



# SAFETY DATA SHEET COPPER CARBONATE REVISION 4, DATE 02 APR 2022

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Copper Carbonate</b>
<b>Other Names</b>	Copper carbonate, basic; Copper(II) carbonate, Copper(II) hydroxide (1:1); Copper(II) carbonate, hydroxide
<b>Uses</b>	Pigments; wood preservation; stock feed; pyrotechnics.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	$\text{CuCO}_3 \cdot \text{Cu(OH)}_2$
<b>Chemical Name</b>	Copper, [carbonato(2-)]dihydroxydi-
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

## 2. HAZARD IDENTIFICATION

### Poisons Schedule (Aust)

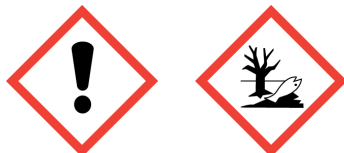
Schedule 6



## Globally Harmonised System

**Hazard Classification** Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories** Acute Toxicity (Oral) - Category 4  
Acute Toxicity (Inhalation) - Category 4  
Serious Eye Damage/Irritation - Category 2A  
Acute Hazard To The Aquatic Environment - Category 1  
Long-term Hazard To The Aquatic Environment - Category 1

**Pictograms**

**Signal Word** Warning

**Hazard Statements** **H302 + H332** Harmful if swallowed or if inhaled.  
**H319** Causes serious eye irritation.  
**H410** Very toxic to aquatic life with long lasting effects.

<b>Precautionary Statements</b>	Prevention	<b>P261</b>	Avoid breathing dusts or mists.
		<b>P280</b>	Wear eye protection/face protection.
		<b>P273</b>	Avoid release to the environment.
		<b>P264</b>	Wash hands thoroughly after handling.
		<b>P270</b>	Do not eat, drink or smoke when using this product.
		<b>P271</b>	Use only outdoors or in a well-ventilated area.
	Response	<b>P312</b>	Call a POISON CENTER or doctor if you feel unwell.
		<b>P337 + P313</b>	If eye irritation persists: Get medical advice.
		<b>P391</b>	Collect spillage.
		<b>P330</b>	Rinse mouth.
	Disposal	<b>P305 + P351 + P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		<b>P304 + P340</b>	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
		<b>P501</b>	Dispose of contents/container in accordance with local / regional / national / international regulations.

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Dangerous Goods Classification** NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
Copper carbonate, basic	CuCO <sub>3</sub> .Cu(OH) <sub>2</sub>	12069-69-1	<=100 %

**4. FIRST AID MEASURES****Description of necessary measures according to routes of exposure**

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.
<b>Eye</b>	IF IN EYES: Protect unharmed eye! Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
<b>Skin</b>	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet (SDS) to the doctor in attendance. Do not leave the victim unattended.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

**5. FIRE FIGHTING MEASURES**

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	May burn but does not ignite readily.
<b>Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not scatter spilled material with high-pressure water streams.
<b>Fire and Explosion Hazard</b>	May be an explosion hazard in contact with incompatible materials.
<b>Hazardous Products of Combustion</b>	Fire may produce irritating and/or toxic fumes, including Carbon oxides, Metal oxides.
<b>Special Fire Fighting Instructions</b>	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<b>Personal Protective Equipment</b>	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area.
<b>Containment</b>	Stop leak if you can do it without risk. Prevent dust cloud. Prevent entry into waterways, sewers, basements or confined areas.
<b>Decontamination</b>	No information available. Spillages and decontamination runoff should be prevented from entering drains and watercourses.

