

Metalon® CI-004

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 02/21/2025

Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Metalon® CI-004

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

NCC Nano LLC dba NovaCentrix
400 Parker Dr, Suite 1110
Austin, TX 78728
T 512-491-9500

1.4. Emergency telephone number

Emergency number : Chem Tel, Inc. 1-800-255-3924 (US, Canada, Puerto Rico, US Virgin Islands)
24/7

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flam. Liq. 3 H226
Acute Tox. 4 (Oral) H302
STOT SE 3 H336
Aquatic Acute 1 H400
Aquatic Chronic 2 H411

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning

Hazard statements (GHS US) : H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical, lighting, ventilating equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing mist, vapors.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
P303+P361+P353 - If on skin (or hair): 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.
P312 - Call a poison center or doctor if you feel unwell.
P330 - Rinse mouth.
P370+P378 - In case of fire: Use Carbon dioxide (CO2), dry extinguishing powder, Foam to extinguish.
P391 - Collect spillage.

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P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Propylene glycol monomethyl ether	(CAS-No.) 107-98-2	30 – 60
Copper	(CAS-No.) 7440-50-8	10 – 30

*In accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200), the specific chemical identity or exact weight % has been withheld as a trade secret.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If breathing is difficult, supply oxygen. If breathing has stopped, give artificial respiration.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. Get medical attention immediately.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing if pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May cause drowsiness or dizziness. Harmful if swallowed.

Symptoms/effects after inhalation : May cause respiratory irritation. May cause drowsiness or dizziness.

Symptoms/effects after skin contact : May cause skin irritation.

Symptoms/effects after eye contact : May cause eye irritation.

Symptoms/effects after ingestion : Harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Water fog.

Unsuitable extinguishing media : Do not use direct water stream. May spread fire.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapor.

Explosion hazard : Solvent vapors may form explosive mixtures with air.

Reactivity : Stable under normal conditions of use.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.
Other information	: Will float and can be reignited on water surface. Vapors may travel long distances along ground before igniting/flashing back to vapor source. Under fire conditions closed containers may rupture or explode.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear Protective equipment as described in Section 8.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.
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6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Stop leak if safe to do so. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Eliminate ignition sources. Wear suitable protective clothing. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof equipment. Prevent the build-up of electrostatic charge. Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Flammable vapors may accumulate in the container. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors, mist. Provide good ventilation in process area to prevent formation of vapor. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
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7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue and can be hazardous.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep the container tightly closed. Keep away from ignition sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Copper (7440-50-8)		
ACGIH	ACGIH OEL TWA	0.2 mg/m³ (fume)
ACGIH	Remark (ACGIH)	TLV® Basis: Irr; GI; metal fume fever
ACGIH	Regulatory reference	ACGIH 2024
OSHA	OSHA PEL (TWA) [1]	0.1 mg/m³ (fume)
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
IDLH	IDLH	100 mg/m³ (dust, fume and mist)

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Copper (7440-50-8)		
NIOSH	NIOSH REL (TWA)	1 mg/m ³ (dust and mist) 0.1 mg/m ³ (fume)
Propylene glycol monomethyl ether (107-98-2)		
ACGIH	ACGIH OEL TWA [ppm]	100 ppm
ACGIH	ACGIH OEL STEL [ppm]	150 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: Eye & URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2024
OSHA	OSHA PEL (TWA) [1]	360 mg/m ³
OSHA	OSHA PEL (TWA) [2]	100 ppm
OSHA	OSHA PEL (STEL) [1]	540 mg/m ³
OSHA	OSHA PEL (STEL) [2]	150 ppm
NIOSH	NIOSH REL (TWA)	360 mg/m ³
NIOSH	NIOSH REL TWA [ppm]	100 ppm
NIOSH	NIOSH REL (STEL)	540 mg/m ³
NIOSH	NIOSH REL STEL [ppm]	150 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment symbol(s):



Personal protective equipment:

Gloves. Wear chemical goggles and face shield in combination. Wear chemically impervious apron over labcoat and full coverage clothing. Insufficient ventilation: wear respiratory protection.

Hand protection:

Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Be aware that the chemical may penetrate the gloves. Frequent changes are advisable. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection:

Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection:

Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection:

Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment with gas filter (type A2). Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Reddish brown.
Color	: Reddish brown
Odor	: Characteristic glycol ether
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 97°F (36.11°C) (OSHA, Updated: 09/22/2022)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Density	: 1.1 – 1.3 g/cm ³
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Avoid contact with : Incompatible materials. Heat. Ignition sources.

