

1. Product and Company Identification

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Product Name Copper Hydroxide
Part Number RXSOL-94-9451-025

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

Phone +91 22 20871200 - 1400
Fax +91 22 27612100 ::AOH :0091 9821214367
Email mail@rxmarine.com
Website www.rxmarine.com

2. Composition / Information on ingredients

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| Chemical Name | Cas No | EC No | Whight | Formula |
|----------------------|------------|-----------|-------------|---------------------------------|
| Copper(II) hydroxide | 20427-59-2 | 243-815-9 | 97,56 g/mol | H ₂ CuO ₂ |

3. Hazards Identification

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| Signal Word | Danger |
| Hazard Statements | H300 + H310 Fatal if swallowed or in contact with skin. |
| Precautionary statements | P262 Do not get in eyes, on skin, or on clothing. P280 Wear protective gloves/ protective clothing. P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth. P302 + P352 + P310 IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor. |
| Classification of the substance or mixture | Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008. |
| Supplemental Hazard Statements | None |
| Other hazards | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |

4. First Aid Measures

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| General advice | First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance. |
| If inhaled | If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| Eye Contact | After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses. |
| Swallowed | After swallowing: immediately make victim drink water (two glasses at most). Consult a physician. |
| Skin Contact | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| Inhalation | fresh air. Immediately call in physician. If breathing stops: immediately |

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| Ingestion | apply artificial respiration, if necessary also oxygen Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately. |
| Most important symptoms and effects, both acute and delay | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| Indication of any immediate medical attention and special treatment needed | No data available |

5. Fire-fighting Measures

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| Flammability | May be combustible at high temperature. |
| Suitable extinguishing media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | For this substance/mixture no limitations of extinguishing agents are given. |
| Special hazards arising from the substance or mixture | Copper oxides Not combustible. Ambient fire may liberate hazardous vapours. |
| Further information | Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Hazardous combustion products | Fire may cause the evolution of Sulphur oxides, nitrogen oxides. |
| Advice for firefighters | Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. |
| Protective Equipment | Use personal protective equipment. |
| Specific Hazards Arising from the Chemical | Has a fire-promoting effect due to the release of oxygen. Ambient fire may liberate hazardous vapours. |

6. Accidental Release Measures

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| Personal precautions, protective equipment and emergency procedures | Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8. |
| Spillage | Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas dike if needed. Eliminate all ignition sources. Call for assistance on disposal. |
| Personal Protection | Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8. |
| Environmental Precaution | Do not let product enter drains. |
| Methods and materials for containment and cleaning | Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts. |
| Reference to other sections | For disposal see section 13. |

7. Handling and Storage

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| Advice on protection against fire and explosion | Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. |
| Incompatible materials | Keep away from alkalis, strong oxidizing agents and metals. Provide containment walls of adequate capacity to hold any accidental spills. |

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| Hygiene measures | Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance. For precautions see section 2.2 |
| Advice on safe handling | Work under hood. Do not inhale substance/mixture. |
| Conditions for safe storage, including any incompatibilities | Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Moisture sensitive. |
| Storage conditions | Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Keep in a dry place. Air and moisture sensitive. Store under argon. Hygroscopic. Store at controlled room temperature (15 to 30°C). |
| Storage class | Storage class (TRGS 510): 6.1B: Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials |
| Specific end use(s) | Apart from the uses mentioned in section 1.2 no other specific uses are stipulated |
| Advice on general occupational hygiene | Advice on safe handling Observe label precautions. Change contaminated clothing. Wash hands after working with substance. |

8. Exposure controls and personal protection

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| Exposure controls | No specific additional engineering controls are required. Provide good natural or artificial ventilation. |
| Engineering Control | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |
| Eye/face protection | Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles |
| Body Protection | protective clothing |
| Skin protection | This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L |
| Respiratory protection | Required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P3 The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. |
| Other Protection Measure | Handle in accordance with good industrial hygiene and safety practice. |
| Control of environmental exposure | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. |

9. Physical and chemical properties

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| Physical state | powder |
| Colour | Colorless |
| Odour | No data available |
| Odor Threshold | Not Applicable |
| pH | No data available |
| Melting Point | 229 °C |
| Boiling Point | No data Available |
| Flash Point | 6 °C - closed cup |

