



Shenzhen Sinsche Technology Co.,Ltd

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Copper Reagent R1

Supplier: Shenzhen Sinsche Technology Co.,Ltd.

ADD: 4/F , T3 Building, Silicon Valley Compound, Qingquan Road, Longhua Street, Longhua District, Shenzhen City, P.RC 518109.

Tel: +86 (755) 82127315 Fax: +86 (755) 82127860

Email:Sinsche@sinsche.com

Emergency telephone: +86 (755) 82127315 (Mon-Fri 08:30- 18:00)

Chemical Name: Not applicable

CAS No.: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

PIN: NA

Intended Use: Determination of Ozone

Date of MSDS Preparation:

Day: 21

Month: June

Year: 2020

2 -COMPOSITION/INFORMATION ON INGREDIENTS

<u>Name</u>	<u>EC No.</u>	<u>CAS-No.</u>	<u>Content</u>
<u>Hydroxylamine hydrochloride</u>	<u>226-798-2</u>	<u>5470-11-1</u>	<u>>95%</u>

Hazard Symbols: XN N

Risk Phrases: 22 36/38 43 50 48/22

Section 3 - HAZARDS IDENTIFICATION

CHS Classification

Most Important Hazards

According to ABNT NBR 14725-2

Corrosive to metals	Category 1
Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Acute aquatic toxicity	Category 1



Label elements

Signal word - Danger



Hazard statements

- H290 - May be corrosive to metals
- H301 - Toxic if swallowed
- H312 - Harmful in contact with skin
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H351 - Suspected of causing cancer
- H373 - May cause damage to organs through prolonged or repeated exposure
- H400 - Very toxic to aquatic life

Precautionary statements

- P270 - Do not eat, drink or smoke when using this product
- P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
- P405 - Store locked up
- P501 - Dispose of contents/ container to an approved waste disposal plant
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
- P312 - Call a POISON CENTER or doctor if you feel unwell
- P362 + P364 - Take off contaminated clothing and wash it before reuse
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P337 + P313 - If eye irritation persists: Get medical advice/attention
- P272 - Contaminated work clothing should not be allowed out of the workplace
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
- P201 - Obtain special instructions before use
- P308 + P313 - IF exposed or concerned: Get medical advice/attention



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P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P273 - Avoid release to the environment

P391 - Collect spillage

P234 - Keep only in original packaging

P390 - Absorb spillage to prevent material damage

Other Hazards Known

Not applicable

Section 4 - FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion:

Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation:

Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician:

Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Cleansing of the entire contaminated area of the body is of utmost importance.

Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

Section 5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Exposure to heat may promote violent decomposition.

Use water spray to keep fire-exposed containers cool. Use extinguishing media appropriate to the surrounding fire. May explode if heated above 115°C.

Extinguishing Media:

Use dry chemical, carbon dioxide, or appropriate foam.



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Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Do not allow contact with water. Use only in a chemical fume hood.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Do not store above 65°C.

Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits CAS# 5470-11-1: Personal Protective Equipment Eyes: Wear chemical splash goggles.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Crystals

Color: white

Odor: alcohol-like

pH: Not available.

Vapor Pressure: Negligible.

Viscosity: Not available.

Boiling Point: 305.6 deg C

Freezing/Melting Point: 155.00 - 157.00 deg C

Autoignition Temperature: Not applicable.



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Flash Point: Not applicable.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature: Not available.

Solubility in water: IN WATER: 560 G/L (20°C)

Specific Gravity/Density: 1.6700g/cm³

Molecular Formula: H₃NO.HCl

Molecular Weight: 69.49

Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable. When confined and heated to 115°C or higher may decompose violently with explosive force.

Conditions to Avoid:

Incompatible materials, moisture, exposure to air, temperatures above 100°C.

Incompatibilities with Other Materials:

Substance reacts violently with oxidizing agents (such as sodium chlorate, ordinary combustibles, and organic compounds). Combustible and flammable materials (e.g alkyl resins, asphalt, gasoline, grease, methyl acetone, polystyrene, polyurethane.) Hazardous

Decomposition Products:

Hydrogen chloride, nitrogen oxides, ammonia and/or derivatives.

Hazardous Polymerization: Has not been reported.

Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 5470-11-1: NC3675000 LD50/LC50:

CAS# 5470-11-1: Oral, mouse: LD50 = 408 mg/kg; Oral, rat: LD50 = 141 mg/kg.