10.5. Incompatible materials

Oxygen. Strong oxidizers.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Copper (7440-50-8)

LD50 oral rat	300 – 500 mg/kg Source: ECHA
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Copper (7440-50-8)	
LD50 dermal rat	> 2000 mg/kg Source: ECHA
LC50 Inhalation - Rat	> 5.11 mg/l/4h

Propylene glycol monomethyl ether (107-98-2)	
LD50 oral rat	5200 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LD50 dermal rabbit	13000 mg/kg
LC50 Inhalation - Rat	54.6 mg/l/4h
LC50 Inhalation - Rat [ppm]	> 7559 ppm (Exposure time: 6 h Source: OECD_SIDS)

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified (Ames Test: Negative)
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified

Propylene glycol monomethyl ether (107-98-2)	
LOAEL (oral,rat,90 days)	2757 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (oral,rat,90 days)	919 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (dermal,rat/rabbit,90 days)	> 1000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects	: May cause drowsiness or dizziness. Harmful if swallowed.
Symptoms/effects after inhalation	: May cause respiratory irritation. May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.
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Copper (7440-50-8)	
LC50 - Fish [1]	< 0.3 mg/l Pimephales promelas (96 hr)
EC50 - Crustacea [1]	0.03 mg/l Daphnia magna (48 hr)
LC50 - Fish [2]	0.052 mg/l Oncorhynchus mykiss (96 hr)

12.2. Persistence and degradability

Copper (7440-50-8)	
Persistence and degradability	Not readily biodegradable.

12.3. Bioaccumulative potential

Metalon® CI-004	
Bioaccumulative potential	No information available.

12.4. Mobility in soil

Metalon® CI-004	
Ecology - soil	No information available.

12.5. Other adverse effects

Other adverse effects	: No data available.
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SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.
- Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description (DOT) : UN1993 Flammable liquids, n.o.s. (Contains: Propylene glycol monomethyl ether), 3, III
- UN-No.(DOT) : UN1993
- Proper Shipping Name (DOT) : Flammable liquids, n.o.s.
(Contains: Propylene glycol monomethyl ether)
- Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- Packing group (DOT) : III - Minor Danger
- Hazard labels (DOT) : 3 - Flammable liquid



- Dangerous for the environment : Yes
- Marine pollutant : Yes



- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
- DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
- Emergency Response Guide (ERG) Number : 128
- Other information : No supplementary information available.

Transportation of Dangerous Goods

- Transport document description (TDG) : UN1993 FLAMMABLE LIQUID, N.O.S. (Contains: Propylene glycol monomethyl ether), 3, III
- UN-No. (TDG) : UN1993
- Proper Shipping Name (TDG) : FLAMMABLE LIQUID, N.O.S.
- TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids
- Packing group (TDG) : III - Minor Danger

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TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS, 150 - An approved ERAP is required for the dangerous goods referred to in paragraph 7.2(1)(f) of Part 7 (Emergency Response Assistance Plan).
Explosive Limit and Limited Quantity Index	: 5 L
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 60 L

Transport by sea (IMDG)

Transport document description (IMDG)	: UN 1993 FLAMMABLE LIQUID, N.O.S. (Contains: Propylene glycol monomethyl ether), 3, III
UN-No. (IMDG)	: 1993
Proper Shipping Name (IMDG)	: FLAMMABLE LIQUID, N.O.S.
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 L
Marine pollutant	: Yes



Air transport (IATA)

Transport document description (IATA)	: UN 1993 Flammable liquid, n.o.s. (Contains: Propylene glycol monomethyl ether), 3, III
UN-No. (IATA)	: 1993
Proper Shipping Name (IATA)	: Flammable liquid, n.o.s.
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: III - Low danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Metalon® CI-004	
All chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule") of Feb. 2019, as amended Feb. 2021, or are otherwise exempt or regulated by other agencies such as FDA or FIFRA	
SARA Section 311/312 Hazard Classes	Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Acute toxicity (any route of exposure) Physical hazard - Flammable (gases, aerosols, liquids, or solids)
Copper (7440-50-8)	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb

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Polyvinyl pyrrolidone (9003-39-8)

EPA TSCA Regulatory Flag

XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).

15.2. International regulations

No additional information available

15.3. US State regulations

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Component	State or local regulations
Copper(7440-50-8)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Dipropylene glycol(25265-71-8)	U.S. - Pennsylvania - RTK (Right to Know) List
Propylene glycol monomethyl ether(107-98-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Glycerol(56-81-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Other information

: Author: SS.

NFPA health hazard

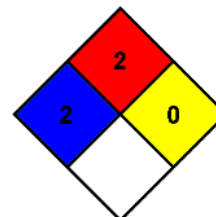
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



HMIS Hazard Rating

Health : 2*

Health * - Chronic (long-term) health effects may result from repeated overexposure

Flammability : 2

Physical : 0

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.