



SUPREME PETRO
CHEMICALS

IMPORTER & DISTRIBUTOR OF INDUSTRIAL CHEMICALS ·
SINCE 1997

No. 145, 1st Floor, Raja Muthiah Road,
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SAFETY DATA SHEET (SDS)

Copper Sulphate *SDS*

REV 3.1
29 JULY 2026
GHS REV.11 (2025)

CAS 7758-98-7 (anhydrous); 7758-99-8 (pentahydrate) EC 231-847-6 (anhydrous)

SIGNAL WORD **DANGER**

GHS05

Corrosive

GHS06

Acute Toxicity

GHS07

Harmful / Irritant

GHS09

Environmental
Hazard

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE
COMPANY

Product Name	Copper Sulphate
Product Type	Inorganic copper salt — corrosive / toxic / environmentally hazardous solid
Chemical Family	Inorganic Sulphate Salt (Copper Salt)
CAS No.	7758-98-7 (anhydrous); 7758-99-8 (pentahydrate)
EC No.	231-847-6 (anhydrous)
Intended Use	Industrial and professional use: agriculture (fungicide, algicide), electroplating, water treatment, chemical synthesis. See SPC product page.
Restrictions on Use	Industrial and professional use only. Confirm suitability for final application before use. Not for consumer use unless specifically labelled.
Supplier	Supreme Petro Chemicals
Address	No. 145, 1st Floor, Raja Muthiah Road, Periyamet, Chennai – 600003, India
Emergency Contact	Sanketh — +91 86087 80096 · Sudarshan — +91 81979 47045
Email	admin@supremepetrochemicals.com
Product Page	https://www.supremepetrochemicals.com/products/copper-sulphate
SDS Revision	July 2026



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SDS Version 3.1

SECTION 2 HAZARD IDENTIFICATION

Acute Tox. 3 (Oral); Acute Tox. 4 (Oral); Skin Corr. 1; Skin Irrit. 2; Skin Sens. 1;
Eye Dam. 1; Eye Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1

Signal Word DANGER

GHS Pictograms GHS05 (Corrosive) | GHS06 (Acute Toxicity) | GHS07 (Harmful /
Irritant) | GHS09 (Environmental Hazard)

HAZARD STATEMENTS

- H301 — Toxic if swallowed
- H302 — Harmful if swallowed
- H314 — Causes severe skin burns and eye damage
- H315 — Causes skin irritation
- H317 — May cause an allergic skin reaction
- H318 — Causes serious eye damage
- H319 — Causes serious eye irritation
- H335 — May cause respiratory irritation
- H400 — Very toxic to aquatic life
- H410 — Very toxic to aquatic life with long lasting effects

PRECAUTIONARY — PREVENTION

- P260 — Do not breathe dust / fume / gas / mist / vapours / spray.
- P271 — Use only outdoors or in a well-ventilated area.
- P272 — Contaminated work clothing should not be allowed out of the workplace.
- P273 — Avoid release to the environment.
- P280 — Wear protective gloves / protective clothing / eye protection / face protection.

PRECAUTIONARY — RESPONSE / STORAGE / DISPOSAL

- P301+P310 — IF SWALLOWED: Immediately call a POISON CENTER or doctor.



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- P303+P361+P353 — IF ON SKIN OR HAIR: Remove / take off immediately all contaminated clothing. Rinse skin with water / shower.
- P304+P340 — IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 — IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P331 — Do NOT induce vomiting.
- P312 — Call a POISON CENTER or doctor if you feel unwell.
- P363 — Wash contaminated clothing before reuse.
- P391 — Collect spillage.
- P403+P235 — Store in a well-ventilated place. Keep cool.
- P405 — Store locked up.
- P501 — Dispose of contents / container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	EC NO.	% W/W	GHS CLASSIFICATION
Copper Sulphate (anhydrous or pentahydrate)	7758-98-7 231- / 7758-99-847-6 8		≥99 (see CoA)	Acute Tox. 3 (Oral); Acute Tox. 4 (Oral); Skin Corr. 1; Skin Irrit. 2; Skin Sens. 1; Eye Dam. 1; Eye Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1

Percentages are by weight. Full text of H-statements listed in Section 16. Confirm anhydrous vs. pentahydrate form and purity grade from supplier CoA before use.

SECTION 4 FIRST AID MEASURES

Inhalation	Remove person immediately to fresh air. Keep at rest in a position comfortable for breathing. If symptoms persist (coughing, respiratory irritation), seek medical attention. Administer oxygen if breathing is difficult.
Skin Contact	Remove contaminated clothing immediately. Wash affected skin thoroughly with large amounts of water and soap for at least 15 minutes. If skin burns or irritation persist, seek medical attention. Wash contaminated clothing before reuse.



