

Safety Data Sheet

RHODANINE SOLUTION FOR COPPER

Section 1 - Chemical Product and Company Identification

SDS Name: Rhodanine Solution for Copper

Catalog Numbers: SO-597, J-602-1

Company Identification: ROWLEY BIOCHEMICAL
10 ELECTRONICS AVENUE
DANVERS, MA 01923

For information, call: 978-739-4883

Emergency Number: 800-424-9300

For CHEMTREC assistance, call: 800-424-9300

Section 2 - Hazards Identification

GHS Classifications

HEALTH HAZARDS

H302-Acute Oral Toxicity: 4
H332-Acute Inhalation toxicity: 4
H315-Skin Corrosion/Skin Irritation: 2
H319-Eye damage/Irritation: 2A
H334-Respiratory Sensitization: 1B
H317-Skin Dermal Sensitization: 1B
H341-Germ Cell Mutagenicity: 2
H371-Specific Target Organ Toxicity: 2

PHYSICAL HAZARDS

H225-Flammability: 2

ENVIRONMENTAL HAZARDS

H400- Aquatic acute environmental Hazards: 1
Chronic environmental Hazards: Not classified

Pictograms or Hazard symbols and Hazard statement.



Causes severe eye irritation.



Very toxic to aquatic life.



Highly flammable liquid and vapour.



Harmful if swallowed.
Harmful if inhaled.
Causes skin irritation.
May cause allergic skin reaction.



Chronic

Prolonged exposure may cause liver, kidney, and heart damage.

Precautionary Statement Prevention

H302

P264 Wash thoroughly after handling.

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

P301 + P312 If swallowed, call a physician if you feel unwell.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

P330 Rinse mouth.

H332

P261 Avoid breathing fumes/mist/vapors.

P27 P304 + P340 If inhaled, remove person to fresh air and keep comfortable for breathing.

1 Use only outdoors or in a well-ventilated area.

P312 Call a physician if you feel unwell.

H315

P280 Wear protective gloves, clothing, and eye and face protection.

P302 + P352 If on skin, wash with plenty of water. Remove contact lenses if present and easy to do so. Continue rinsing.

P332 + P313 If skin irritation occurs, get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

H319

P305 + P351 + P338 If in eyes, rinse cautiously with water for several minutes.

P337 + P313 If eye irritation persists, get medical advice/attention.

P285 In case of inadequate ventilation, wear respiratory protection.

P304+P341 IF INHALED: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342+P311 if experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

H317

P272 Contaminated work clothing should not be allowed out of the work place.

P333+P313 IF ON SKIN: Wash with plenty of soap and water.

P363 Wash contaminated clothing before reuse.

H320

P264 Wash thoroughly after handling.

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.

H341

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P281 Use personal protective equipment as required.

P308 + P313 If exposed or concerned, get medical advice/attention.

P405 Store locked up.

H371

P260 Do not breathe fume/gas/mist/vapors.

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

P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

H225

P210 Keep away from heat, flames, and hot surfaces. No smoking.

P233 Keep container tightly closed.

P241 Use explosive-proof equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves, clothing, and eye and face protection.

P303 + P361 + P353 If on skin (or hair) take off immediately all contaminated clothing. Rinse skin with water.

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

Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
64-17-5	Ethyl alcohol	95 v/v
67-56-1	Methyl alcohol	5 v/v
536-17-4	Rhodanine	0.2 w/v

Section 4 - First Aid Measures

Eye Exposure: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Dermal Exposure: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes.

Oral Exposure: If Swallowing seek immediate medical advice.

Inhalation Exposure: If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

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. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

Flash Point: 16.6 deg C (61.88 deg F)

Autoignition Temperature: 363 deg C (685.40 deg F)

Explosion Limits, Lower: 3.3 vol %

Upper: 19.0 vol %

NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s):

Wear protective gear. Eliminates all sources of ignition.

Methods for Cleaning up: Absorb with sand, earth or vermiculite. Carefully sweep up and containerize for proper disposal.