**Environmental Precautionary Measures**

**Evacuation Criteria** Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.

**Personal Precautionary Measures** Use personal protective equipment as required (see SECTION 8).

**7. HANDLING AND STORAGE**

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Avoid formation of respirable particles. Avoid breathing dust/mist and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Avoid contact with incompatible materials. Avoid release to the environment - Collect spillage (see SECTION 6).
<b>Storage</b>	Store in a cool, dry and well-ventilated place. To maintain product quality, do not store in heat or direct sunlight. Keep container tightly closed. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Keep away from foodstuffs and incompatible materials (see SECTION 10).
<b>Container</b>	Keep in the original container.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>General</b>	No specific exposure standards are available for this product. For Copper (CAS No. 7440-50-8): - Safe Work Australia Exposure Standard, Copper (fume): TWA = 0.2 mg/m <sup>3</sup> - Safe Work Australia Exposure Standard, Copper (dust & mists): TWA = 1 mg/m <sup>3</sup> (as Cu).
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
<b>Personal Protection Equipment</b>	- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or with high concentrations. Recommended: Suitable mask with particle filter P3 (refer to AS/NZS 1715 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Wear safety glasses with side shields or goggles. - Hand protection: Handle with gloves. Recommended: Gloves, e.g. Nitrile rubber (0.12 mm), PVC (1.1 mm), Neoprene (0.35 mm); Break through time: >480 min. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Long sleeves; Footwear protecting against chemicals.
<b>Special Hazards Precautions</b>	Electrical installations/working materials must comply with the technological safety standards.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of work. Take off contaminated clothing and wash it before reuse.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Solid
<b>Appearance</b>	Fine powder
<b>Odour</b>	Odourless
<b>Colour</b>	Green
<b>pH</b>	No Data Available
<b>Vapour Pressure</b>	No Data Available

<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	No Data Available
<b>Melting Point</b>	>400 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	<0.005 g/l in water (20 °C) pH: 6.2 - 6.8
<b>Specific Gravity</b>	3.48
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	3.48 g.cm3
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	221.11 g/mol
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	No information available.
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	May burn but does not ignite readily.
<b>Reactions That Release Gases or Vapours</b>	Fire/decomposition may produce irritating and/or toxic fumes, including Carbon oxides, Metal oxides.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	May be an explosion hazard in contact with incompatible materials.
<b>Chemical Stability</b>	Stable at normal temperatures and under recommended storage conditions.
<b>Conditions to Avoid</b>	Avoid contact with incompatible materials.
<b>Materials to Avoid</b>	Incompatible/reactive with oxidising agents, strong acids, sodium hypobromite, acetylene, hydrazine, nitromethane.
<b>Hazardous Decomposition Products</b>	No decomposition at normal temperatures and pressures. Fire/decomposition may produce irritating and/or toxic (acrid) fumes, including Carbon oxides, Metal oxides.

Hazardous Polymerisation

Will not occur.

**11. TOXICOLOGICAL INFORMATION****General Information**

- Acute toxicity: Harmful if swallowed and if inhaled.
- Skin corrosion/irritation: May cause skin irritation; Certain individuals may be sensitive to Copper.
- Eye damage/irritation: Cause serious eye irritation, redness, pain, blurred vision, discolouration, corneal opacity, inflammation, conjunctivitis.
- Respiratory/skin sensitisation: No sensitising effect known.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: No information available.
- Reproductive toxicity: No information available.
- STOT (single exposure): May cause irritation to the upper respiratory tract. Symptoms may include coughing, sore throat and shortness of breath. May result in ulceration and perforation of respiratory tract. When heated, this compound may give off copper fume, which can cause symptoms similar to the common cold, including chills and stuffiness.
- STOT (repeated exposure): Prolonged exposure to dusts of copper salts may cause discoloration of the skin or hair, blood or liver damage, ulceration and perforation of the nasal septum, runny nose, metallic taste and atrophic changes and irritation of the mucous membranes.
- Aspiration toxicity: No information available.

**Acute****Ingestion**

- Acute toxicity (Oral):
- LD50, Rat (male/female): 1,385 mg/kg [OECD TG 401].

**Carcinogen Category**

None

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

No information available.

**Persistence/Degradability**

No information available.

**Mobility**

No information available.

**Environmental Fate**

Very toxic to aquatic life with long lasting effects - The product should not be allowed to enter drains, water courses or the soil.

**Bioaccumulation Potential**

No information available.

**Environmental Impact**

No Data Available

**13. DISPOSAL CONSIDERATIONS****General Information**

Whatever cannot be salvaged for recovery or recycling should be disposed of as hazardous waste at an approved waste disposal facility.

**Special Precautions for Land Fill**

Contaminated packaging: Empty remaining contents. Dispose of contaminated packaging as if unused product. Do not re-use empty containers.

**14. TRANSPORT INFORMATION**

**Land Transport (Australia)**

ADG Code

<b>Proper Shipping Name</b>	Copper(II) carbonate, hydroxide
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	AU01
<b>Comments</b>	Not regulated as DG when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs.