Oral, rat:LD50 = Carcinogenicity:

Hydroxylamine hydrochloride - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

Section 12 - ECOLOGICAL INFORMATION

Other No information available.

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Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - TRANSPORT INFORMATION



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IATA

Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.*

Hazard Class: 8

UN Number: 3260

Packing Group: III

IMO

Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.

Hazard Class: 8

UN Number: 3260

Packing Group: III

RID/ADR

Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.

Hazard Class: 8

UN Number: 3260

Packing group: III

Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN N

Risk Phrases:

R 22 Harmful if swallowed.

R 36/38 Irritating to eyes and skin.

R 43 May cause sensitization by skin contact.

R 48/22 Harmful : danger of serious damage to health
by prolonged exposure if swallowed.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 22 Do not breathe dust.

S 24 Avoid contact with skin.

S 37 Wear suitable gloves.

S 61 Avoid release to the environment. Refer to
special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 5470-11-1: 2

Canada

CAS# 5470-11-1 is listed on Canada's DSL List.

CAS# 5470-11-1 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 5470-11-1 is listed on the TSCA inventory.



16 Other information

Rev. No./Repl. SDS Generated

version 1

DISCLAIMER

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



Shenzhen Sinsche Technology Co.,Ltd

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Copper Reagent R2

Supplier: Shenzhen Sinsche Technology Co.,Ltd.

ADD: 4/F , T3 Building, Silicon Valley Compound, Qingquan Road, Longhua Street, Longhua District, Shenzhen City, P.RC 518109.

Tel: +86 (755) 82127315 Fax: +86 (755) 82127860

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Chemical Name: Not applicable

CAS No.: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

PIN: NA

Intended Use: Determination of Ozone

Date of MSDS Preparation:

Day: 21

Month: June

Year: 2020

2 -COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content
Trihydrate sodium acetate	unlisted	6131-90-4	15—25%
Demineralized Water	231-791-2	7732-18-5	60-70%
glacial acetic acid	200-580-7	64-19-7	0.5—1.5%
Benedict s reagent qualitative	200-675-3	68-04-2	10—20%

Hazard Symbols: None Listed.

Risk Phrases: None Listed.

3 - HAZARDS IDENTIFICATION

CHS Classification

Serious eye damage/eye irritation	Category 2A
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Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Warning



Hazard statements

H319 - Causes serious eye irritation

Precautionary statements

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

Other Information

May be harmful if swallowed

May be harmful if inhaled

Causes mild skin irritation

4 - FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water.

Get medical aid immediately.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media:

Use extinguishing media most appropriate for the surrounding fire.



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6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

Wash area with soap and water.

Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Storage:

Store in a cool, dry place. Keep container closed when not in use.

8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits CAS# 68-04-2: CAS# 144-55-8: CAS# 497-19-8: Russia: 5 mg/m³ TWA CAS# 7732-18-5: CAS# 7758-99-8: United Kingdom, WEL - TWA: (listed as copper): 0.2 mg/m³ TWA (fume) 1 mg/m³ TWA (dust and mist) United Kingdom, WEL - STEL: (listed as copper): 0.6 mg/m³ STEL (fume); 2 mg/m³ STEL (dust and mist) United States OSHA: 0.1 mg/m³ TWA (fume); 1 mg/m³ TWA (dusts and mists) (listed under Copper).

Belgium - TWA: (listed as copper): 0.2 mg/m³ VLE (fume); 1 mg/m³ (dust and mist) France - VME: (listed as copper): 0.2 mg/m³ VME (fume); 1 mg/m³ V (dust, as Cu) France - VLE: (listed as copper): 2 mg/m³ VLE (dust, as Cu) Germany: (listed as copper): 0.2 mg/m³ VME (fume); 1 mg/m³ VME (dust as Cu) Malaysia: (listed as copper): 0.2 mg/m³ TWA (fume, as Cu); 1 mg/m³ TWA (dust and mist, as Cu) Netherlands: (listed as copper): 0.2 mg/m³ MAC (smoke); 1 mg/m³ M (dust) Russia: (listed as copper): 1 mg/m³ TWA (dust) Russia: (listed as copper): 0.5 mg/m³ STEL (dust) Spain: (listed as copper): 0.2 mg/m³ VLA-ED (fume); 1 mg/m³ VLA-E (dust and mist, as Cu)

Personal Protective Equipment Eyes: Wear chemical splash goggles.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid



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Color: colorless
Odor: None reported.
pH: Not available.
Vapor Pressure: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: Not available.
Autoignition Temperature: Not available.
Flash Point: Not available.
Explosion Limits, lower: Not available.
Explosion Limits, upper: Not available.
Decomposition Temperature: Not available.
Solubility in water: Completely soluble in water.
Specific Gravity/Density: 1.21
Molecular Formula: Mixture
Molecular Weight: 0

10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Excess heat.

