



## 1 Identification

- **Product identifier**
- **Trade name:** COOLANT M5.0 CONCENTRATE
- **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
- **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  
  
A1 Accessory Imports  
60-62 Burchill St.  
Loganholme  
4129 QLD  
Australia  
Phone : 07 3451 1300
- **Further information obtainable from:** msds@motorex.com
- **Emergency telephone number:**  
In case of a medical emergency following exposure to a chemical, call Poisons Information Centre Australia 13 11 26

## 2 Hazard(s) Identification

- **Classification of the substance or mixture**  
Serious eye damage/irritation – Category 2A H319 Causes serious eye irritation.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
- **Label elements**
- **GHS label elements**  
The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**  
   
GHS07 GHS08
- **Signal word** Warning
- **Hazard-determining components of labelling:**  
Ethane-1,2-diol
- **Hazard statements**  
H319 Causes serious eye irritation.  
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 label before use.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.

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P280 *Wear eye protection / face protection.*  
 P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
 P337+P313 *If eye irritation persists: Get medical advice/attention.*  
 P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

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

### 3 Composition and Information on Ingredients

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

- **Dangerous components:**

CAS: 107-21-1 EINECS: 203-473-3	Ethane-1,2-diol STOT RE 2, H373	70-100%
CAS: 3164-85-0 EINECS: 221-625-7	potassium 2-ethylhexanoate Repr. 2, H361; Eye Dam. 1, H318; Skin Irrit. 2, H315	≥1-<3%
CAS: 12045-78-2 EC number: 601-707-2	potassium tetraborate Repr. 2, H361	1-2.5%
CAS: 29385-43-1 EINECS: 249-596-6	methyl-1H-benzotriazole Acute Tox. 3, H301; Repr. 2, H361	≥0.1-<0.25%

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

### 4 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:**  
Remove residues with soap and water.  
Remove contaminated clothing immediately.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Consult a physician if irritation develops.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** DO NOT USE WATER JET
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.

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 · **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental Release Measures

 · **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

 · **Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

 · **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 section 13.

Ensure adequate ventilation.

 · **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.

### 7 Handling and Storage

 · **Handling:**

 · **Precautions for safe handling**

Keep out of the reach of children.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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

 · **Storage:**

 · **Requirements to be met by storerooms and receptacles:** Do not store in zinc containers.

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

 · **Further information about storage conditions:**

The recommended storage temperature is (deg.C): ≤50°C

Store containers closed and protect against rain, dust, heat and other atmospheric influences.

Keep container tightly sealed.

 · **Storage class:** 10

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

### 8 Exposure controls and personal protection

 · **Additional information about design of technical facilities:** No further data; see section 7.

 · **Ingredients with limit values that require monitoring at the workplace:**
**107-21-1 Ethane-1,2-diol**

WES	Short-term value: 104** mg/m <sup>3</sup> , 40** ppm
	Long-term value: 10* 52** mg/m <sup>3</sup> , 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 <sup>3</sup> (worker)
	DNEL/general population/Local effects/Long-term	7 mg/m <sup>3</sup> (consumer)

**3164-85-0 potassium 2-ethylhexanoate**

Oral	DNEL/general population/Systemic effects/Long-term	1 mg/kg/24h (consumer)
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Dermal	DNEL / Workers / Systemic effects / Long-term	2 mg/kg/24h (worker)
	DNEL/general population/Systemic effects/Long-term	1 mg/kg/24h (consumer)
Inhalative	DNEL / Workers / Systemic effects / Long-term	14 mg/m <sup>3</sup> (worker)
	DNEL/general population/Systemic effects/Long-term	3 mg/m <sup>3</sup> (consumer)
<b>29385-43-1 methyl-1H-benzotriazole</b>		
Oral	DNEL/general population/Systemic effects/Long-term	0.25 mg/kg/24h (consumer)
	DNEL/general pop/Systemic effects/acute-short term	0.25 mg/kg/24h (consumer)
Dermal	DNEL / Workers / Systemic effects / Long-term	0.5 mg/kg/24h (worker)
	DNEL/general population/Systemic effects/Long-term	0.25 mg/kg/24h (consumer)
Inhalative	DNEL / Workers / Systemic effects / Long-term	8.8 mg/m <sup>3</sup> (worker)
	DNEL/general population/Systemic effects/Long-term	4.4 mg/m <sup>3</sup> (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)