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Eye Contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do — continue rinsing. Seek immediate medical attention. Do not rub eyes.
Ingestion	Rinse mouth with water. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. If vomiting occurs naturally, keep head low to avoid aspiration. Never give anything by mouth to an unconscious person.
Note to Physician	Copper sulphate is a systemic toxin. Treat symptomatically. In cases of significant ingestion, consider gastric lavage with intubation. Monitor for hepatic, renal, and haematological effects. Specific antidote: D-penicillamine or BAL (British Anti-Lewisite) may be considered under specialist guidance.

SECTION 5 FIREFIGHTING MEASURES

Suitable Extinguishing Media	Copper sulphate is a non-combustible inorganic solid. Use extinguishing media appropriate to surrounding fire: water spray, dry powder, CO ₂ , or foam.
Unsuitable Media	Avoid high-pressure direct water jet, which may disperse the powder and contaminate waterways.
Specific Hazards	Not flammable. On decomposition above ~650°C, releases toxic copper oxide fumes and sulphur dioxide (SO ₂). Containers may build pressure if sealed and exposed to prolonged heat.
Protective Equipment	Wear full protective clothing and self-contained breathing apparatus (SCBA). Avoid breathing decomposition products.
Special Procedures	Evacuate non-essential personnel. Prevent fire-fighting runoff from entering drains, sewers, or waterways — copper ions are acutely toxic to aquatic organisms. Collect contaminated runoff for disposal.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate the spill area. Keep non-essential personnel away. Use appropriate PPE from Section 8. Avoid generating dust. Do not breathe dust.
Environmental Precautions	Prevent entry into drains, sewers, soil, and watercourses. Copper sulphate is very toxic to aquatic organisms. Notify authorities if significant environmental release occurs.



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Containment / Clean-up	Sweep or vacuum up dry solid into labelled, compatible, sealed containers — avoid raising dust. Do not wash into drains. Collect spillage for disposal (Section 13). Contaminated surfaces: wash with water and neutralise if required. Use damp absorbent for minor spills.
Reference to Sections	See Section 8 for PPE; Section 13 for disposal; Section 15 for regulatory information.

SECTION 7 HANDLING AND STORAGE

Handling Precautions	Use adequate local exhaust ventilation to control dust. Avoid generating and inhaling dust. Avoid skin and eye contact. Handle in closed systems where possible.
Hygiene	Wash hands and exposed skin thoroughly after handling. Remove and wash contaminated clothing before reuse. Do not eat, drink, or smoke when using.
Storage Conditions	Store in original, tightly closed, compatible containers in a cool, dry, well-ventilated area, away from moisture. Protect from direct sunlight and heat sources.
Storage Temperature	Ambient (15–25°C recommended). Avoid exposure to high humidity — copper sulphate pentahydrate is hygroscopic and may cake or effloresce.
Incompatible Materials	Strong alkalis (e.g. sodium hydroxide), strong reducing agents, aluminium, iron (galvanic corrosion risk), potassium hydroxide. See Section 10.
Segregation	Segregate from food, drink, animal feed, oxidisers, and incompatible metals. Store away from water courses and drains.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limit	CAS 7758–98–7 / 7758–99–8 — No universal OEL; verify current local standard. ACGIH TLV (copper dusts/mists): 1 mg/m ³ TWA (as Cu). OSHA PEL (copper fume): 0.1 mg/m ³ ; (copper dusts/mists): 1 mg/m ³ . India: confirm current CPCB/MoEF or MSIHC Rules limit. Use ALARA/good industrial hygiene if no local OEL established.
Engineering Controls	Use local exhaust ventilation (LEV) and dust extraction at point of generation. General dilution ventilation for lower-intensity