Incompatibilities with Other Materials:

Sodium carbonate is incompatible with: aluminum; sulfuric acid; fluorine; lithium; 2,4,6-tri-nitro-toluene; and P2O5. Copper (II) sulfate is sensitive to metals and heat; and will corrode steel.

Hazardous Decomposition Products:

Irritating and toxic fumes and gases.

Hazardous Polymerization: Has not been reported.

11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 68-04-2: GE8300000 CAS# 144-55-8: VZ0950000 CAS# 497-19-8: VZ4050000 CAS# 7732-18-5: ZC0110000 CAS# 7758-99-8: GL8900000 LD50/LC50:

Not available.

CAS# 144-55-8: Draize test, rabbit, eye: 100 mg/30S Mild; Oral, mouse: LD50 = 3360 mg/kg; Oral, rat: LD50 = 4220 mg/kg.

CAS# 497-19-8: Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, eye: 50 mg Severe; Draize test, rabbit, skin: 500 mg/24H Mild; Inhalation, mouse: LC50 = 1200 mg/m³/2H; Inhalation, rat: LC50 = 2300 mg/m³/2H; Oral, mouse: LD50 = 6600 mg/kg; Oral, mouse: LD50 = 6600 mg/kg; Oral, rat: LD50 = 4090 mg/kg.

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

CAS# 7758-99-8: Oral, mouse: LD50 = 43 mg/kg; Oral, rat: LD50 = 300 mg/kg; Skin, rat: LD50 = >2 gm/kg.



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Carcinogenicity:

Sodium citrate - Not listed by ACGIH, IARC, or NTP.

Sodium bicarbonate - Not listed by ACGIH, IARC, or NTP.

Sodium carbonate, anhydrous - Not listed by ACGIH, IARC, or NTP.

Water - Not listed by ACGIH, IARC, or NTP.

Copper(II) sulfate pentahydrate (1:1:5) - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

12 - ECOLOGICAL INFORMATION

13 - DISPOSAL CONSIDERATIONS

Products which are considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local waste regulator for advice. Empty containers must be decontaminated before returning for recycling.

14 - TRANSPORT INFORMATION

IATA

Shipping Name: Not regulated.

Hazard Class:

UN Number:

Packing Group:

IMO

Shipping Name: Not regulated.

Hazard Class:

UN Number:

Packing Group:

RID/ADR

Shipping Name: Not regulated.

Hazard Class:

UN Number:

Packing group:

15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 68-04-2: 0



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CAS# 144-55-8: 0

CAS# 497-19-8: 1

CAS# 7732-18-5: No information available.

CAS# 7758-99-8: 2

Canada

CAS# 68-04-2 is listed on Canada's DSL List.

CAS# 144-55-8 is listed on Canada's DSL List.

CAS# 497-19-8 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 68-04-2 is not listed on Canada's Ingredient Disclosure List.

CAS# 144-55-8 is not listed on Canada's Ingredient Disclosure List.

CAS# 497-19-8 is listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7758-99-8 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 68-04-2 is listed on the TSCA inventory.

CAS# 144-55-8 is listed on the TSCA inventory.

CAS# 497-19-8 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

CAS# 7758-99-8 is not on the TSCA Inventory because it is a hydrate.

It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).A inventory.



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Chemical Name: Not applicable

CAS No.: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

PIN: NA

Intended Use: Determination of Ozone

Date of MSDS Preparation:

Day: 21

Month: June

Year: 2020

2 -COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content
Methyl alcohol	200-659-6	67-56-1	>99%

Hazard Symbols: T F

Risk Phrases: 11 23/24/25 39/23/24/25

➡ Section 3 - HAZARDS IDENTIFICATION

CHS Classification

Flammable liquids	Category 2
Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

Label elements

Signal word - **Warning**



Signal word - Danger

Hazard statements

H225 - Highly flammable liquid and vapor

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H331 - Toxic if inhaled

H370 - Causes damage to organs

H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements

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

P271 - Use only outdoors or in a well-ventilated area

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P311 - Call a POISON CENTER or doctor