**3164-85-0 potassium 2-ethylhexanoate**

PNEC / Aquatic organisms / Freshwater	0.36 mg/l (aquatic organisms)
PNEC / Aquatic organisms / Marine water	0.036 mg/l (aquatic organisms)
PNEC/Aquatic organisms/Sewage treatment plant/STP	71.7 mg/l (aquatic organisms)
PNEC / Aquatic organisms / Sediment (freshwater)	6.37 mg/kg (aquatic organisms)
PNEC / Aquatic organisms / Sediment (marine water)	0.637 mg/kg (aquatic organisms)
PNEC / Terrestrial organism / Soil	1.06 mg/kg (terrestrial organisms)

**29385-43-1 methyl-1H-benzotriazole**

PNEC / Aquatic organisms / Freshwater	0.008 mg/l (aquatic organisms)
PNEC / Aquatic organisms / Marine water	0.008 mg/l (aquatic organisms)
PNEC/Aquatic organisms/Sewage treatment plant/STP	39.4 mg/l (aquatic organisms)
PNEC / Aquatic organisms / Sediment (freshwater)	0.0025 mg/kg (aquatic organisms)
PNEC / Aquatic organisms / Sediment (marine water)	0.0025 mg/kg (aquatic organisms)

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

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes.
- Avoid contact with the eyes and skin.

· **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.

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· **Protection of hands:**



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 protection:**



safety goggles

· **Body protection:** Protective work clothing

## 9 Physical and Chemical Properties

· **General Information**

· **Appearance:**

- **Form:** Fluid
- **Colour:** Turquoise
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value at 20 °C:** 7.2 (DIN 51369)

· **Change in condition**

- **Melting point/freezing point:** -12.4 °C
- **Initial boiling point and boiling range:** >163 °C (DIN EN ISO 3405)
- **Flash point:** >115 °C
- **Flammability (solid, gas):** Not applicable.
- **Auto-ignition temperature:** 410 °C (DIN 51794)
- **Decomposition temperature:** Not determined.
- **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits:**

- **Lower:** 3.2 Vol %
- **Upper:** 15.3 Vol %
- **Vapour pressure at 20 °C:** 0.1 hPa
- **Density at 20 °C:** 1.125 g/cm<sup>3</sup> (ASTM D 4052)
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with**
- **water:** Fully miscible.
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
- **Dynamic:** Not determined.

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- |                            |   |
|----------------------------|---|
| <b>· Kinematic:</b>        | 23 mm <sup>2</sup> /s @ 40 °C (DIN 51562-1) |
| <b>· Other information</b> | No further relevant information available.  |

### 10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions**  
May react with strong acids or strong oxidizing agents such as chlorates, nitrates, peroxides, etc.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**  
Aldehydes (Elevated temperatures), ketones (Elevated temperatures)

### 11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **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)

**3164-85-0 potassium 2-ethylhexanoate**

Oral	LD50	1,600-3,200 mg/kg (rat)
	NOEL	65 mg/kg/24h (rat)
	NOAEL	180-205 mg/kg/24h (mouse)
	LOAEL	61-300 mg/kg/24h (rat)
Dermal	LD50	303-360 mg/kg/24h (rat)
	LD50	2,000 mg/kg (rat)
Inhalative	LC0 / 8h	110 mg/m <sup>3</sup> (rat)

**29385-43-1 methyl-1H-benzotriazole**

Oral	LD50	720 mg/kg (rat)
	NOAEL	150 mg/kg/24h (rat)
	LOAEL	6,700-11,700 mg/kg/24h (rat)
Dermal	LD50	2,000 mg/kg (rabbit)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** 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.

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· **Aspiration hazard** Based on available data, the classification criteria are not met.