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| Evaporation Rate | Not Applicable |
| Flammability (solid, gas) | No data available |
| Explosive limits | No Data Available |
| Upper/lower flammability or explosive limits | No data available |
| Autoignition temperature | No data available |
| Decomposition temperature | No data available |
| Vapour pressure | No data available |
| Viscosity | No data available |
| Density | 3,71 g/cm ³ at 20 °C |
| Relative Density | 3,717 at 20 °C |
| Specific Gravity | No data available |
| Partition coefficient | No data available |
| Explosive properties | No data available |
| Solubility | 39,8 g/l at 20 °C |
| Ignition temperature | No information available. |
| Particle characteristics | No data available |

10. Stability and reactivity

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| Reactivity | No data available |
| Chemical stability | The product is chemically stable under standard ambient conditions (room temperature) . |
| Possibility of hazardous reactions | Violent reactions possible with: Strong acids Acid anhydrides |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | Strong acids, Strong bases, Strong oxidizing agents, Strong reducing agents |
| Hazardous decomposition products | In the event of fire: see section 5 |

11. Toxicological information

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| Acute toxicity | LD50 Oral - Rat - male and female - 489 mg/kg Remarks: (ECHA) Acute toxicity estimate Oral - 500 mg/kg (Acute toxicity estimate according to Regulation (EC) No. 1272/2008) LC50 Inhalation - Rat - male and female - 4 h - 0,451 mg/l - dust/mist (OECD Test Guideline 403) Acute toxicity estimate Inhalation - 0,47 mg/l - dust/mist (Acute toxicity estimate according to Regulation (EC) No. 1272/2008) LD50 Dermal - Rat - > 2.000 mg/kg (OECD Test Guideline 402) |
| Skin corrosion/irritation | Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404) |
| Serious eye damage/irritation | Eyes - Rabbit Result: Risk of serious damage to eyes. - 4 h (OECD Test Guideline 405) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) |
| Respiratory or skin sensitization | Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406) |
| Carcinogenicity | No data available |
| Germ cell mutagenicity | Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Micronucleus test Species: Mouse Cell type: Bone marrow Application Route: Gavage Method: Regulation (EC) No. 440/2008, Annex, B.12 Result: negative Test Type: unscheduled DNA synthesis assay Species: Rat Cell type: Liver cells Application Route: Gavage Method: OECD Test Guideline 486 Result: negative |
| Reproductive toxicity | No data available |
| Specific target organ toxicity - single exposure | No data available |
| Additional Information | RTECS: UF9625000 Lung irritation, Cyanosis, Central nervous system |

depression To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

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| Persistence and degradability | The methods for determining biodegradability are not applicable to inorganic substances. |
| Toxicity to fish | Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 75 mg/l - 96 h (OECD Test Guideline 203) |
| Toxicity to daphnia and other aquatic invertebrates | Static test EC50 - Daphnia magna (Water flea) - 42,81 mg/l - 48 h (OECD Test Guideline 202) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: maleic acid |
| Toxicity | Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 1.520 mg/l - 96 h |
| Toxicity to bacteria | EC10 - Bacteria - 14 mg/l - 72 h Remarks: (Lit.) EC5 - E.coli - 15.000 mg/l Remarks: (Lit.) (maximum permissible toxic concentration) |
| Toxicity to algae | Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 74,35 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: maleic acid |
| Products Biodegradation | The methods for determining the biological degradability are not applicable to inorganic substances. |
| Mobility in soil | No data available |
| Results of PBT and vPvB assessment | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |
| Endocrine disrupting properties | No data available |
| Other adverse effects | Discharge into the environment must be avoided. |

13. Disposal considerations

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| Product | See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions. |
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14. Transport information

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| UN number | ADR/RID:3288 IMDG:3288 IATA: 3288 |
| UN proper shipping name | ADR/RID:TOXIC SOLID, INORGANIC, N.O.S. (Copper dihydroxide) IMDG: TOXIC SOLID, INORGANIC, N.O.S. (Copper dihydroxide)IATA:TOXIC SOLID, INORGANIC, N.O.S. (Copper dihydroxide) |
| Transport hazard class(es) | ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1 |
| Packaging group | ADR/RID: II IMDG: II IATA:II |
| Environmental hazards | ADR/RID: Yes IMDG: Yes IATA: No |
| Special precautions for user | No data available |
| Further information | Not classified as dangerous in the meaning of transport regulations. |

15. Regulatory information

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| Safety, health and environmental regulations/legislation specific for the substance or mixture | This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. |
| Other regulations | Observe work restrictions regarding maternity protection in accordance to |

Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.

For this product a chemical safety assessment was not carried out

Chemical Safety Assessment

16. Other information

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Other Information

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