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P302 + P352 - IF ON SKIN: Wash with plenty of water and soap

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 + P364 - Take off all contaminated clothing and wash it before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to

do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor

P405 - Store locked up

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P270 - Do not eat, drink or smoke when using this product

P501 - Dispose of contents/ container to an approved waste disposal plant

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P240 - Ground/bond container and receiving equipment

P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment



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P242 - Use only non-sparking tools

P243 - Take precautionary measures against static discharge

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

P403 + P235 - Store in a well-ventilated place. Keep cool

Other Information

➤ Section 4 - FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Get medical aid immediately. Wash clothing before reuse.

Ingestion:

Potential for aspiration if swallowed. Get medical aid immediately.

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Effects may be delayed.

Antidote: Ethanol may inhibit methanol metabolism.

➤ Section 5 - FIRE FIGHTING MEASURES

General Information:

Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Water may be ineffective.

Material is lighter than water and a fire may be spread by the use of water. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.



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Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water.

➤ Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

➤ Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Avoid use in confined spaces. Avoid breathing vapor or mist.

Storage:

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep containers tightly closed.

➤ Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment Eyes: Wear chemical goggles.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.



➤ Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: clear, colorless
Odor: alcohol-like - weak odor
pH: Not available.
Vapor Pressure: 127 mm Hg @ 25 deg C
Viscosity: 0.55 cP 20 deg C
Boiling Point: 64.7 deg C @ 760 mm Hg
Freezing/Melting Point: -98 deg C
Autoignition Temperature: 464 deg C (867.20 deg F)
Flash Point: 11 deg C (51.80 deg F)
Explosion Limits, lower: 6.0 vol %
Explosion Limits, upper: 36.00 vol %
Decomposition Temperature: Not available.
Solubility in water: miscible
Specific Gravity/Density: .7910 g/cm³ @ 20C
Molecular Formula: CH₄O
Molecular Weight: 32.04

➤ Section 10 - STABILITY AND REACTIVITY

Chemical Stability:
Stable under normal temperatures and pressures.
Conditions to Avoid:
High temperatures, ignition sources, confined spaces.
Incompatibilities with Other Materials:
Strong oxidizing agents, strong acids, powdered aluminum, powdered magnesium.
Hazardous Decomposition Products:
Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, formaldehyde.
Hazardous Polymerization: Will not occur.

➤ Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:
CAS# 67-56-1: PC1400000 LD50/LC50:
CAS# 67-56-1: Draize test, rabbit, eye: 40 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, rabbit: LC50 = 81000 mg/m³/14H; Inhalation, rat: LC50 = 64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5600 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg.
Human LDLo Oral: 143 mg/kg.
Inhalation; 300 ppm caused visual field changes & headache.



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LDLo Skin: 393 mg/kg.

experimental animals than humans, because most animal species metabolize methanol differently. Non-primate species do not ordinarily show symptoms of metabolic acidosis or the visual effects which have been observed in primates and humans.

Carcinogenicity:

Methyl alcohol - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

➤ Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: Fathead Minnow: 29.4 g/L; 96 Hr; LC50 (unspecified)Fish: Goldfish: 250 ppm; 11 Hr; resulted in deathFish: Rainbow trout: 8000 mg/L; 48 Hr; LC50 (unspecified)Fish: Rainbow trout: LC50 = 13-68 mg/L; 96 Hr.; 12 degrees CFish: Fathead Minnow: LC50 = 29400 mg/L; 96 Hr.; 25 degrees C, pH 7.63Fish: Rainbow trout: LC50 = 8000 mg/L; 48 Hr.; UnspecifiedBacteria: Phytobacterium phosphoreum: EC50 = 51,000-320,000 mg/L; 30 minutes; Microtox test

➤ Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

➤ Section 14 - TRANSPORT INFORMATION

IATA

Shipping Name: METHANOL

Hazard Class: 3

UN Number: 1230

Packing Group: II

IMO

Shipping Name: METHANOL

Hazard Class: 3.2

UN Number: 1230

Packing Group: II

RID/ADR

Shipping Name: METHANOL

Hazard Class: 3

UN Number: 1230

Packing group: II

USA RQ: CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ



🔗 Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T F

Risk Phrases:

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Safety Phrases:

S 7 Keep container tightly closed.

