

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

SECTION 1. IDENTIFICATION

Product name : Copper(II) nitrate hemi(pentahydrate)

Number : 000000021160

Product Use Description : Laboratory chemicals

Manufacturer or supplier's details : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

For more information call : 1-800-368-0050
+1-231-726-3171(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
: **Transportation (CHEMTREC): 1-800-424-9300 or**
: **+1-703-527-3887**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : solid

Color : blue green

Odor : odourless

Classification of the substance or mixture

Classification of the substance or mixture : Oxidizing solids, Category 1
Corrosive to metals, Category 1
Acute toxicity, Category 4, Oral
Skin corrosion, Category 1B
Serious eye damage, Category 1

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Version 1.1

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GHS Label elements, including precautionary statements

Symbol(s)

:



Signal word

:

Danger

Hazard statements

:

May cause fire or explosion; strong oxidizer.
May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary statements

:

Prevention:

Keep away from heat.
Keep/ Store away from clothing/ combustible materials.
Take any precaution to avoid mixing with combustibles.
Keep only in original container.
Do not breathe dust or mist.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear fire/ flame resistant/ retardant clothing.

Response:

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

Immediately call a POISON CENTER/ doctor.

Wash contaminated clothing before reuse.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

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Absorb spillage to prevent material damage.

Storage:

Store locked up.

Store in corrosive resistant container with a resistant inner liner.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTSFormula : $\text{CuN}_2\text{O}_6 \cdot 2,5\text{H}_2\text{O}$

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
Copper(II) nitrate-2,5-hydrate	19004-19-4	100.00 %

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Call a physician.

Skin contact : After contact with skin, wash immediately with plenty of water. Call a physician.

Eye contact : Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Remove contact lenses. Call a physician immediately.

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

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Ingestion : Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician immediately.

Notes to physician

Most important symptoms/effects, acute and delayed : No information available.

Indication of immediate medical attention and special treatment needed, if necessary : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Foam
Carbon dioxide (CO₂)
Dry powder

Specific hazards during firefighting : Strong oxidizer. Contact with other material may cause fire. Keep away from reducing agents.
In fires, the product supports combustion.
In case of fire hazardous decomposition products may be produced such as:
Copper oxides
Nitrogen oxides (NO_x)

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Wear personal protective equipment. Unprotected persons must be kept away.
Ensure adequate ventilation.

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

- Avoid dust formation.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.
Discharge into the environment must be avoided.
Do not flush into surface water or sanitary sewer system.
Do not allow run-off from fire fighting to enter drains or water courses.
- Methods and materials for containment and cleaning up : Use mechanical handling equipment.
Sweep up and shovel into suitable containers for disposal.
Do not pick up with the help of saw-dust or other combustible substances.
Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE**Handling**

- Precautions for safe handling : Wear personal protective equipment.
Use only in well-ventilated areas.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
- Advice on protection against fire and explosion : Keep away from easily oxidizable materials.
Keep away from combustible material.

Storage

- Conditions for safe storage, including any incompatibilities : Store in original container.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep away from heat and sources of ignition.
Do not store near combustible materials.
Store locked up.
- Advice on common storage : Keep away from reducing agents.
Do not store with combustible materials.

Copper(II) nitrate hemi(pentahydrate)
12837-500G

Version 1.1

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
- Engineering measures : Use with local exhaust ventilation.
- Eye protection : Safety goggles
- Hand protection : Impervious gloves
Gloves must be inspected prior to use.
Replace when worn.
- Skin and body protection : Protective suit
- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
- Hygiene measures : Keep working clothes separately.
Separate rooms are required for washing, showering and changing clothes.
When using, do not eat, drink or smoke.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
Copper(II) nitrate-2,5-hydrate	19004-19-4	TWA : Time weighted average	0.2 mg/m ³	03 2014	ACGIH:US. ACGIH Threshold Limit Values, as amended
Further information	:	Form of exposure : Fume. Expressed as : as Cu			

Copper(II) nitrate-2,5-hydrate	19004-19-4	TWA : Time weighted average	1 mg/m ³	03 2014	ACGIH:US. ACGIH Threshold Limit Values, as amended
Further information	:	Form of exposure : dust/mist Expressed as : as Cu			

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

Copper(II) nitrate-2,5-hydrate	19004-19-4	REL : Recommended exposure limit (REL):	1 mg/m3	2010	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Further information	:	Form of exposure : dust/mist Expressed as : as Cu			
Copper(II) nitrate-2,5-hydrate	19004-19-4	REL : Recommended exposure limit (REL):	0.1 mg/m3	2016	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Further information	:	Form of exposure : Fume. Expressed as : as Cu			

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: solid
Color	: blue green
Odor	: odourless
Odor threshold	: Note: No data available
pH	: 3.5 - 4.5 at 50.00 g/l, 20 °C
Melting point (decomposition)	: 114 °C
Boiling point/boiling range	: Note: No data available
Flash point	: Note: Not applicable

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

Evaporation rate	: Note: No data available
Flammability	: The product is not flammable.
Lower explosion limit	: Note: Not applicable
Upper explosion limit	: Note: Not applicable
Vapor pressure	: Note: No data available
Vapor density	: Note: No data available
Density	: ca. 2.320 g/cm ³ at 20 °C
Water solubility	: 1,219 g/l at 20 °C
Partition coefficient: n-octanol/water	: Note: No data available
Ignition temperature	: Note: Not applicable
Auto-ignition temperature	: Note: not auto-flammable
Viscosity, dynamic	: Note: Not applicable
Viscosity, kinematic	: Note: Not applicable
Oxidizing properties	: The substance or mixture is classified as oxidizing with the category 1.
Molecular weight	: 232.59 g/mol

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

Bulk density : ca. 1,600 kg/m³

Corrosivity : Note: Corrosive to metals

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Strong oxidizer. Contact with other material may cause fire.
Corrosive in contact with metals

Conditions to avoid : Protect from atmospheric moisture and water.
To avoid thermal decomposition, do not overheat.
Keep away from combustible material.

