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

1.1 Product identifier

Trade name

KRONES hydrocare MO 500/1500

| Substance name | manganese dioxide |
|------------------------|-------------------|
| Identification numbers | |
| CAS no. | 1313-13-9 |
| EC no. | 215-202-6 |
| Index no. | 025-001-00-3 |

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

Relevant identified uses of the substance or mixture Filter material

Uses advised against No data available.

1.3 Details of the supplier of the safety data sheet

Address

KIC KRONES Internationale Cooperationsgesellschaft mbH Böhmerwaldstraße 5 93073 Neutraubling

| Telephone no. | +49 9401 70-3020 |
|---------------|--------------------|
| Fax no. | +49 9401 70-3696 |
| e-mail | kic@kic-krones.com |

Advice on Safety Data Sheet sdb_info@umco.de

1.4 Emergency telephone number

For medical advice (in German and English): +49 (0)551 192 40 (Giftinformationszentrum Nord) In case of transport incidents and other emergencies: +44 (0) 1235 239 670 (NCEC, National Chemical Emergency Centre)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

| Classification in accordance with Regulation (EC) No 1272/2008 (CLP | ') |
|---|----|
| Acute Tox. 4*; H302 | |
| Acute Tox 4* H332 | |

Classification information

(*,**,****) Detailed explanation pls. refer to CLP regulation No. 1272/2008, annex VI, 1.2

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Product identifier 025-001-00-3 (manganese dioxide)

Hazard pictograms

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Signal word Warning

Hazard statement(s)

H302+H332Harmful if swallowed or if inhaledPrecautionary statement(s)P261Avoid breathing dust.P264Wash thoroughly after handling.P270Do not eat, drink or smoke when using this product.

2.3 Other hazards

No data available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical characterization Substance name manganese dioxide

Identification numbers

| CAS no. | 1313-13-9 |
|-----------|--------------|
| EC no. | 215-202-6 |
| Index no. | 025-001-00-3 |

3.2 Mixtures

Not applicable. The product is not a mixture.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

In case of persisting adverse effects, consult a physician.

After inhalation

Ensure supply of fresh air. In case of persisting adverse effects consult a physician.

After skin contact

When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Get medical attention if pain still persists.

After ingestion

Rinse mouth thoroughly with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. By continuous complaints consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms

Nausea

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Carbon dioxide; Extinguishing powder; Water spray jet; Foam Current version : 1.0.0, issued: 23.06.2020

Trade name: KRONES hydrocare MO 500/1500

Unsuitable extinguishing media High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Metal oxides; Oxidizing due to release of oxygen.

5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Avoid dust formation. Do not inhale dust. Ensure adequate ventilation. Keep away from ignition sources.

For emergency responders

Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up mechanically. When collected, handle material as described under the section heading "Disposal considerations". Clean contaminated surfaces thoroughly.

6.4 Reference to other sections

Information regarding safe handling, see chapter 7. Information regarding personal protective measures, see chapter 8. Information regarding waste disposal, see chapter 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Risks inherent to handling the product must be minimised by applying the appropriate protective and preventive measures. Working processes should - so far as possible, according to the state of the art - be designed to rule out bodily contact or the release of hazardous substances. Provide good ventilation at the work area (local exhaust ventilation, if necessary). Avoid dust formation.

General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Do not inhale dust.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed and dry in a cool, well-ventilated place.

Requirements for storage rooms and vessels

Containers which are opened must be carefully resealed and kept upright to prevent leakage. Always keep in containers of same material as the original.

CAS no.

Incompatible products

Substances to be avoided, pls. See chapter 10.

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

No Substance name

EC no.

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| 1 | manganese dioxide | 1313-13-9 | 215-202-6 |
|---|---|-------------|-----------|
| | 2017/164/EU | | |
| | Manganese and inorganic manganese compounds (as manganese) | | |
| | WEL long-term (8-hr TWA reference period) | 0,2 (Inhal) | mg/m³ |
| | 2017/164/EU | | |
| | Manganese and inorganic manganese compounds (as manganese) | | |
| | WEL long-term (8-hr TWA reference period) | 0,05 (Resp) | mg/m³ |
| | List of approved workplace exposure limits (WELs) / EH40 | | |
| | Manganese and its inorganic compounds (as Mn) Inhalable fraction | | |
| | WEL long-term (8-hr TWA reference period) | 0.2 | mg/m³ |
| | List of approved workplace exposure limits (WELs) / EH40 | | |
| | Manganese and its inorganic compounds (as Mn) Respirable fraction | | |
| | WEL long-term (8-hr TWA reference period) | 0.05 | mg/m³ |

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, local exhaust at the work station if necessary.

