

MATERIAL SAFETY DATA SHEET

COPPER PLATING SOLUTION

Page: 1

Revised: January 13, 2006

PRODUCT CODE: B015223

HMIS CODES: H F R P

3 3 1 X

SECTION 1 - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: Day International Chemical Products Div.

ADDRESS : 905 South Westwood Avenue
Addison, Illinois 60101

EMERGENCY PHONE: 800-424-9300

INFORMATION PHONE: 800-336-8276

NAME OF PREPARER: DAY Chemical Prod. Div.

DATE PRINTED: 01/13/2006

REASON REVISED: Update; Supersedes All Previous Revisions.

SECTION 2 - HAZARDOUS INGREDIENTS/SARA III INFORMATION

REPORTABLE COMPONENTS	CAS NUMBER	VAPOR MM HG @ TEMP	PRESSURE	WEIGHT PERCENT
* Ethylene Glycol OSHA PEL: n/e, ACGIH® TLV®, TWA: 100mg/M3 Ceiling as Mist Hazardous Air Pollutant	107-21-1	0.12	68°F	49
Isopropanol OSHA PEL: 400ppm, ACGIH® TLV®, TWA: 200ppm, STEL: 400ppm	67-63-0	31.2	68°F	35
* Dichloromethane OSHA PEL: 25ppm, ACGIH® TLV®: 50ppm, STEL: 125ppm Hazardous Air Pollutant	75-09-2	355	68°F	9.94
* Muriatic Acid OSHA PEL: 5ppm ceiling STEL, ACGIH® TLV®: 5ppm ceiling STEL	7647-01-0	23.5	68°F	3.7

* Indicates toxic chemical(s) subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372. All ingredients are listed on the EPA TSCA Inventory.

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE/POINT: 104°F - 388°F

SPECIFIC GRAVITY (H2O=1): 1.01

VAPOR DENSITY: Heavier than air.

EVAPORATION RATE: Faster than n-Butyl Acetate.

V.O.C. (EPA METHOD 24): 7.03 lb/gal

VAPOR PRESSURE (MM HG @ 20°C): 11.0

SOLUBILITY IN WATER: 90%

APPEARANCE AND ODOR: Green Liquid - Sharp Odor

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 68°F

METHOD USED: TAG CC

FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: 2.0%

UPPER: 23.0%

EXTINGUISHING MEDIA:

Alcohol Foam, CO2, Dry Chemical.

SPECIAL FIREFIGHTING PROCEDURES:

As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved) and full protective gear. Water may not be effective to extinguish fire. Use water spray to cool fire-exposed containers and to protect personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Burning will produce hydrogen chloride and traces of phosgene.

MATERIAL SAFETY DATA SHEET

COPPER PLATING SOLUTION

Page: 2
Revised: January 13, 2006

SECTION 5 - REACTIVITY DATA

STABILITY:

Stable

CONDITIONS TO AVOID:

Avoid heat, sparks, flame and other sources of ignition.

INCOMPATIBILITY (MATERIALS TO AVOID):

Avoid mixing with strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Burning will produce oxides of carbon, hydrogen chloride and traces of phosgene.

HAZARDOUS POLYMERIZATION:

Will Not Occur.

SECTION 6 - HEALTH HAZARD DATA

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

Excess vapor concentrations are attainable. Overexposure will cause irritation of the nose and throat and cause signs of nervous system depression such as headache, drowsiness, dizziness and unconsciousness. Breathing vapors above established exposure limits may cause nose and throat irritation; signs of central nervous system depression such as headache, drowsiness, dizziness and carbon monoxide-like effects (Carboxyhemoglobinemia)

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

Skin contact may cause irritation and burning. Eye contact will cause stinging, tearing, redness and swelling.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

Can be absorbed through the skin and may contribute to the overall exposure to the chemical Dichloromethane.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

Ingredients in this product are toxic. Ingestion may cause nausea, moderate gastro-intestinal irritation, diarrhea and possible damage to vital organs. Follow first aid procedures.

HEALTH HAZARDS (ACUTE AND CHRONIC):

This product may cause mild to moderate irritation upon contact with eyes and mild irritation to skin. Ethylene glycol has been identified as a probable birth defect hazard based on laboratory animal data. Breathing vapors above established exposure limits may cause nausea, vomiting, lightheadedness, numbness, changes in blood enzyme levels, breathing problems leading to bronchitis & pulmonary edema, unconsciousness and even death. Chronic exposure to dichloromethane has been demonstrated to produce liver toxicity in animals. Repeated skin contact will dry out and crack skin. Aspiration hazard if swallowed; aspiration into the lungs can cause chemical pneumonitis.