Section 7 - Handling and Storage

Use care when handling. Wash thoroughly after handling. Store capped at room temperature. Keep away from incompatible materials. Protect from heat. Vapors heavier than air, may travel considerable distance and ignite or explode.

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.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethanol	1000 ppm TWA	1000 ppm TWA; 1900 mg/m ³ TWA 3300 ppm IDLH	1000 ppm TWA; 1900 mg/m ³ TWA
Methanol	200 ppm TWA; 250 ppm STEL	250 ppm STEL; 200 ppm TWA; 250 ppm STEL	200 ppm TWA

OSHA Vacated PELs: Ethanol: 1000 ppm TWA; 1900 mg/m³ TWA
Methanol: 200 ppm TWA

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 a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Solution

Appearance: Dark brown

Odor: Alcohol-like

pH: N/A

Vapor Pressure: N/A

Vapor Density: N/A

Evaporation Rate: N/A

Viscosity: N/A

Boiling Point: 78 deg C

Solubility: Soluble

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat, oxidizers.

Incompatibilities with Other Materials: Strong oxidizing agents, acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and

gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

Routes of entry: Absorbed through skin, eye contact, inhalation or ingestion.

RTECS#: KQ6300000

LD50/LC50:

CAS# 64-17-5:

Oral, mouse: LD50 = 3450 mg/kg.

Oral, rat: LD50 = 7060 mg/kg.

Oral, rat: LD50 = 9000 mg/kg; <BR.

CAS# 67-56-1

Rabbit oral: 5628 mg/kg.

Rabbit skin: 15800 /24 H Moderate

Rabbit inhalation: 64000/ 4 hours.

CAS# 536-17-4:

Oral, rat: LD50 = >500 mg/kg.

Solution Carcinogenicity:

Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome".

Teratogenicity: Methanol: Classified possible for human. Ethanol: Classified proven for humans.

Reproductive Effects: Ethanol: classified proven as a developmental toxin. Classified possible reproductive toxin for both male and female.

Neurotoxicity: Methanol: May cause damage to the brain, central nervous system and optic nerves.

Mutagenicity: Ethanol: May affect genetic material. Methanol: mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

Other Studies: Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 500 mg (Severe).

Section 12 - Ecological Information

Ecotoxicity: LC50: 29,400 mg/l 96 Hr; Fathead Minnow. 14,000 mg/l 96 Hr; Rainbow Trout. 11,200 mg/l 24 Hr; Fingerling Trout.

Environmental: Methanol in water is rapidly biodegraded and volatilized. Aquatic hydrolysis, oxidation, photolysis, adsorption to sediment, and bioconcentration are not significant fate process. Methanol exists almost entirely in the vapor phase in the ambient atmosphere. It is degraded by reaction with photochemically produced hydroxyl radicals and has an estimated half-life of 17.8 days. Methanol is physically removed from air by rain due to solubility properties. Methanol can react with NO₂ in polluted to form methyl nitrate. The half life of methanol in air ranges from 71 hours to 173 hours based on photooxidation half life in air.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Appropriate method of disposal of substance or preparation:

Handled as hazardous waste and sent to an RCRA approved incinerator or disposed in an RCRA approved wasted facility.

Section 14 – Transport Information

DOT

Proper shipping name: Alcohols, N.O.S.

UN1987

PG II

Hazard class 3 (flammable)

Section 15 - Regulatory Information

Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

California Prop 65

WARNING: California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

F

Risk Phrases:

R 11 Highly flammable.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed

R36/38 Irritating to eyes and skin

R51 Toxic to aquatic organisms

R61 May cause harm to the unborn child

Safety Phrases:

S20/21 When using do not eat, drink or smoke

S2 Keep out of the reach of children

S16 Keep away from sources of ignition - No smoking.

S33 Take precautionary measures against static discharges.

S7 Keep container tightly closed.

S9 Keep container in a well-ventilated place

Section 16 - Additional Information

MSDS Creation Date: 10/21/12

Revision #1. R.C. 11/14/14

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