**Land Transport (Malaysia)**

ADR Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper(II) carbonate, hydroxide)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Land Transport (New Zealand)**

NZS5433

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper(II) carbonate, hydroxide)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	47 Low To Moderate Hazard Substances
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Land Transport (United States of America)**

US DOT

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper(II) carbonate, hydroxide)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>ERG</b>	171 Substances (Low to Moderate Hazard)
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper(II) carbonate, hydroxide)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available
<b>EMS</b>	F-A, S-F
<b>Marine Pollutant</b>	Yes

**Air Transport**

IATA DGR

<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper(II) carbonate, hydroxide)
<b>Class</b>	9 Miscellaneous Dangerous Goods and Articles
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	3077
<b>Hazchem</b>	2Z
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road &amp; Rail (ADG Code)

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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**15. REGULATORY INFORMATION**

<b>General Information</b>	COPPER COMPOUNDS are included in Schedule 6 of the SUSMP except: when separately specified in these Schedules; in preparations for human internal use containing 5 mg or less of copper per recommended daily dose; pigments where the solubility of the copper compound(s) in water is 1 gram per litre or less; in feed additives containing 1 per cent or less of copper; or in other preparations containing 5 per cent or less of copper compounds.
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<b>Poisons Schedule (Aust)</b>	Schedule 6
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**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>Approval Code</b>	HSR003151
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**National/Regional Inventories**

<b>Australia (AIC)</b>	Listed
<b>Canada (DSL)</b>	Not Determined



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Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	235-113-6
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Taiwan (TCSI)	Not Determined
USA (TSCA)	Not Determined
Mexico (INSQ)	Not Determined

## 16. OTHER INFORMATION

Related Product Codes	COPCAR1000, COPCAR1001, COPCAR1002, COPCAR1003, COPCAR1004, COPCAR1005, COPCAR1500, COPCAR1600, COPCAR2000, COPCAR3000, COPCAR4000, COPCAR5500, COPCAR5510, COPCAR5600, COPCAR7000, COPCAR8000, COPCAR8001, COPCAR8002, COPCAR8003, COPCAR8004
Revision	4
Revision Date	02 Apr 2022
Key/Legend	<p>&lt; Less Than &gt; Greater Than  <b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand  <b>deg C (°C)</b> Degrees Celcius  <b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand  <b>deg F (°F)</b> Degrees Fahrenheit  <b>g</b> Grams  <b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre  <b>g/l</b> Grams per Litre  <b>HSNO</b> Hazardous Substance and New Organism  <b>IDLH</b> Immediately Dangerous to Life and Health  <b>immiscible</b> Liquids are insoluble in each other.  <b>inHg</b> Inch of Mercury  <b>inH<sub>2</sub>O</b> Inch of Water  <b>K</b> Kelvin  <b>kg</b> Kilogram  <b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre  <b>lb</b> Pound  <b>LC<sub>50</sub></b> LC stands for lethal concentration. LC<sub>50</sub> is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.  <b>LD<sub>50</sub></b> LD stands for Lethal Dose. LD<sub>50</sub> is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.  <b>ltr or L</b> Litre  <b>m<sup>3</sup></b> Cubic Metre</p>

**mbar** Millibar

**mg** Milligram

**mg/24H** Milligrams per 24 Hours

**mg/kg** Milligrams per Kilogram

**mg/m<sup>3</sup>** Milligrams per Cubic Metre

**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

**mm** Millimetre

**mmH<sub>2</sub>O** Millimetres of Water

**mPa.s** Millipascals per Second

**N/A** Not Applicable

**NIOSH** National Institute for Occupational Safety and Health

**NOHSC** National Occupational Health and Safety Commission

**OECD** Organisation for Economic Co-operation and Development

**Oz** Ounce

**PEL** Permissible Exposure Limit

**Pa** Pascal

**ppb** Parts per Billion

**ppm** Parts per Million

**ppm/2h** Parts per Million per 2 Hours

**ppm/6h** Parts per Million per 6 Hours

**psi** Pounds per Square Inch

**R** Rankine

**RCP** Reciprocal Calculation Procedure

**STEL** Short Term Exposure Limit

**TLV** Threshold Limit Value

**tne** Tonne

**TWA** Time Weighted Average

**ug/24H** Micrograms per 24 Hours

**UN** United Nations

**wt** Weight