S 16 Keep away from sources of ignition - No smoking.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 67-56-1: 1

United Kingdom Occupational Exposure Limits

CAS# 67-56-1: OES-United Kingdom, TWA 200 ppm TWA; 266 mg/m³ TWA

CAS# 67-56-1: OES-United Kingdom, STEL 250 ppm STEL; 333 mg/m³ STEL

United Kingdom Maximum Exposure Limits

Canada

CAS# 67-56-1 is listed on Canada's DSL List.

CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m³);Skin

US FEDERAL

TSCA

CAS# 67-56-1 is listed on the TSCA inventory.



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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Copper Reagent R3

Supplier: Shenzhen Sinsche Technology Co.,Ltd.

ADD: 4/F , T3 Building, Silicon Valley Compound, Qingquan Road, Longhua Street, Longhua District, Shenzhen City, P.RC 518109.

Tel: +86 (755) 82127315 Fax: +86 (755) 82127860

Email:Sinsche@sinsche.com

Emergency telephone: +86 (755) 82127315 (Mon-Fri 08:30- 18:00)

Chemical Name: Not applicable

CAS No.: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

PIN: NA

Intended Use: Determination of Ozone

Date of MSDS Preparation:

Day: 21

Month: June

Year: 2020

2 -COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content
Sodium chloride	231-760-3	7647-14-5	>90%
1,10-Phenanthroline,2,9-dimethyl-, hydrate	207-601-9	34302-69-7	<10%

Hazard Symbols: XN

Risk Phrases: 21/22

Section 3 - HAZARDS IDENTIFICATION

HS Classification

Most Important Hazards

According to ABNT NBR 14725-2

Skin corrosion/irritation	Category 3
Serious eye damage/eye irritation	Category 2A
Chronic aquatic toxicity	Category 3

Label elements

Signal word - Warning

Hazard statements

H316 - Causes mild skin irritation

H319 - Causes serious eye irritation

H412 - Harmful to aquatic life with long lasting effects



Exclamation mark

Precautionary statements

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

P273 - Avoid release to the environment

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards Known

Not applicable

Section 4 - FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin:

In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media:



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Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions.

Provide ventilation.

Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Use with adequate ventilation.

Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage:

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits CAS# 6283-63-2: Personal Protective Equipment Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder

Color: white

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.



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Autoignition Temperature: Not available.

Flash Point: Not available.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature:

Solubility in water:

Specific Gravity/Density:

Molecular Formula: mixture

Molecular Weight: Not available.

Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

Dust generation.

Incompatibilities with Other Materials:

Strong oxidizing agents.

Hazardous Decomposition Products:

Nitrogen oxides, carbon monoxide, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Has not been reported

Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 6283-63-2: SS9625000 LD50/LC50:

CAS# 6283-63-2: Draize test, rabbit, eye: 500 mg/24H Mild.

Carcinogenicity:

N,N-Diethyl-p-phenylene diamine - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

Section 12 - ECOLOGICAL INFORMATION

Section 13 - DISPOSAL CONSIDERATIONS

Products which are considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local waste regulator for advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - TRANSPORT INFORMATION

IATA

Shipping Name: TOXIC SOLID, ORGANIC N.O.S. (N,N-DIETHYL-P-PHENYLE
NEDIAMINESULFATE)

Hazard Class: 6.1



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UN Number: 2811

Packing Group: III

IMO

Shipping Name: TOXIC SOLID, ORGANIC N.O.S. (N,N-DIETHYL-P-PHENYLE
NEDIAMINESULFATE)

Hazard Class: 6.1

UN Number: 2811

Packing Group: III

RID/ADR

Shipping Name: TOXIC SOLID, ORGANIC N.O.S. (N,N-DIETHYL-P-PHENYLE
NEDIAMINESULFATE)

Hazard Class: 6.1

UN Number: 2811

Packing group: III

Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:

R 21/22 Harmful in contact with skin and if
swallowed.

Safety Phrases:

S 28 After contact with skin, wash immediately
with...

S 44 If you feel unwell, seek medical advice (show
the label where possible).

WGK (Water Danger/Protection)

CAS# 6283-63-2: No information available.

Canada

None of the chemicals in this product are listed on the DSL/NDSL list.

CAS# 6283-63-2 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 6283-63-2 is not listed on the TSCA inventory.

It is for research and development use only.

16 Other information

Rev. No./Repl. SDS Generated

version 1

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such



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material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.