

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 17.06.2015

Revision: 12.06.2015

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

- **1.1 Product identifier**
- **Trade name: JMC JM Universal**
- **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** Antifreeze
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Johannes J. Matthies GmbH & Co. KG  
Hammerbrookstr. 97  
20097 Hamburg  
Tel.: 040 / 23 721-0  
Fax : 040 / 23 721-390  
info@matthies.de
- **Further information obtainable from:**  
Tel.: 040 / 23 721-0  
Fax : 040 / 23 721-390  
info@matthies.de
- **1.4 Emergency telephone number:**  
Informationszentrale gegen Vergiftungen  
des Landes Nordrhein-Westfalen  
Tel.: +49 (0) 228 / 19 240

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

STOT RE 2 H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07



GHS08

- **Signal word** Warning
- **Hazard-determining components of labelling:**  
ethanediol
- **Hazard statements**  
H302 Harmful if swallowed.  
H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 17.06.2015

Revision: 12.06.2015

**Trade name: JMC JM Universal**

(Contd. of page 1)

**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 mist/vapours/spray.
- P270 Do not eat, drink or smoke when using this product.
- P264 Wash thoroughly after handling.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards****Results of PBT and vPvB assessment**

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

### SECTION 3: Composition/information on ingredients

**3.2 Chemical characterisation: Mixtures**

- **Description:** Mixture: consisting of the following components.

**Dangerous components:**

CAS: 107-21-1	ethanediol	>90%
EINECS: 203-473-3	☠ STOT RE 2, H373; ⚠ Acute Tox. 4, H302	
CAS: 12179-04-3	disodium tetraborate pentahydrate	1-2.99%
EINECS: 215-540-4	☠ Repr. 1B, H360FD; ⚠ Eye Irrit. 2, H319	

**SVHC**

12179-04-3	disodium tetraborate pentahydrate
------------	-----------------------------------

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

### SECTION 4: First aid measures

**4.1 Description of first aid measures****General information:**

- Position and transport stably in side position.
- Immediately remove any clothing soiled by the product.
- Take affected persons out into the fresh air.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

**After skin contact:**

- Immediately wash with water and soap and rinse thoroughly.
- Generally the product does not irritate the skin.

- **After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:**

- Do not induce vomiting; call for medical help immediately.
- A person vomiting while laying on their back should be turned onto their side.
- Rinse out mouth and then drink plenty of water.

**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**

- If swallowed or in case of vomiting, danger of entering the lungs.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media****Suitable extinguishing agents:**

- CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 17.06.2015

Revision: 12.06.2015

**Trade name: JMC JM Universal**

(Contd. of page 2)

- Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.  
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear fully protective suit.  
Mouth respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Cool endangered receptacles with water spray.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Ensure adequate ventilation  
Particular danger of slipping on leaked/spilled product.
- **6.2 Environmental precautions:** 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.
- **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**  
Store in cool, dry place in tightly closed receptacles.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

#### 107-21-1 ethanediol

WEL	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

(Contd. on page 4)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 17.06.2015

Revision: 12.06.2015

**Trade name: JMC JM Universal**

(Contd. of page 3)

- **DNELs**

Disodium tetraborate pentahydrate (CAS: 12179-04-3):  
 Consumer Oral Short Term Systemic Effects 1.15 mg/kg/day  
 Industry Inhalation. Short Term Local Effects 17.04 mg/m<sup>3</sup>  
 Industry Inhalation. Long Term Local Effects 17.04 mg/m<sup>3</sup>  
 Industry Inhalation. Long Term Systemic Effects 9.8 mg/m<sup>3</sup>  
 Consumer Inhalation. Short Term Local Effects 17.04 mg/m<sup>3</sup>  
 Consumer Inhalation. Long Term Local Effects 17.04 mg/m<sup>3</sup>  
 Consumer Inhalation. Long Term Systemic Effects 4.9 mg/m<sup>3</sup>  
 Industry Dermal Long Term Systemic Effects 458.2 mg/kg/day  
 Consumer Dermal Long Term Systemic Effects 231.8 mg/kg/day

Ethanediol (CAS: 107-21-1):  
 Industry Inhalation. Long Term Local Effects 35 mg/m<sup>3</sup>  
 Industry Dermal Long Term Systemic Effects 106 mg/kg  
 Consumer Inhalation. Long Term Local Effects 7 mg/m<sup>3</sup>  
 Consumer Dermal Long Term Systemic Effects 53 mg/m<sup>3</sup>

- **PNECs**

Disodium tetraborate pentahydrate (CAS: 12179-04-3):  
 Freshwater 2.02 mg/l  
 Marinewater 2.02 mg/l  
 Intermittent release 13.7 mg/l  
 Soil 5.4 mg/kg  
 STP 10 mg/l

Ethanediol (CAS: 107-21-1):  
 Freshwater 10 mg/l  
 Marinewater 1 mg/l  
 STP 199.5 mg/l  
 Sediment Freshwater 20.9 mg/kg  
 Soil 1.53 mg/kg  
 Intermittent release 10 mg/l

- **8.2 Exposure controls**

- **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.

