

Material Safety Data Sheet

SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Copper Inhibitor LD-IP

Part Number: none

Chemical Family: Anti-tarnish, LD-IP

Manufacturer's Name: Siemens Industry, Inc. - Water Technologies Business Unit

Address: 181 Thorn Hill Road, Warrendale, PA 15086

Product/Technical Information Phone Number: 724-772-0044

Medical/Handling Emergency Phone Number: CHEMTREC 1-800-424-9300
24 hours a day

Transportation Emergency Phone Number: CHEMTREC 1-800-424-9300
24 hours a day

Issue Date: August 18, 2000

Revision Date/Revision Number: April 2011/ Rev 2

SECTION 2 – COMPOSITION INFORMATION

<u>Chemical Name</u>	<u>Percent by Weight</u>	<u>CAS#</u>
Isopropanol	40 – 60	67-63-0
Proprietary Ingredient	40 – 60	proprietary

Copper Inhibitor LD is considered a trade secret under provisions of 29 CFR 1910.1200, OSHA Hazard Communication Standard.

SECTION 3 – HAZARDS IDENTIFICATION

Appearance & Odor: Clear pale yellow to brown liquid with strong lingering odor.

Emergency Overview:

- ◆ Intentional abuse, misuse, or other massive exposure to Isopropyl alcohol may result in difficulty breathing, nausea, vomiting and headache accompanied by various degrees of CNS depression.
- ◆ Coma and/or death are even possible.
- ◆ Vapors may cause eye, nose or throat irritation.
- ◆ Skin contact may be irritating and may cause sensitization.
- ◆ This product near heat creates a fire hazard.
- ◆ Oxidizers could cause a dangerous reaction or fire.
- ◆ Acids may cause this product to explode or otherwise react violently.

Fire & Explosion Hazards: Combustible solution. May burn with invisible flame. Vapors may flow along surfaces to distant ignition sources and flash back. Closed containers may explode if exposed to extreme heat.

Primary Route(s) of Exposure: inhalation, ingestion, eye contact, skin contact, absorption.

Inhalation – Acute Effects: Inhalation may cause mucous membrane irritation, cough, dizziness, drowsiness, headache, nausea, sore throat, vomiting, incoordination, narcosis, decreased blood rate, respiratory failure, central nervous system depression, coma.

Material Safety Data Sheet

Skin Contact – Acute Effects: Skin contact may cause redness and mild irritation. Prolonged exposure may result in absorption of harmful amounts.

Eye Contact – Acute Effects: Isopropyl alcohol is an irritant of the eyes. Eye contact may cause redness, pain and blurred vision, corneal burns or eye damage.

Ingestion – Acute Effects: Harmful and may be fatal. Ingestion may cause dizziness, drowsiness, gastrointestinal pain, nausea, vomiting, central nervous system depression, decreased blood rate, and in severe cases may cause coma and death.

SECTION 4 – FIRST AID MEASURES

Inhalation First Aid: Remove affected person from area to fresh air and provide oxygen if breathing is difficult. Give artificial respiration ONLY if breathing has stopped and give CPR ONLY if there is no breathing and no pulse. Obtain medical attention.

Skin Contact First Aid: Immediately remove clothing from affected area and wash skin for 15 minutes with flowing water and soap. Clothing should be discarded or washed before reuse. Obtain medical assistance if irritation develops. DO NOT instruct person to neutralize affected skin area.

Eye Contact First Aid: Immediately irrigate eyes with flowing water continuously for 15 minutes while holding eyes open. Contacts should be removed before or during flushing. Seek medical assistance if irritation develops. DO NOT instruct person to neutralize.

Ingestion First Aid: DO NOT give liquids if affected person is unconscious or drowsy. Vomiting may need to be induced if directed by a physician or poison control center. DO NOT have unqualified personnel induce vomiting. Keep affected person's head between their hips while vomiting. Obtain medical attention immediately.

Medical Conditions Aggravated: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure.

Note to Physician: If victim is a child give no more than 1 glass of water and 15 cc (1 tablespoon) syrup of ipecac. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavage should be considered following intubation with a cuffed endotracheal tube.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point/Method: 135 °F (closed cup)

Auto Ignition Temperature: 460 °F (for isopropanol)

Upper/Lower Explosion Limits: LEL:2 UEL:12.5 (for isopropanol)

Extinguishing Media: Alcohol foam, dry chemical, carbon dioxide. Water may be ineffective.

