# Material Safety Data Sheet

**Copper Hydroxide 53 Fungicide** (RXSOL-94-9451-005)

## 1. Product and Company Identifaction

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| Product Name | Copper Hydroxide 53 Fungicide |
| Part Number | RXSOL-94-9451-005 |

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

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


## 2. Composition / informationon ingredients

| Chemical Name | CAS | EC number | Weight | Formula |
|---|---|---|---|---|
| Copper dihydroxide | 20427-59-2 | 243-815-9 | = 100 % | $H_2CuO_2$ |

## 3. Hazards Identification

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| Signal Word | Danger |
| Hazard Statements | H302 Harmful if swallowed. H318 Causes serious eye damage. H330 Fatal if inhaled. H410 Very toxic to aquatic life with long lasting effects. |
| Precautionary statements | P260 Do not breathe dust. P273 Avoid release to the environment. P280 Wear eye protection/ face protection. P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| 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 | After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen. |
| 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. |

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| Skin Contact | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| Inhalation | Remove patient to fresh air, keep warm and at rest and get medical assistance in necessary. |
| Ingestion | 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 delaye | 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 | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| 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 | Oxides of phosphorus Sodium oxides Not combustible. Fire may cause evolution of: Oxides of phosphorus 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. |
| Enviromental 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. |

## 7. Handling and Storage

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| Advice on protection against fire and explosion | Keep away from open flames, hot surfaces and sources of ignition. |
| Incompatible materials | Keep away from alkalis, strong oxidizing agents and metals. Provide containment walls of adequate capacity to hold any accidental spills. |
| Hygiene measures | Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance. For precautions see section 2.2. |
| Precautions for safe handling | Work under hood. Do not inhale substance/mixture. |
| 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. |
| Requirements for storage | Keep in cool and store under shade. |

## 8. Exposure controls and personal protection

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| Exposure controls | No data available |
| Control parameters | Ingredients with workplace control parameters Contains no substances with occupational exposure limit values. |
| 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 EN374 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 entrepeneur 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 | Do not let product enter drains. |

## 9. Physical and chemical properties

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| Physical state | Powder |
| Colour | No data available |
| Odour | Amine-like |
| Odor Threshold | No data available |
| pH | No data available |
| Melting Point | 229 °C |
| Boiling Point | No data available |
| Flash Point | No data available |
| 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 |
| Density | 3,71 g/cm3 at 20 °C |
| Relative Density | 3,717 at 20 °C |
| Relative vapor density | No data available |
| Freezing point | No data available |
| Viscosity | 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 |
| 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 | No data available |
| Incompatible materials | No data available |
| 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/eye 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) |
| Toxic Effects on Human | May cause damage to the following organs: upper respiratory tract. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, sensitizer), of ingestion, of inhalation (lung irritant, lung sensitizer). |
| 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 |
| Special Remarks on other Toxi Effects on Humans | Acute Potential Health Effects: Skin: Causes skin irritation. May cause skin sensitization, an allergic reation, which becomes evident upon re-exposure to this material. Eyes: Causes eye irritation. Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May be harmful if swallowed. Inhalation: Causes respiratory tract irritation. May cause chemical pneumonitis and pulmonary edema, inflammation, edema of bronchi and larynx. Chronic Potential Health Effects: Repeated or prolonged skin exposure may cause allergic reactions in sensitive individuals. Repeated or prolonged exposure by inhalation may affect respiration and metabolism. |
| Endocrine disrupting properties | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: GL7600000 Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. |

## 12. Ecological information

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| Bioaccumulative potential | No data available |
| Persistence and degradability | The methods for determining biodegradability are not applicable to inorganic substances. |
| Toxicity to fish | Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0,032 mg/l - 96 h Remarks: (ECOTOX Database) The value is given in analogy to the following substances: Copper(II) sulphate |
| Toxicity to daphnia and other aquatic invertebrates | Static test EC50 - Daphnia magna (Water flea) - 0,092 mg/l - 48 h (OECD Test Guideline 202) Remarks: (anhydrous substance) The value is given in analogy to the following substances: Copper(II) sulphate |

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| Toxicity to algae | Flow-through test NOEC - algae - 0,002 mg/l - 7 Days Remarks: (in analogy to similar products) (ECHA) The value is given in analogy to the following substances: sodium hypochlorite solution |
| Toxicity to bacteria | Static test EC50 - activated sludge - 563 mg/l - 3 h (OECD Test Guideline 209) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: sodium hypochlorite solution |
| Mobility in soil | No Information 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 | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |
| Other adverse effects | Discharge into the environment must be avoided. |

## 13. Disposal considerations

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| Disposal methods | The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems. |
| Contaminated packaging | Dispose of as unused product. |
| Waste treatment Method | See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions. |

## 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)<br>IMDG:Toxic solid, inorganic, n.o.s. (Copper dihydroxide)<br>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 |
| Further information | No data available | | |

## 15. Regulatory information

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| Inventory status | Components are on the following inventories: Polymaleic acid: - US TSCA, Canadian DSL, EU EINECS, Australian AICS, Korean, Philippine PICCS and Chinese Xi irritant R 36/38 Irritant to eyes & skin R 41 Risk of serious damage to eyes S24/25 Avoid contact with skin and eyes S26/28 In case of contact eyes & skin, rinse with plenty water and seek medical advice Section 312/313: Not listed. Not listed under California proposition 65. |
| 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. |
| National legislation | Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ACUTE TOXIC : ENVIRONMENTAL HAZARDS |
| 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. |
| Chemical Safety Assessment | For this product a chemical safety assessment was not carried out |

## 16. Other information

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| Other Information | The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and weassume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages. |