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	operations. Prevent dust accumulation. Explosion-proof equipment not required (non-flammable solid).
Respiratory Protection	If engineering controls are insufficient to keep dust below OEL: use a NIOSH-approved or EN 143 P2/P3 particulate respirator. Use SCBA for emergency or confined-space entry.
Hand / Eye / Skin	Gloves: chemical-resistant (nitrile, neoprene, PVC, or butyl rubber) – select for breakthrough time appropriate to task duration. Eye/Face: EN 166 / ANSI Z87.1 chemical splash goggles; add face shield where dust or splash risk. Body: chemical-resistant lab coat or coverall; safety footwear. Provide eyewash station and emergency safety shower at work location.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Blue crystalline solid (pentahydrate) or white/grey powder (anhydrous). Odourless granules or powder.
Odour	Odourless
Odour Threshold	Not applicable (odourless inorganic solid)
pH	~3.5–4.5 (50 g/L aqueous solution at 20°C) – acidic due to hydrolysis of Cu ²⁺
Melting / Freezing Point	Pentahydrate: loses crystal water at ~110°C (dehydration), not a true melt. Anhydrous CuSO ₄ decomposes at ~650°C before melting. No discrete melting point reported.
Boiling Point / Range	Not applicable – decomposes above ~650°C to CuO and SO ₃ / SO ₂ before reaching a boiling point.
Flash Point	Not applicable – non-flammable inorganic solid. No flash point.
Auto-ignition Temperature	Not applicable – non-flammable inorganic solid.
Flammability Limits	Not flammable. No lower or upper flammability limits.
Vapour Pressure	Negligible at ambient temperature (solid inorganic salt). No meaningful vapour pressure.
Vapour Density (air = 1)	Not applicable (solid; negligible vapour at ambient conditions)
Relative Density	~2.28 g/cm ³ at 15°C (pentahydrate); ~3.60 g/cm ³ (anhydrous) – denser than water
Solubility in Water	~203 g/L at 20°C (cold water); very soluble in hot water. Freely soluble.
Log Pow (Partition Coeff.)	Not applicable – inorganic salt; log Pow concept does not apply to ionic compounds.



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Evaporation Rate	Not applicable (solid; negligible vapour pressure at ambient conditions)
Viscosity	Not applicable (solid)
VOC Content	Zero — inorganic solid, no organic volatile components.

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage and handling conditions. Pentahydrate effloresces (loses water) above ~45°C in dry conditions.
Conditions to Avoid	Moisture/humidity (causes caking of anhydrous form), heat above 110°C (initiates dehydration), temperatures above ~650°C (decomposition). Avoid prolonged exposure to incompatible materials.
Incompatible Materials	Strong alkalis (sodium hydroxide, potassium hydroxide — precipitate $\text{Cu}(\text{OH})_2$); strong reducing agents; aluminium and iron (galvanic/displacement reactions); concentrated acids (accelerate dissolution and corrosion). Reactive with aluminium chloride under elevated temperature — not a concern under normal ambient storage.
Hazardous Decomposition	On thermal decomposition above ~650°C: copper(II) oxide (CuO) fume, sulphur dioxide (SO_2), and sulphur trioxide (SO_3) — all toxic/irritating. Decomposition products in fire may also include irritating copper-containing fumes.
Hazardous Reactions	No self-reactive or polymerisation hazard. No hazardous reactions under normal storage when handled correctly.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	Toxic if swallowed (H301 / H302). Rat LD_{50} (oral): ~300 mg/kg (pentahydrate). Classified Acute Tox. 3 and Acute Tox. 4 (Oral). Causes nausea, vomiting, abdominal pain, and — in severe cases — hepatic and renal damage, haemolysis.
Acute Dermal Toxicity	No confirmed classification for dermal route based on available data; primary concern is skin corrosion/irritation (see below). Confirm with supplier toxicology data.



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Acute Inhalation Toxicity	Classified STOT SE 3 (H335 – respiratory irritation). Dust inhalation causes irritation to nose, throat, and lungs. May cause metal fume fever at elevated exposures.
Skin Irritation	Classified Skin Corr. 1 (H314) – causes severe skin burns and eye damage – and Skin Irrit. 2 (H315) – causes skin irritation. Concentrated solutions/prolonged contact may cause chemical burns.
Eye Irritation	Classified Eye Dam. 1 (H318) – causes serious eye damage – and Eye Irrit. 2 (H319). Can cause permanent damage to the cornea on prolonged contact.
Sensitisation	Classified Skin Sens. 1 (H317). Repeated exposure may cause allergic skin reactions. Copper is a known skin sensitiser.
Carcinogenicity	Not classified as a carcinogen under GHS/IARC/NTP/OSHA based on available data.
Mutagenicity	Not classified as a mutagen under GHS based on available data. Confirm with current ECHA / supplier toxicology dossier.

