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DISTRIBUTOR'S NAME:

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SECTION 1 -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CODE: COPPER

TRADE NAME...: COPPER AND/OR GOLD BRONZE PIGMENTS OR POWDERS

- H M I S C O D E S -
HEALTH - 1*
FLAMMABILITY - 1
REACTIVITY - 0
PPE - X

PRODUCT CLASS: SCREEN PRINTING RELATED MATERIAL

INK SERIES...: DIST

Item Description	WT lb/gal	VOC g/L	VOC lb/gal	% VOC volume	Item Description	WT lb/gal	VOC g/L	VOC lb/gal	% VOC volume
SIPM502	69.2	0	.0	0	SIPM503	71.4	0	.0	0
SIPM514	70.8	0	.0	0	SIPM523	66.6	0	.0	0
SIPM525	71.4	0	.0	0	SIPM529	70.8	0	.0	0
SIPM530	71.4	0	.0	0	SIPM536	72.0	0	.0	0
SIPM540	71.0	0	.0	0	SIPM541	70.8	0	.0	0
NSIPM553	71.3	0	.0	0	SIPM588	72.7	0	.0	0
SIPM602	70.0	0	.0	0	SIPM610	62.9	0	.0	0
314	74.4	0	.0	0	316	63.9	0	.0	0
317	73.9	0	.0	0	416	74.4	0	.0	0
417	74.4	0	.0	0		.0	0	.0	0

SECTION 2 -- COMPOSITION, INFORMATION ON INGREDIENTS

CHEMICAL NAME; COMMON NAME; CAS NUMBER	PERCENT BY WEIGHT	OCCUPATIONAL EXPOSURE LIMITS		VAPOR PRESSURE IN mmHg	NOTES
		-----ACGIH----- TLV	-----OSHA----- PEL		
* COPPER COMPOUNDS; CAS #: 7440-50-8	68-95	1 mg/m3	1 mg/m3	N/A	(1)
* ZINC COMPOUNDS; CAS #: 7440-66-6	0-30	10 mg/m3 Total dust	15 mg/m3 Total dust	N/A	(2)
SILICON DIOXIDE; AMORPHOUS SILICA; CAS #: 7631-86-9	0-3	10 mg/m3	6 mg/m3 Total dust	N/A	
* ALUMINUM COMPOUNDS; CAS #: 7429-90-5	0-2	10 mg/m3	15 mg/m3 Total Dusts	N/A	(3)

* SUBJECT TO REPORTING REQUIREMENT OF SECTION 313 OF TITLE III OF SARA (40 CFR PART 372).

- 1) CAS # and exposure limits are for copper dusts and mists.
- 2) See Section 8 Exposure Controls, Personal Protection - Exposure Guidelines for more information on exposure limits.
- 3) CAS # and exposure limits are for total aluminum dust. 5 mg/m3 exposure limit for respirable fraction.

The recommended permissible exposure limits (PEL) indicated above reflect the levels adopted by OSHA in 1989. Although, some of the 1989 levels have since been vacated the Nazdar Company recommends that the lower exposure levels be observed as reasonable worker protection.

SECTION 3 -- HAZARDS IDENTIFICATION

GENERAL HEALTH EFFECTS

THE FOLLOWING INFORMATION HAS BEEN DEVELOPED BASED UPON USING THE PRODUCT AS INTENDED BY THE MANUFACTURER. The potential health effects of this product are based on the hazards of its components. The use of this product in combination with other products may produce synergistic (additive) health effects. Cautionary labeling and material safety data sheets of all materials used with this product should be reviewed before use.

EYES

Eye contact with dusts or powders may cause mechanical or chemical irritation.

SKIN

Skin contact may cause irritation. Product may cause skin sensitization.

INHALATION

Inhalation of copper or copper/zinc alloy dusts may cause irritation of the nose, trachea and respiratory tract, including metallic taste and nasal ulceration and perforation.

INGESTION

Ingestion may cause gastrointestinal tract irritation, including vomiting and collapse. Acute poisoning is characterized by hemolysis, jaundice, anuria, hypotension and convulsions.

CHRONIC EFFECTS/TARGET ORGANS

Copper dusts may cause damage to blood, spleen, liver and kidneys to those individuals suffering from pre-existing disorders (including Wilson's disease). Exposure can cause discoloration of the skin and hair. If product is exposed to extremely high temperatures, zinc fumes can cause metal fume fever.

ANIMAL STUDIES

No Data Available

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pregnant women and persons with pre-existing health disorders should consult their physician before using this product. Repeated and prolonged overexposure and/or individual sensitivity may increase the potential for and degree of adverse health effects. See Section 3 "Hazards Identification" for effects of certain hazardous ingredients.

ROUTES OF EXPOSURE

Primary exposure routes: Inhalation-Dermal (Contact/Absorption)-Ingestion

SECTION 4 -- FIRST AID MEASURES

EYES

After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If irritation persists have eyes examined and tested by medical personnel.