CARCINOGENICITY: NTP CARCINOGEN: Yes

IARC MONOGRAPHS: Yes

OSHA REGULATED: Yes

Product contains dichloromethane, a chemical which has caused cancer in certain laboratory animal tests.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Skin contact may aggravate pre-existing dermatitis. Inhalation of vapors may aggravate pre-existing asthma like conditions.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove victim to fresh air. Give oxygen if breathing is labored. Apply artificial respiration if not breathing. Seek medical help. **SKIN:** Remove all contaminated clothing and shoes. Wash with soap and water. Do not reuse clothing and shoes until cleaned. **EYES:** Flush eyes with plenty of water while removing any contact lenses. Hold eyelids open and continue flushing for at least 15 minutes. **INGESTION:** DO NOT INDUCE vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Seek medical attention immediately.

MATERIAL SAFETY DATA SHEET

COPPER PLATING SOLUTION

Page: 3
Revised: January 13, 2006

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Eliminate all ignition sources. Spills should be diked and must be kept from entering the sewer. Soak up with absorbent or transfer liquid into a closed container for later disposal. Use spark-proof tools and explosion proof equipment.

WASTE DISPOSAL METHOD:

If this product becomes a waste, it is regulated by RCRA as Spent Halogenated Solvent Mixture, EPA I.D. #F002. Suitable methods of disposal include reclamation or fuel blending. Contact a Licensed Hazardous Waste Hauler for more information.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Containers should be grounded and bonded before transferring product. Store in the original closed container away from sunlight, excess heat, sparks, flames and other sources of ignition. Avoid skin or eye contact. Avoid breathing vapors. When transferring or using this product, wear proper personal protective equipment. Store and handle as a Flammable Liquid.

OTHER PRECAUTIONS/DOT INFORMATION:

DOT Proper Shipping Name: Flammable Liquid, Corrosive n.o.s. (Isopropanol, Hydrochloric Acid), Hazard Class: 3, UN Number: UN2924, Packing Group: II. IMDG Code: Flammable Liquid, Corrosive, n.o.s. (Isopropanol, Hydrochloric Acid) Class 3 (SUBSIDIARY RISK CL 8) UN2924 PG II Flash Point 20°C. California Proposition 65: The following statement is made in order to comply with the California Safe Drinking Water And Toxic Enforcement Act Of 1986: WARNING: This product contains a chemical known to the State of California to cause cancer. (See Section 6 of this MSDS for details on carcinogenicity).

SECTION 8 - CONTROL MEASURES

RESPIRATORY PROTECTION:

The use of respiratory protection is required when concentrations exceed the established OSHA PEL limits in SECTION 2. Wear a supplied air respirator (SABA or SCBA) (NIOSH approved). Respirators equipped with organic vapor cartridges are authorized for emergency escape only.

VENTILATION:

If current ventilation is inadequate to maintain concentrations below the established exposure limits in SECTION 2, additional ventilation or local exhaust system is required. Explosion proof electrical systems must be used. If current ventilation practices are not adequate to maintain airborne concentrations below the established OSHA PEL limits in SECTION 2, additional general ventilation or local exhaust system or the use of SABA or SCBA is required.

PROTECTIVE GLOVES:

Wear solvent resistant gloves made of polyvinyl alcohol (PVA) or others rated for protection from dichloromethane.

EYE PROTECTION:

Wear safety glasses with side shields.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

A personal protective rating of X means you must see your supervisor for guidance. OSHA regulations (29CFR Part 1910, Subpart I) require employers to evaluate Personal Protective Equipment requirements in the workplace.

WORK/HYGIENIC PRACTICES:

Wash with soap and water after product contact with skin. Launder contaminated clothing before reuse.

SECTION 9 - DISCLAIMER

The information on this MSDS is believed to be accurate as of the date shown in SECTION 1. Since the use of this product is not under the control of DAY Chemical Products Division, it is the user's responsibility to determine what constitutes safe usage for a particular product. This form may be reproduced in quantities necessary to meet your requirements.