SECTION 12 ECOLOGICAL INFORMATION

Aquatic Toxicity	Classified Aquatic Acute 1 (H400) and Aquatic Chronic 1 (H410) – very toxic to aquatic life with long lasting effects. Copper ion is highly toxic to algae, fish, and invertebrates. LC ₅₀ (fish, 96h): ~0.02–0.3 mg/L as Cu. EC ₅₀ (Daphnia, 48h): ~0.02 mg/L. NOEC values are very low; prevent any release to water bodies.
Persistence / Degradability	Copper is an element; it does not biodegrade. It persists in aquatic and soil environments and bioaccumulates in organisms. Not biodegradable.
Bioaccumulation	Copper bioaccumulates in aquatic organisms. BCF values vary by species; inorganic copper ions do not partition via log Kow. Treat as bioaccumulative based on Aquatic Chronic 1 classification.
Mobility in Soil	Copper ions adsorb to soil particles and organic matter; mobility is pH-dependent. At low pH, copper is more mobile and bioavailable. Can leach to groundwater from spills on sandy / low-organic soils.
Other Adverse Effects	Avoid uncontrolled release to soil, surface water, or groundwater. Copper is acutely and chronically toxic to soil organisms (earthworms, microorganisms). Manage under applicable environmental regulations.



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SECTION 13 DISPOSAL CONSIDERATIONS

Waste from Product	Dispose of contents through an authorised hazardous waste contractor in accordance with local, state, and national regulations. Do not pour into drains or water courses. Copper-containing waste may be subject to hazardous waste classification under applicable rules.
Contaminated Packaging	Empty containers may retain residues and should be handled as hazardous waste until triple-rinsed and certified clean. Return to supplier or dispose via authorised contractor. Do not reuse for food or beverage storage.
Indian Regulations	Comply with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended); Water (Prevention and Control of Pollution) Act; and applicable CPCB/SPCB requirements for copper-bearing waste disposal.

SECTION 14 TRANSPORT INFORMATION

PARAMETER	UN / ADR (ROAD)	IMDG (SEA)	IATA (AIR)
UN Number	UN 3077	UN 3077	UN 3077
Proper Shipping Name	Environmentally Hazardous Substance, Solid, N.O.S. (Copper Sulphate)	Environmentally Hazardous Substance, Solid, N.O.S. (Copper Sulphate)	Environmentally Hazardous Substance, Solid, N.O.S. (Copper Sulphate)
Class	9 (Miscellaneous Dangerous Goods)	9	9
Packing Group	III	III	III
Marine Pollutant	Yes (mark package accordingly)	Yes — Mark 'Marine Pollutant'	Not applicable (air)

Copper sulphate pentahydrate meets UN 3077 criteria as an environmentally hazardous substance due to Aquatic Acute 1 / Aquatic Chronic 1 classification. Verify current ADR/IMDG/IATA editions and carrier rules before each shipment. Use UN-certified packaging. Label with Class 9 placard and Marine Pollutant mark for sea transport. Some grades/quantities may qualify for limited quantity or excepted quantity exemptions — confirm with your freight forwarder.

SECTION 15 REGULATORY INFORMATION

EU / REACH / CLP	Subject to REACH registration. Classified and labelled per EU CLP Regulation (EC) No. 1272/2008 in accordance with Section 2 above.
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	Observe applicable REACH and downstream user obligations.
OSHA (USA)	Prepared in OSHA HCS/HazCom 2012 (29 CFR 1910.1200) aligned 16-section SDS format. Copper sulphate is listed on TSCA Inventory – verify SNUR or import restrictions before US shipment.
India	Comply with Manufacture, Storage and Import of Hazardous Chemical (MSIHC) Rules, 1989 (as amended); Hazardous and Other Wastes Rules, 2016; Environment (Protection) Act, 1986; Factories Act, 1948 (Schedule 1 chemicals). Confirm applicable threshold quantities with DISH/PESO.
Other Jurisdictions	China: comply with GB/T SDS requirements. Canada: classify/label under WHMIS 2015/HPR; bilingual SDS may be required for Canadian sale. Australia: verify AICS inventory status before import. GCC/Middle East: observe applicable GHS-aligned local requirements.

SECTION 16 OTHER INFORMATION

Prepared By	Supreme Petro Chemicals — Technical Department
SDS Standard	UN GHS Rev.11 (2025); OSHA HCS/HazCom; EU CLP/REACH Annex II; Canada WHMIS/HPR — 16-section format
Revision Date	24 June 2026
Version	3.0 (supersedes prior issues)
Disclaimer	Information is given in good faith and believed accurate at issue. It does not constitute a specification or guarantee; the user is responsible for safe use, handling and compliance.

FULL TEXT OF H-STATEMENTS

- H301 — Toxic if swallowed
- H302 — Harmful if swallowed
- H314 — Causes severe skin burns and eye damage
- H315 — Causes skin irritation
- H317 — May cause an allergic skin reaction
- H318 — Causes serious eye damage
- H319 — Causes serious eye irritation
- H335 — May cause respiratory irritation



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- H400 — Very toxic to aquatic life
 - H410 — Very toxic to aquatic life with long lasting effects
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