Incompatible materials : Potassium Ferrocyanide
Tin
Reducing agents
Combustible material
As oxidising agent, attacks organic substances such as wood, paper, fats.

Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Copper oxides
Nitrogen oxides (NO_x)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : Note: No data available

Acute inhalation toxicity : Note: No data available

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

Acute dermal toxicity	: Note: No data available
Skin irritation	: Species: reconstructed human epidermis (RhE) Result: Category 1B Classification: Causes severe burns. Method: OECD Test Guideline 431 Test substance: Copper(II) nitrate hydrate
Eye irritation	: Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)
Sensitisation	: Maximisation Test Species: Guinea pig Result: non-sensitizing Method: OECD Test Guideline 406
Repeated dose toxicity	: Species: Mouse, male and female Application Route: Oral NOAEL (No observed adverse effect level): 1000ppm LOAEL (Lowest observed adverse effect level): 2000ppm Test substance: Copper(II) sulphate-5-hydrate
Genotoxicity in vitro	: Test Method: reverse mutation assay Cell type: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Test substance: Copper(II) sulphate-5-hydrate
Genotoxicity in vivo	: Test Method: Micronucleus test Species: Mouse, male and female Cell type: Micronucleus Application Route: Oral Method: Directive 67/548/EEC, Annex V, B.12. Test substance: Copper(II) sulphate-5-hydrate Result: negative
Carcinogenicity	: Species: not specified Note: Not classified due to data which are conclusive although insufficient for classification.

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

Reproductive toxicity : Species: Rat, male and female
Application Route: Oral
LOAEL: >1,500 ppm
LOAEL: 1,500 ppm
Method: OECD Test Guideline 416
Note: REACH dossier "read-across"

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

Toxicity to fish : Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)

Toxicity to daphnia and other aquatic invertebrates : Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)

Toxicity to algae : Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)

Elimination information (persistence and degradability)

Biodegradability : Note: The methods for determining biodegradability are not applicable to inorganic substances.

Further information on ecology

Additional ecological information : Do not flush into surface water or sanitary sewer system.
Very toxic to aquatic organisms.
May cause long-term adverse effects in the aquatic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

SECTION 14. TRANSPORT INFORMATION

DOT

UN/ID No.	: UN 3085
Proper shipping name	: OXIDIZING SOLID, CORROSIVE, N.O.S. (Copper(II) nitrate-2,5-hydrate)
Class	: 5.1
Packing group	: I
Hazard Labels	: 5.1 (8)

IATA

UN/ID No.	: UN 3085
Description of the goods	: OXIDIZING SOLID, CORROSIVE, N.O.S. (Copper(II) nitrate-2,5-hydrate)
Class	: 5.1
Packaging group	: I
Hazard Labels	: 5.1 (8)
Packing instruction (cargo aircraft)	: 561
Packing instruction (passenger aircraft)	: 557

IMDG

UN/ID No.	: UN 3085
Description of the goods	: OXIDIZING SOLID, CORROSIVE, N.O.S. (COPPER(II) NITRATE-2,5-HYDRATE)
Class	: 5.1
Packaging group	: I
Hazard Labels	: 5.1 (8)
EmS Number	: F-A, S-Q
Marine pollutant	: yes
IMDG Code segregation group 1 – ACIDS,	
IMDG Code segregation group 7 – Heavy metals and their salts,	

SECTION 15. REGULATORY INFORMATION**Inventories**

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemicals Act (AIC), as : On the inventory, or in compliance with the inventory

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

amended

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) : All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS) : On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC) : On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

National regulatory information

US. EPA CERCLA Hazardous Substances (40 CFR 302) : The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

Reportable quantity: 100 lbs
: Copper(II) nitrate-2,5-hydrate 19004-19-4

SARA 302 Components : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:
: Copper(II) nitrate-2,5-hydrate 19004-19-4

SARA 311/312 Hazards : Reactivity Hazard
Acute Health Hazard

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

Version 1.1

Revision Date 12/07/2021

Print Date 05/11/2023

CERCLA Reportable Quantity : 100 lbs**California Prop. 65** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.**Massachusetts RTK** : Copper(II) nitrate-2,5-hydrate 19004-19-4**New Jersey RTK** : Copper(II) nitrate-2,5-hydrate 19004-19-4**Pennsylvania RTK** : Copper(II) nitrate-2,5-hydrate 19004-19-4**SECTION 16. OTHER INFORMATION**

	HMIS III	NFPA
Health hazard	: 2	2
Flammability	: 0	0
Physical Hazard	: 1	
Instability	:	0
Special hazard	:	OX

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous

Copper(II) nitrate hemi(pentahydrate)**12837-500G**

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versions.

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