SKIN

In case of contact, immediately wash skin with a mild soap and plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Cool water is initially suggested to prevent the pores of the skin from opening. This will minimize both the area and time of skin contact. Lukewarm water may then be used to ensure all contaminants are removed. Skin should be monitored for reddening or chemical burns. Mild soap is suggested to help prevent abrading the skin or rubbing the chemicals into pores during cleansing. Get medical attention if irritation persists or significant contact has occurred. Thoroughly wash (or discard) clothing and shoes before reuse.

INHALATION

Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention if breathing difficulty is experienced.

INGESTION

If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

OTHER COMMENTS

No Data Available

SECTION 5 -- FIRE FIGHTING MEASURES

FLASH POINT

Not applicable

OSHA FLAMMABILITY CLASSIFICATION (NFPA)

Not applicable

LEL - LOWER EXPLOSIVE LIMIT / UEL - UPPER EXPLOSIVE LIMIT

No Data Available

EXTINGUISHING MEDIA

Sand or another inert material may be used to smother burning pigment. Foam-CO2-Dry Chemical-Water Spray

FIRE AND EXPLOSION HAZARDS

Isolate from heat, electrical equipment, sparks, and open flame. Keep containers tightly closed. Potential for dust explosion. This product contains brass powder which is an alloy of copper and zinc. Burning brass powder, since it may contain zinc, may react with halogenated hydrocarbon extinguishing agents resulting in serious or violent reactions.

FIRE FIGHTING EQUIPMENT

Full protective equipment including self-contained breathing apparatus (SCBA) is recommended to protect firefighters.

SPECIAL FIRE FIGHTING PROCEDURES

Water may be ineffective but may be used to cool containers. Fumes released on burning may be toxic and dangerous.

-----SECTION 6 -- ACCIDENTAL RELEASE MEASURES

RELEASE MANAGEMENT MEASURES

Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid contact or breathing vapors. Ventilate area. Contain release and remove with inert absorbent. Use non-sparking tools to place material in appropriate container for disposal. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. The National Response Center (800-424-8802) and local authorities should be contacted for any reportable spill/release.

-----SECTION 7 -- HANDLING AND STORAGE

HANDLING AND STORAGE METHODS

Use in a well ventilated area. Follow all MSDS/label precautions even after container is emptied; container may retain product residues. Store in closed containers in cool, dry, well ventilated area away from sources of ignition. Keep containers closed when not in use. Smoke in designated areas only. Avoid prolonged or repeated overexposure to this product. Keep out of reach of children. Follow label directions carefully. Do not take internally. Harmful or fatal if swallowed. Avoid prolonged exposure to excessive cold. Protect from freezing.

-----SECTION 8 -- EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION

If concentrations of hazardous ingredients exceed exposure limits listed in Section 2 an appropriate NIOSH (National Institute for Occupational Safety and Health) approved respirator with an organic vapor cartridge should be used. If material is handled under mist, spray or dust forming conditions, a P100 (99.97% efficiency) filter should be used in addition to the organic vapor cartridge. Protection provided by air-purifying respirators is limited. If no exposure limits are listed in Section 2, follow general safety guidelines in 29 CFR 1910.134 Respiratory Protection or other applicable respiratory standard.

SKIN PROTECTION

Use neoprene, nitrile or other gloves resistant to chemicals listed in Section 2. Contact a reputable safety supply company for appropriate gloves. Solvent resistant aprons are recommended. Prevent prolonged skin contact with contaminated clothing.

EYE PROTECTION

Use ANSI (American National Standards Institute) approved safety glasses, faceshield or splash proof goggles to prevent eye contact. Contact a reputable safety supply company for appropriate eye protection. The availability of an eye wash is highly recommended.

EXPOSURE GUIDELINES

See Section 2 "Composition, Information on Ingredients" for occupational exposure limits. Excessive concentrations of nuisance dusts or particulates not otherwise classified (PNOC) or regulated (PNOR) may reduce visibility and cause unpleasant deposits in the eyes, ears, and nasal passages. The TLV and PEL has been established for all non-toxic "nuisance dusts" that are not otherwise classified and refers to both organic and inorganic dusts. Exposure or generation of these dusts is not anticipated during normal printing operations. The use of dry pigments and powders, grinding or sanding of printed products may generate quantities of these particulates. Refer to Section 2 Composition, Information on Ingredients for exposure limits.

HYGIENIC PRACTICES

Wash with soap and water before eating, smoking or using toilet facilities. Separately wash or discard clothing and footwear before reuse. NEVER try to remove product from the skin by using solvent or thinner. Such action is likely to increase the possibility of undesirable effects. Remove contaminated clothing to prevent prolonged skin contact.

ENGINEERING CONTROLS

Use applicable engineering controls, work practices and personal protective equipment to ensure all concentrations are kept below the exposure limits listed in Section 2. Adequate controls should be implemented to ensure employee safety from fine mists which may be produced under some printing conditions.