Material Safety Data Sheet

Fire Fighting Procedures: Firefighters should wear proper protective equipment and self-contained (positive pressure if available) breathing apparatus with full facepiece. Use water to keep fire-exposed containers cool.

Fire & Explosion Hazards: Combustible solution. May burn with invisible flame. Vapors may flow along surfaces to distant ignition sources and flash back. Closed containers may explode if exposed to extreme heat.

Hazardous Products of Decomposition and/or Combustion: Carbon dioxide, carbon monoxide.

NFPA Ratings:

HEALTH- 2 FLAMMABILITY- 3 REACTIVITY- 0 OTHER- none

SECTION 6 – ACCIDENTAL RELEASE MEASURES

This product is flammable. Eliminate all ignition sources. Handling equipment must be grounded.

Large spills: Evacuate hazard area of unprotected personnel. Wear appropriate respirator and protective clothing. Shut off source of leak if safe to do so. Dike and contain. If vapor cloud forms, water fog may be used to suppress. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with absorbent clay, sand or suitable material. Flush area with water to remove trace residue.

Small spills: Take up with an absorbent and place in non-leaking containers. Seal tightly for proper disposal.

Regulatory Requirements: All disposal methods must be in compliance with all Federal, State, Local and Provincial laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

Disposal: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State, Local and Provincial laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

SECTION 7 – HANDLING AND STORAGE

Handling: Protect from spillage that may contaminate sewers. Keep liquid vapor away from heat, spark, and flame. Wash with soap and water before eating, drinking, or smoking.

Storage: Store in a cool, dry place. Keep container closed when not in use. Avoid storing in aluminum containers especially at elevated temperatures above 120°F. Keep liquid away from heat, spark, and flame. Surfaces that are sufficiently hot may ignite even liquid product in the absence of sparks and flame.

Material Safety Data Sheet

General Comments: Containers of this material may be hazardous when empty since they retain product residues (liquid, vapors); observe all warnings and precautions listed for the product.

SECTION 8 –PERSONAL PROTECTION/ EXPOSURE CONTROL

Respiratory Protection: Protection is required if airborne concentration exceeds TLV. At concentrations above 400 ppm isopropanol, a self-contained breathing apparatus is advised.

Skin Protection: Use PVC or rubber gloves. Wear protective clothing.

Eye Protection: Wear side shield safety glasses or chemical goggles.

Ventilation Protection: Use explosion proof ventilation as required to control vapor concentration.

Other Protection: Equipment to protect against eye or skin contact is required. Safety showers, with quick opening valves which stay open, and eye wash fountains, or other means of washing the eyes with a gentle flow of cool to tepid tap water, should be readily available in all areas where this material is handled or stored. Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather.

Exposure Limits:

For Isopropanol:

OSHA PEL-TWA: 400 ppm

ACGIH TLV-TWA: 400 ppm; STEL: 500 ppm/15 min

NIOSH TWA: 400 ppm; STEL: 500 ppm/15 min

NIOSH IDLH: 2000 ppm

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Clear pale yellow to brown liquid with strong lingering odor.

Vapor Pressure: ND*

Vapor Density (Air=1): ND

Boiling Point: 185°F

Melting Point: ND

Specific Gravity: 0.95

Solubility in Water: slight

Volatile Percentage: ND

pH: 6.2

Flash Point/method: 135 oF (closed cup)

Auto Ignition Temperature:
460°F

Upper/Lower Explosion Limits: LEL: 2 UEL: 12.5

Other: ND

*ND=Not determined

Material Safety Data Sheet

SECTION 10 – STABILITY AND REACTIVITY

Stability: This product is considered stable under the specified conditions of storage, shipment and use.

Incompatibilities: acids and oxidizers

Polymerization: Hazardous polymerization will not occur.

Decomposition: Carbon dioxide, carbon monoxide.

Conditions to avoid: Avoid heat, sparks, flame and contact with strong oxidizing agents and acids. Do not store or handle in aluminum equipment at temperatures above 120°F.

