



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

- **1.1 Product identifier**
- **Trade name: COOLANT M4.0 READY TO USE**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Only for proper handling.
Engine coolant
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MOTOREX AG
Bern-Zürich-Strasse 31, Postfach
CH-4901 Langenthal
Tel. +41 (0)62 919 75 75
www.motorex.com
- **Further information obtainable from: msds@motorex.com**
- **1.4 Emergency telephone number:**
In case of a medical emergency following exposure to a chemical, the public should call NHS Direct in England or Wales 0845 46 47 or NHS 24 in Scotland 08454 24 24 24 (UK only).

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Acute Tox. 4 H302 Harmful if swallowed.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**


 GHS07 GHS08
- **Signal word** Warning
- **Hazard-determining components of labelling:**
Ethane-1,2-diol
- **Hazard statements**
H302 Harmful if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**
 P101 If medical advice is needed, have product container or label at hand.
 P102 Keep out of reach of children.
 P103 Read carefully and follow all instructions.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 Wash 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 in accordance with local/regional/national/international regulations.

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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28	Ethane-1,2-diol ----- STOT RE 2, H373; Acute Tox. 4, H302	≥25-≤70%
CAS: 17265-14-4 EINECS: 241-300-3 Reg.nr.: 01-2120762063-61	Disodium sebacate ----- Eye Irrit. 2, H319	≥1-≤3%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

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6.4 Reference to other sections

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.

Information about fire - and explosion protection: Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None.

Storage class: 12

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

107-21-1 Ethane-1,2-diol

WEL	Short-term value: 104** mg/m ³ , 40** ppm
	Long-term value: 10* 52** mg/m ³ , 20** ppm
	Sk *particulate **vapour

DNELs

107-21-1 Ethane-1,2-diol

Dermal	DNEL / Workers / Systemic effects / Long-term	106 mg/kg/24h (worker)
	DNEL/general population/Systemic effects/Long-term	53 mg/kg/24h (consumer)
Inhalative	DNEL / Workers / Local Effects / Long-term	35 mg/m ³ (worker)
	DNEL/general population/Local effects/Long-term	7 mg/m ³ (consumer)

PNECs

107-21-1 Ethane-1,2-diol

PNEC / Aquatic organisms / Freshwater	10 mg/l (aquatic organisms)
PNEC / Aquatic organisms / Marine water	1 mg/l (aquatic organisms)
PNEC/Aquatic org/intermittent releases(freshwater)	10 mg/l (aquatic organisms)
PNEC/Aquatic organisms/Sewage treatment plant/STP	199.5 mg/l (aquatic organisms)
PNEC / Aquatic organisms / Sediment (freshwater)	37 mg/kg (aquatic organisms)
PNEC / Aquatic organisms / Sediment (marine water)	3.7 mg/kg (aquatic organisms)
PNEC / Terrestrial organism / Soil	1.53 mg/kg (terrestrial organisms)

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Appropriate engineering controls No further data; see section 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

- Keep away from foodstuffs, beverages and feed.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.

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Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Not necessary if room is well-ventilated.

Respiratory protection if formation of aerosol or mist: use mask with filter type A2, A2/P2 or ABEK.

· **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection**



safety goggles

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Physical state**

Fluid

· **Colour:**

Pink

· **Odour:**

Characteristic

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

Undetermined.

· **Boiling point or initial boiling point and boiling range**

Undetermined.

· **Flammability**

Not applicable.

· **Lower and upper explosion limit**

· **Lower:**

Not determined.

· **Upper:**

Not determined.

· **Flash point:**

Not applicable.

· **Ignition temperature:**

410 °C (DIN 51794)

· **Decomposition temperature:**

Not determined.

· **pH**

Not determined.

· **Viscosity:**

· **Kinematic viscosity**

Not determined.

· **Consistency**

· **Dynamic:**

Not determined.

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· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Heat Capacity	
· Vapour pressure at 20 °C:	23 hPa
· Density and/or relative density	
· Density at 20 °C:	1.074 g/cm ³ (ASTM D 4052)
· Relative density	Not determined.
· Vapour density	Not determined.

· **9.2 Other information**

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Explosive properties:	Product does not present an explosion hazard.
· Change in condition	
· Setting temperature / range:	-38 °C
· Evaporation rate	Not determined.

· **Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.