- **Respiratory protection:**

Filter A/P2

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.

- **Protection of hands:**

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

- **Material of gloves**

PVA gloves  
 Nitrile rubber, NBR  
 Butyl rubber, BR  
 Neoprene 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.

(Contd. on page 5)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 17.06.2015

Revision: 12.06.2015

Trade name: JMC JM Universal

(Contd. of page 4)

- **Eye protection:** Goggles recommended during refilling
- **Body protection:** Protective work clothing

### SECTION 9: Physical and chemical properties

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

##### · General Information

##### · Appearance:

**Form:** Fluid  
**Colour:** Yellow

· **Odour:** Mild

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

##### · Change in condition

**Melting point/Melting range:** -12 °C

**Boiling point/Boiling range:** 197 °C

· **Flash point:** 111 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 400 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

##### · Explosion limits:

**Lower:** 3.2 Vol %

**Upper:** Not determined.

· **Vapour pressure at 20 °C:** 0.05 kPa

· **Density at 20 °C:** 1.1 g/cm<sup>3</sup>

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with water:**

Fully miscible.

· **Partition coefficient (n-octanol/water):** -1.36

##### · Viscosity:

**Dynamic:** Not determined.

**Kinematic:** Not determined.

##### · Solvent content:

**VOC (EC)** 0.00 %

· **9.2 Other information** No further relevant information available.

### SECTION 10: Stability and reactivity

#### · 10.1 Reactivity

#### · 10.2 Chemical stability

##### · Thermal decomposition / conditions to be avoided:

To avoid thermal decomposition do not overheat.

No decomposition if used and stored according to specifications.

No decomposition if used according to specifications.

(Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 17.06.2015

Revision: 12.06.2015

Trade name: JMC JM Universal

(Contd. of page 5)

- **10.3 Possibility of hazardous reactions** Reacts with acids, alkalis and oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
Carbon monoxide  
Carbon dioxide

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**

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

#### 107-21-1 ethanediol

Oral	LD50	7712 mg/kg (rat)
Dermal	LD50	>3500 mg/kg (mouse)
Inhalative	LC50 / 6h	>2.5 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Reproductive toxicity**  
Reproductive Toxicity - Fertility  
Fertility: >1000 mg/kg Oral Rat  
Not expected to be a reproductive toxicant
- **STOT-repeated exposure**  
STOT - Repeated exposure  
NOAEL 200 mg/kg Oral Rat

### SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

#### 107-21-1 ethanediol

EC20 / 30 Mins	>1995 mg/l (Activated sludge)
EC50 / 48h	>100 mg/l (daphnia)
EC50 / 96h	>6500 mg/l (Selenastrum capricornutum)
LC50 / 96h	72860 mg/l (Pimephales promelas)
NOEC / 7 days	15380 mg/l (Pimephales promelas)

- **12.2 Persistence and degradability** Easily biodegradable
- **12.3 Bioaccumulative potential**  
Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 7)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 17.06.2015

Revision: 12.06.2015

Trade name: JMC JM Universal

(Contd. of page 6)

- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### 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.

- **European waste catalogue**

16 01 14*	antifreeze fluids containing dangerous substances
-----------	---

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |   |                 |
|---|-----------------|
| · <b>14.1 UN-Number</b><br>· <b>ADN, IMDG, IATA</b>                                   | Void            |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR, ADN, IMDG, IATA</b>                | Void            |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADN/R Class:</b>                     | Void            |
| · <b>14.4 Packing group</b><br>· <b>IMDG, IATA</b>                                    | Void            |
| · <b>14.5 Environmental hazards:</b><br>· <b>Marine pollutant:</b>                    | No              |
| · <b>14.6 Special precautions for user</b>  | Not applicable. |
| · <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>   | -               |

### 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.
- **National regulations:**
- **Other regulations, limitations and prohibitive regulations**

- **Substances of very high concern (SVHC) according to REACH, Article 57**

12179-04-3	disodium tetraborate pentahydrate
------------	-----------------------------------

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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.

- **Relevant phrases**  
H302 Harmful if swallowed.

(Contd. on page 8)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 17.06.2015

Revision: 12.06.2015

**Trade name: JMC JM Universal**

(Contd. of page 7)

H319 Causes serious eye irritation.

H360FD May damage fertility. May damage the unborn child.

H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.

· **Department issuing MSDS:** Product safety department

· **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 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)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Acute Tox. 4: Acute toxicity, Hazard Category 4

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 1B: Reproductive toxicity, Hazard Category 1B

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

GB