse	Fundamental and Applied Toxicology 27: 1	LD50 derived from developmental toxicity

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (Ethane-1,2-diol)

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Additional information on tests**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**11.2. Information on other hazards**

**Endocrine disrupting properties**

See section: 12.6

**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	Ethane-1,2-diol					
	Acute fish toxicity	LC50 > 72860 mg/l	96 h	Pimephales promelas	Environ. Toxicology and Chemistry, Vol.	EPA 600/4-90/027. U.S. Environmental Pro
	Acute algae toxicity	ErC50 6500 - 13000 mg/l	96 h	Pseudokirchneriella subcapitata	Study report (1982)	other: EPA 600/9-78-018, 1978
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna	Study report (1998)	OECD Guideline 202
	Fish toxicity	NOEC 15380 mg/l	7 d	Pimephales promelas	Environ. Toxicology and Chemistry, Vol.	other: EPA 600/4-89/001. U.S. Environmen
	Algae toxicity	NOEC > 100 mg/l	8 d	Scenedesmus quadricauda	REACH Registration Dossier	OECD Guideline 201
	Crustacea toxicity	NOEC 7500 - 15000 mg/l	21 d	Daphnia magna	REACH Registration Dossier	other: ASTM

### **12.2. Persistence and degradability**

No information available.

### **12.3. Bioaccumulative potential**

#### **Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
107-21-1	Ethane-1,2-diol	-1,36

### **12.4. Mobility in soil**

No information available.

### **12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

### **12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### **12.7. Other adverse effects**

No information available.

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

#### **Disposal recommendations**

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.

#### **Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

## **SECTION 14: Transport information**

### **Land transport (ADR/RID)**

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

#### Inland waterways transport (ADN)

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

#### Marine transport (IMDG)

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

#### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	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. Maritime transport in bulk according to IMO instruments

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

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

2010/75/EU (VOC):	95 % (1054,5 g/l)
2004/42/EC (VOC):	100 % (1110 g/l)
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

##### National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

#### 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): 2,4,8,9,10,11,12,13.

**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%  
CLP: Classification, labelling and Packaging  
REACH: Registration, Evaluation and Authorization of Chemicals  
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals  
UN: United Nations  
DNEL: Derived No Effect Level  
DMEL: Derived Minimal Effect Level  
PNEC: Predicted No Effect Concentration  
ATE: Acute toxicity estimate  
LL50: Lethal loading, 50%  
EL50: Effect loading, 50%  
EC50: Effective Concentration 50%  
ErC50: Effective Concentration 50%, growth rate  
NOEC: No Observed Effect Concentration  
BCF: Bio-concentration factor  
PBT: persistent, bioaccumulative, toxic  
vPvB: very persistent, very bioaccumulative  
RID: Regulations concerning the international carriage of dangerous goods by rail  
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)  
EmS: Emergency Schedules  
MFAG: Medical First Aid Guide  
ICAO: International Civil Aviation Organization  
MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
IBC: Intermediate Bulk Container  
VOC: Volatile Organic Compounds  
SVHC: Substance of Very High Concern  
For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
STOT RE 2; H373	Calculation method

**Relevant H and EUH statements (number and full text)**

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of

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according to UK REACH Regulation

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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.)*