- **LD/LC50 values relevant for classification:**

107-21-1 Ethane-1,2-diol

Oral	LD50	7,712 mg/kg (rat)
	NOEL	150 mg/kg/24h (rat)
	NOAEL	200 mg/kg/24h (rat)
	NOAEL	12,500 ppm (mouse)
Dermal	LD50	3,500 mg/kg (mouse)
	NOAEL	2,200-4,400 mg/kg/24h (dog)
Inhalative	LC50 / 6h	2.5 mg/l (rat)

- **STOT-repeated exposure** May cause damage to organs through prolonged or repeated exposure.
- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

107-21-1 Ethane-1,2-diol

LC50	7,286 mg/l/96h (fish)
LC50	1,500 mg/l/28d (fish)
EC50	3,536-13,000 mg/l/96h (algae / cyanobacteria)
EC50	33,911 mg/l/21d (aquatic invertebrates)
EC100	100 mg/l/48h (aquatic invertebrates)
EC0	100 mg/l/48h (aquatic invertebrates)
EC50	100 mg/l/48h (aquatic invertebrates)
NOEC	7,500-15,000 mg/l/21d (aquatic invertebrates)
NOEC	100 mg/l/72h (algae / cyanobacteria)
NOEC	8,590-24,000 mg/l/7d (aquatic invertebrates)
	15,380-32,000 mg/l/7d (fish)

- **12.2 Persistence and degradability** No further relevant information available.

- **12.3 Bioaccumulative potential**

107-21-1 Ethane-1,2-diol

Partition coefficient	≤1.36 [---] (log Kow) (Bioaccumulation)
Biodegradability	>90 % (28d) (Biodegradability) (OECD 301 A)

- **12.4 Mobility in soil** No further relevant information available.

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

- **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

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· **12.7 Other adverse effects**

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (according to Appendix 1 AwSV): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Return product and/or partially emptied container in original packaging to the point of sale or hand it over to a collection point for special waste.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN number or ID number**

· **ADR/RID/ADN, ADN, IMDG, IATA** Void

· **14.2 UN proper shipping name**

· **ADR/RID/ADN, ADN, IMDG, IATA** Void

· **14.3 Transport hazard class(es)**

· **ADR/RID/ADN, ADN, IMDG, IATA**

· **Class** Void

· **14.4 Packing group**

· **ADR/RID/ADN, IMDG, IATA** Void

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user**

Not applicable.

· **14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

· **UN "Model Regulation":**

Void

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. The classification of the mixture was carried out by calculation in accordance with the rules laid down in Annex I of Regulation (EC) No 1272/2008.

No special training instructions to ensure protection of human health and environment are required.

- **purity requirement**

- **Relevant phrases**

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

- **Department issuing SDS:** Abteilung Produktsicherheit

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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 Harmonised 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 (division of the American Chemical Society)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- *** Data compared to the previous version altered.**

Annex: Exposure scenario 1

- **Short title of the exposure scenario** Industrial use of coolants

- **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

- **Product category**

PC4 Anti-Freeze and de-icing products

PC16 Heat transfer fluids

- **Process category**

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC20 Use of functional fluids in small devices

- **Environmental release category** ERC7 Use of functional fluid at industrial site

- **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

- **Conditions of use**

- **Duration and frequency** 5 workdays/week.

- **Physical parameters**

- **Physical state** Fluid

- **Concentration of the substance in the mixture** The substance is main component.

- **Other operational conditions**

- **Other operational conditions affecting environmental exposure** No special measures required.

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- **Other operational conditions affecting consumer exposure** Not required.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures** No special measures required.
- **Personal protective measures** No special measures required.
- **Measures for consumer protection** No special measures required.
- **Environmental protection measures**
- **Air** No special measures required.
- **Water** No special measures required.
- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures** Dispose of product residues with household waste.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

Annex: Exposure scenario 2

- **Short title of the exposure scenario** Professional use of coolants
- **Sector of Use**
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Product category**
PC4 Anti-Freeze and de-icing products
PC16 Heat transfer fluids
- **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC20 Use of functional fluids in small devices
- **Environmental release category**
ERC9a Widespread use of functional fluid (indoor)
ERC9b Widespread use of functional fluid (outdoor)
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture** The substance is main component.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting consumer exposure** Not required.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures** No special measures required.
- **Personal protective measures** No special measures required.
- **Measures for consumer protection** No special measures required.

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- **Environmental protection measures**
- **Air** No special measures required.
- **Water** No special measures required.
- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures** Dispose of product residues with household waste.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

Annex: Exposure scenario 3

- **Short title of the exposure scenario** Private use of coolants
- **Sector of Use** SU21 Consumer uses: Private households / general public / consumers
- **Product category**
PC4 Anti-Freeze and de-icing products
PC16 Heat transfer fluids
- **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC20 Use of functional fluids in small devices
- **Environmental release category**
ERC9a Widespread use of functional fluid (indoor)
ERC9b Widespread use of functional fluid (outdoor)
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture** The substance is main component.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting consumer exposure** Not required.
- **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures** No special measures required.
- **Personal protective measures** No special measures required.
- **Measures for consumer protection** No special measures required.
- **Environmental protection measures**
- **Air** No special measures required.
- **Water** No special measures required.
- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures** Dispose of product residues with household waste.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.