SECTION 11 – TOXICOLOGICAL INFORMATION

Inhalation – Acute: Inhalation may cause mucous membrane irritation, cough, dizziness, drowsiness, headache, nausea, sore throat, vomiting, incoordination, narcosis, decreased blood rate, respiratory failure, central nervous system depression, coma. Human exposure to 400 ppm isopropyl alcohol for 3 to 5 minutes resulted in mild irritation of the eyes, nose and throat; at 800 ppm these symptoms were intensified. Mice exposed to 3250 ppm of isopropyl alcohol for 460 minutes developed ataxia, prostration, and narcosis. The lowest lethal inhalation concentration of isopropyl alcohol in rats is 12,000 ppm for 8 hours.

Inhalation – Chronic: Reversible fatty changes were observed in the liver of mice repeatedly exposed to 10, 9000 ppm of isopropyl alcohol in air for about 4 hours per day.

Skin Contact – Acute: Skin contact may cause redness and mild irritation. Prolonged exposure may result in absorption of harmful amounts. The dermal LD50 of isopropyl alcohol in rabbits is 12,800 mg/kg.

Skin Contact – Chronic: Prolonged skin contact with isopropyl alcohol will cause eczema, dermatitis, and sensitivity. In rare cases, isopropyl alcohol may cause skin sensitization.

Eye Contact – Acute: Isopropyl alcohol is an irritant of the eyes. Eye contact may cause redness, pain and blurred vision, corneal burns or eye damage. The application of 0.1 ml of 70 percent isopropyl alcohol in the eye of a rabbit caused conjunctivitis, iritis, and corneal opacity.

Ingestion – Acute: Harmful and may be fatal. Ingestion may cause dizziness, drowsiness, gastrointestinal pain, nausea, vomiting, central nervous system depression, decreased blood rate, and in severe cases may cause coma and death. The oral LD50 of isopropyl alcohol in rats is 5,045 mg/kg.

Ingestion – Chronic: Rats exposed orally to 6 mg/kg of isopropyl alcohol showed a significantly increased triglyceride level in the liver.

Carcinogenicity/Mutagenicity: Epidemiological studies suggested an association between isopropyl alcohol and paranasal sinus cancer; however, subsequent analysis suggests that the “strong acid” process used to manufacture isopropyl alcohol may be responsible for these cancers. The International Agency for Research on Cancer (IARC) has concluded that the

Material Safety Data Sheet

evidence for the carcinogenicity of this process is adequate but that the evidence for isopropyl alcohol itself is inadequate.

Reproductive Effects: A two generation reproduction study in rats of isopropyl alcohol's effects showed that the first generation offspring of treated rats had early growth retardation, indicating a fetotoxic but no teratogenic effect.

Neurotoxicity: No data available.

Other Effects: In experimental animals, pretreatment with isopropyl alcohol enhanced the acute toxicity of carbon tetrachloride. The metabolite acetone may be responsible for this effect.

Target Organs: kidneys, liver, eyes, skin, central nervous system, GI tract, respiratory system, lungs

SECTION 12 – ECOLOGICAL INFORMATION

It is strongly advised to not let isopropyl alcohol enter into the environment.

SECTION 13 – DISPOSAL CONSIDERATIONS

If this product becomes a waste material it is an ignitable hazardous waste under EPA 40 CFR 261.21 waste number D001. Refer to latest EPA or state regulations regarding proper disposal. Material that cannot be used or chemically reprocessed and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal. Generators of waste material are required to evaluate all waste for compliance the RCRA and any local disposal procedures and regulations. NOTE: State and local regulations may be more stringent than federal regulations.

SECTION 14 – TRANSPORTATION INFORMATION

DOT Shipping Description: Flammable Liquid, n.o.s. (Isopropyl alcohol)
Hazard class 3 UN1219 Pkg. Group II

SECTION 15 – REGULATORY INFORMATION

Isopropyl Alcohol:

CERCLA SECTION 103 (40CFR302.4): no RQ: none

SARA SECTION 302 (40CFR355.30): no

SARA SECTION 304 (40CFR355.40): no

SARA SECTION 313 (40CFR372.65): yes

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: yes CHRONIC: no FIRE: yes REACTIVE: no SUDDEN RELEASE: no

SECTION 16 – OTHER INFORMATION

Disclaimer: The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the user thereof. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial and local laws.

Revision Indicator: April 2011, Revised Section 1 (Updated manufacturer's name)