Personal protective equipment

Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust formation, take appropriate measures for breathing protection in the event that workplace threshold values are not specified.

Eye / face protection

Safety glasses (EN 166)

Hand protection

In case of intensive contact, wear protective gloves (EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other

Chemical-resistant work clothes.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| Form/Colour | | | |
|---|---|-----|----|
| solid; granules | | | |
| brown to black | | | |
| Odour | | | |
| odourless | | | |
| Odour threshold | | | |
| No data available | | | |
| pH value | | | |
| No data available | | | |
| Boiling point / boiling range | | | |
| No data available | | | |
| Melting point / melting range | | | |
| No data available | | | |
| Decomposition point / decomposition range | | | |
| Value | Ę | 535 | ٥° |
| Flash point | | | |

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|---|--------------------------------|------------|
| No data available | | |
| Auto-ignition temperature | | |
| No data available | | |
| Oxidising properties No data available | | |
| Explosive properties No data available | | |
| Flammability (solid, gas) | | |
| No data available | | |
| Lower flammability or explosive limits No data available | | |
| Upper flammability or explosive limits No data available | | |
| Vapour pressure No data available | | |
| Vapour density No data available | | |
| Evaporation rate No data available | | |
| Relative density No data available | | |
| Density Value | 5 g/cm ³ | |
| Solubility in water No data available | | |
| Solubility(ies) | | |
| No data available | | |
| Partition coefficient: n-octanol/water No data available | | |
| Viscosity No data available | | |
| 9.2 Other information | | |

Other information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Dangerous reactions are not expected if the product is handled according to its intended use.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

Risk of explosion on contact with: oxidizing agents

10.4 Conditions to avoid High temperatures.

- 10.5 Incompatible materials
 - Acids; Oxidizing agents
- **10.6 Hazardous decomposition products**

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Oxygen; Fumes of metal oxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

| Acute oral toxicity |
|-----------------------------------|
| No data available |
| Acute dermal toxicity |
| No data available |
| Acute inhalational toxicity |
| No data available |
| Skin corrosion/irritation |
| No data available |
| Serious eye damage/irritation |
| No data available |
| Respiratory or skin sensitisation |
| No data available |
| Germ cell mutagenicity |
| No data available |
| Reproduction toxicity |
| No data available |
| Carcinogenicity |
| No data available |
| STOT - single exposure |
| No data available |
| STOT - repeated exposure |
| No data available |
| Aspiration hazard |
| No data available |
| |

SECTION 12: Ecological information

12.1 Toxicity

| Toxicity to fish (acute) |
|-------------------------------|
| No data available |
| Tavisity to fish (shappis) |
| Toxicity to fish (chronic) |
| No data available |
| Toxicity to Daphnia (acute) |
| No data available |
| Toxicity to Daphnia (chronic) |
| No data available |
| Toxicity to algae (acute) |
| No data available |
| Toxicity to algae (chronic) |
| No data available |
| Bacteria toxicity |
| No data available |

12.2 Persistence and degradability

No data available.

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12.3 Bioaccumulative potential No data available.

12.4 Mobility in soil No data available.

12.5 Results of PBT and vPvB assessment No data available.

12.6 Other adverse effects

No data available.

12.7 Other information Other information

Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Disposal of the product should be carried out in accordance with all applicable regulations following consultation with the responsible local authority and the disposal company in an authorised and suitable disposal facility. Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

The product is not subject to ADR/RID/ADN regulations.

14.2 Transport IMDG

The product is not subject to IMDG regulations.

14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

- 14.6 Special precautions for user No data available.
- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not relevant

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture <u>EU regulations</u>

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

In accordance with the Reach regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

REACH candidate list of substances of very high concern (SVHC) for authorisation

In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered

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as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES

The substance is not subject to the provisions of annex XVII (restriction entries) of the Reach regulation (EC) 1907/2006.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This substance is not subject to Part 1 or 2 of Annex I

Other regulations

Adhere to the national sanitary and occupational safety regulations when using this product.

15.2 Chemical safety assessment

No data available.

SECTION 16: Other information

Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

| H302 | Harmful if swallowed |
|------|----------------------|
| H332 | Harmful if inhaled. |

Department issuing safety data sheet

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This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

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