## 12 Ecological Information

· **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)

**3164-85-0 potassium 2-ethylhexanoate**

LC50	70-150 mg/l/96h (fish)
LC50	120 mg/l/48h (aquatic invertebrates)
	270-1,801 mg/l/48h (fish)
EC50	85.4 mg/l/24h (aquatic invertebrates)
EC10	32 mg/l/72h (algae / cyanobacteria)
EC50	49.3 mg/l/72h (algae / cyanobacteria)
EC50	75 mg/l/21d (aquatic invertebrates)
EC100	125 mg/l/48h (aquatic invertebrates)
EC0	62.5 mg/l/48h (aquatic invertebrates)
EC50	85.4-910 mg/l/48h (aquatic invertebrates)
NOEC	25 mg/l/21d (aquatic invertebrates)
LOEC	63 mg/kg/28d (aquatic invertebrates)

**29385-43-1 methyl-1H-benzotriazole**

LOEC	37.6 mg/l/21d (aquatic invertebrates)
LC50	55-180 mg/l/96h (fish)
LC0	100 mg/l/96h (fish)
LC50	55 mg/l/48h (aquatic invertebrates)
	240 mg/l/48h (fish)
LC50	180 mg/l/72h (fish)
LC50	240 mg/l/24h (fish)
EC10	0.4-0.97 mg/l/21d (aquatic invertebrates)
EC10	4.17-8.56 mg/l/48h (aquatic invertebrates)
EC50	1,060 mg/l/24h (microorganisms)
EC10	1.18-10.5 mg/l/72h (algae / cyanobacteria)
EC50	29-75 mg/l/72h (algae / cyanobacteria)
EC50	18.4-37.6 mg/l/21d (aquatic invertebrates)
EC50	8.58-15.8 mg/l/48h (aquatic invertebrates)

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NOEC	18.4 mg/l/21d (aquatic invertebrates)
NOEC	10-30 mg/l/72h (algae / cyanobacteria)
NOEC	30 mg/l/48h (aquatic invertebrates)

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**

- **Bioaccumulative potential**

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

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

**3164-85-0 potassium 2-ethylhexanoate**

Partition coefficient	≤0.851 [---] (log Kow) (Bioaccumulation)
Biodegradability	99 % (28d) (Biodegradability) (OECD 301 E)

- **Mobility in soil** No further relevant information available.
- **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.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **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.

### 14 Transport information

· <b>UN-Number</b>	
· <b>ADG, ADN, IMDG, IATA</b>	Not classified as hazardous for transport
· <b>UN proper shipping name</b>	
· <b>ADG, ADN, IMDG, IATA</b>	Not classified as hazardous for transport
· <b>Transport hazard class(es)</b>	
· <b>ADG, ADN, IMDG, IATA</b>	
· <b>Class</b>	Not classified as hazardous for transport
· <b>Packing group</b>	
· <b>ADG, IMDG, IATA</b>	Not classified as hazardous for transport
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No

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- |   |   |
|---|---|
| <b>· Special precautions for user</b>                                       | Not applicable.                           |
| <b>· Transport in bulk according to Annex II of Marpol and the IBC Code</b> | Not applicable.                           |
| <b>· UN "Model Regulation":</b>   | Not classified as hazardous for transport |

### 15 Regulatory information

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

- Australian Inventory of Industrial Chemicals**

All ingredients are listed.

- Standard for the Uniform Scheduling of Medicines and Poisons**

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

S5, S6, S10

- Australia: Priority Existing Chemicals**

None of the ingredients is listed.

- Directive 2012/18/EU**

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

- National chemical directories**

Components listed or exempted from listing:

EINECS/ELINCS/NLP (EU)

TSCA (USA)

DSL/NDSL (CDN)

ENCS/METI (J)

AICS (Aus)

IECSC (CN)

ECL/KECI (KOR)

HSNO (NZ)

PICCS (RP)

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

### 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**

H301 Toxic if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H361 Suspected of damaging fertility or the unborn child.

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

- Department issuing SDS:** Abteilung Produktsicherheit

- Contact:**

- Abbreviations and acronyms:**

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Serious eye damage/irritation – Category 2A: Serious eye damage/eye irritation – Category 2A

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Repr. 2: Reproductive toxicity – Category 2  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
· \* **Data compared to the previous version altered.**

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— AU —