OTHER PROTECTION

No Data Available

-----SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

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APPEARANCE:

Powder/Flake

ODOR:

No data available

PHYSICAL STATE:

Solid

pH
Not applicable

VAPOR PRESSURE
Not applicable

VAPOR DENSITY
Not applicable

BOILING POINT
No data available

FREEZING POINT
No data available

SOLUBILITY IN WATER
Insoluble

EVAPORATION RATE
Not applicable

VISCOSITY
Not applicable

PERCENT VOLATILE BY VOLUME: SEE SECTION ONE

WEIGHT PER GALLON: SEE SECTION ONE

VOC: SEE SECTION ONE

PHOTOCHEMICALLY REACTIVE
No

SECTION 10 -- STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable

CONDITIONS TO AVOID
Heat, sparks, open flames, water. Avoid contact with strong oxidants, such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, magnesium metal, acetylene gas.

INCOMPATIBILITY WITH OTHER MATERIALS
Strong acids/bases, oxidizing/reducing agents and reactive chemicals.

HAZARDOUS DECOMPOSITION PRODUCTS
May produce hazardous fumes when heated to decomposition e.g. carbon monoxide, carbon dioxide and other noxious gases. Copper and zinc, when burning, will emit copper oxide and/or zinc oxide.

HAZARDOUS POLYMERIZATION
Not anticipated during normal printing and storage conditions.

SECTION 11 -- TOXICOLOGICAL INFORMATION

EXPERIMENTAL TOXICITY DATA
Refer to Section 3 Hazards Identification for additional toxicological data.

SECTION 12 -- ECOLOGICAL INFORMATION

ECOTOXICITY
Because this product may be a mixture of chemicals, some of which may be ecologically toxic, it is strongly suggested that it not be disposed of into the environment, i.e. soil, water courses, lakes, landfills, sewers, etc.

ENVIRONMENTAL FATE
No Data Available

SECTION 13 -- DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

This product, as supplied, is considered non-hazardous for disposal purposes by the U.S. Environmental Protection Agency Resource Conservation and Recovery Act (RCRA). If combined with other products, the user should determine if hazardous waste codes are required. It is the responsibility of the user to determine if local, county, state, or provincial regulations may also apply to the disposal of this product and/or the container.

SECTION 14 -- TRANSPORT INFORMATION

TRANSPORT INFORMATION

DOT Proper Shipping Description: Metal Powders, Flammable, NOS , 4.1, UN3089, PG II. Questions concerning transportation requirements should be directed to Nazdar's Regulatory Compliance Department 913-422-1735.

SECTION 15 -- REGULATORY INFORMATION

SARA TITLE III 313 INFORMATION

See Section 2 "Composition, Information on Ingredients" for applicable chemicals.

TOXIC SUBSTANCES CONTROL ACT STATUS

All ingredients in Section 2 are listed on the U.S. Environmental Protection Agency's Toxic Substances Control Act (TSCA) Inventory and the Canadian Domestic Substance List.

OTHER REGULATORY INFORMATION

OCCUPATIONAL SAFETY and HEALTH ADMINISTRATION (OSHA) - MSDS is compliant with Occupational Safety and Health Administration Hazard Communication Standard - 29 CFR 1910.1200. AMERICAN NATIONAL STANDARDS INSTITUTE - This MSDS follows the ANSI Z400.1-1998 format. WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS) - This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION (CANADA):

No Data Available

SECTION 16 -- OTHER INFORMATION

DISCLOSURE

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind express or implied is made with respect to the information contained herein. The data in this MSDS relates only to the specific material designated herein and does not apply to use in combination with any other material or process.

DEFINITIONS

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CEILING: (TLV-Ceiling and PEL Ceiling Limit) The ceiling exposure limit or concentration not to be exceeded for even brief times.

DOT: Department of Transportation

HMIS: The Hazardous Materials Identification System (HMIS) developed by the National Paint and Coatings Association (NPCA) to provide information on the acute health hazards, reactivity and flammability of products encountered in the workplace at room temperatures.

HMIS codes assigned for this product are only suggested ratings based on anticipated normal screen printing applications. The employer has the ultimate responsibility for assigning these ratings and should fully evaluate the MSDS, work practices and environmental conditions prior to assigning the appropriate ratings.

HMIS rating involves data interpretations that may vary from company to company.

HMIS Personal Protection Index of "X-Ask your supervisor" is given on this MSDS due to varying work conditions which may dictate different levels of protection. Please review this MSDS before determining appropriate protective equipment and beginning work.

IARC: International Agency for Research on Cancer

NFPA: National Fire Protection Association

NTP: National Toxicology Program

STEL: Short-Term Exposure Limit: ACGIH terminology for the short-term exposure limit or maximum concentration for a continuous exposure period of 15 minutes.

TLV: Threshold Limit Value. A term ACGIH uses to express the airborne concentration of a material to which most workers can be exposed during a normal daily and weekly work schedule without adverse effects.

TWA: Time-Weighted Average

VOC: Volatile Organic Compound