

MATERIAL SAFETY DATA SHEET

For screen printing inks as required under 29 VCFR 1910.1200(g).

POLYMERIC IMAGING, INC.
117 E. 14TH AVENUE
NORTH KANSAS CITY, MISSOURI 64116
(800) 746-5567

HMIS RATINGS
HEALTH - - - - - 1
FLAMMABILITY - - 2
REACTIVITY - - - - 1

UNDER OSHA'S HAZARD COMMUNICATION STANDARD, WHERE COMPLEX MIXTURES HAVE SIMILAR HAZARDS AND CONTENTS, THE MANUFACTURER MAY PREPARE ONE MATERIAL SAFETY DATA SHEET TO APPLY TO ALL OF THESE SIMILAR MIXTURES. THIS DOCUMENT APPLIES TO ALL COLORS AND SPECIALS IN THIS INK LINE.

EMERGENCY PHONE NUMBER
CHEMTREC 800-424-9300

PREPARER: AMY MARTIN
REGULATORY COMPLIANCE DIRECTOR

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SECTION I -- PRODUCT IDENTIFICATION

PRODUCT CODE: RICH PALE GOLD PASTE
LABEL IDENTITY: 4740
PRODUCT CLASS: METALLIC PASTE

SECTION II -- HAZARDOUS INGREDIENTS

COMMON NAME CAS #	RECOMMENDED EXPOSURE LIMITS (PPM)*			VAPOR PRESSURE (mm Hg @ 20 C)*
	ACGIH TLV-TWA	OSHA PEL		
COPPER (7440-50-8)	1MG/M3	2MG/M3	2MG/M3	
ZINC (7440-66-6)		5MG/M3	NE	NE
STERIC ACID (57-11-4)	NE	NE	NE	N.A.
SOLVENT (97-99-4)	NE	NE	NE	0.2
ACRYLATE (N.A.)	NE	100	NE	N.A.

NA - NOT APPLICABLE NE - NOT ESTABLISHED UKN - UNKNOWN TS - TRADE SECRET

* UNLESS NOTED OTHERWISE, THE UNITS ARE PPM AND mm Hg @ 20 C, RESPECTIVELY, FOR EXPOSURE LIMITS AND VAPOR PRESSURES.

SECTION III -- PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING RANGE: > 143°F VAPOR DENSITY IS HEAVIER THAN AIR.
DENSITY IS 9.0 TO 10.6 LBS/GAL. VOLATILE ORGANIC COMPOUNDS: NONE.
THE EVAPORATION RATE IS SLOWER THAN DIETHYL ETHER.

SECTION IV -- PHYSICAL HAZARD DATA

FLAMMABILITY CLASSIFICATIONS: OSHA: NON REGULATED DOT: NON REGULATED IN ALL MODES
IATA: NON REGULATED IN ALL MODES

CLOSED CUP FLASH POINT: > 200 F.

EXTINGUISHING MEDIA: DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS:

THIS PRODUCT CONTAINS BRASS POWDER WHICH IS AN ALLOY OF COPPER AND ZINC. BURNING BRASS POWDER, SINCE IT CONTAINS ZINC, MAY REACT WITH WATER TO LIBERATE HYDROGEN GAS WHICH WILL SPREAD THE FIRE. ALSO, BURNING BRASS MAY REACT WITH HALOGENATED HYDROCARBON EXTINGUISHING AGENTS RESULTING IN SERIOUS OF VIOLENT REACTIONS.

SPECIAL FIREFIGHTING PROCEDURES:

NEVER USE WATER OR FIRE EXTINGUISHERS CONTAINING HALOGENATED HYDROCARBONS TO FIGHT A FIRE IN THIS PRODUCT. USE ONLY A NFPA CLASS D FIRE EXTINGUISHER CONTAINING DRY CHEMICAL AND EQUIPPED WITH A LOW VELOCITY NOZZLE TO EXTINGUISH THE FIRE. FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS.

SECTION V -- EMERGENCY AND FIRST-AID PROCEDURES

PRIMARY ROUTES OF ENTRY ARE DERMAL., INHALATION, INGESTION .

FOR SWALLOWING:

DRINK TWO GLASSES OF WATER TO DILUTE. DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CONSULT PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY. BE PREPARED TO PROVIDE THE ATTENDING PHYSICIAN WITH A COPY OF THIS DOCUMENT.

FOR SKIN CONTACT:

REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH MILD SOAP AND WARM WATER. APPLY A GOOD QUALITY SKIN CREAM. CONSULT A PHYSICIAN IF THERE IS ANY PERSISTING IRRITATION.

FOR INHALATION:

REMOVE VICTIM TO A WELL VENTILATED AREA. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS REQUIRED. TREAT SYMPTOMATICALLY AND CONSULT PHYSICIAN.

FOR EYE CONTACT:

FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST FIFTEEN MINUTES. CONSULT PHYSICIAN.

SPECIAL NOTES TO ATTENDING PHYSICIAN:

THERE IS NO SPECIFIC ANTIDOTE. TREATMENT OF OVEREXPOSURE SHOULD BE DIRECTED AT CONTROL OF THE SYMPTOMS AND THE CLINICAL CONDITION.

SECTION VI -- SIGNS AND SYMPTOMS OF OVER-EXPOSURE

ACUTE EFFECTS:

SWALLOWING:

MODERATELY TOXIC. MAY CAUSE IRRITATION OF THE MOUTH, THROAT, ESOPHAGUS, AND STOMACH. THERE MAY BE DISCOMFORT OR PAIN IN THE MOUTH, THROAT, CHEST AND ABDOMEN, WITH NAUSEA, VOMITING, DIARRHEA, DIFFICULTY SWALLOWING, WEAKNESS, THIRST, DIZZINESS, AND DROWSINESS. ASPIRATION INTO THE LUNGS MAY OCCUR DURING INGESTION OR VOMITING, RESULTING IN LUNG INJURY.

SKIN ABSORPTION:

NO SPECIFIC INFORMATION AVAILABLE. CONTAINS MATERIALS THAT MAY BE SLIGHTLY TOXIC.

INHALATION:

EXPOSURE TO VAPORS IS UNLIKELY DUE TO LOW VAPOR PRESSURE OF INGREDIENTS, BUT INHALATION OF MIST, AEROSOLS, OR VAPORS MAY RESULT IN IRRITATION OF RESPIRATORY TRACT COUGHING, SHORTNESS OF BREATH AND DIZZINESS.

SKIN CONTACT:

CONTAINS MATERIAL THAT MAY CAUSE SEVERE SKIN IRRITATION (REDDENING AND SWELLING) AND/OR SENSITIZATION. PROLONGED CONTACT MAY CAUSE BLISTER FORMATION (BURNS). SINCE IRRITATION MAY NOT OCCUR IMMEDIATELY, CONTACT CAN GO UNNOTICED.

EYE CONTACT:

CONTAINS MATERIALS THAT MAY CAUSE MODERATE IRRITATION, INCLUDING BURNING SENSATION TEARING, REDNESS OR SWELLING.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY OVEREXPOSURE: LUNG CONDITIONS, SENSITIZATION, OR ALLERGIES, SKIN AND EYE CONDITIONS.

CHRONIC EFFECTS:

MAY CAUSE SKIN SENSITIZATION. DERMATITIS.

ACRYLATES HAVE BEEN REPORTED TO BE MUTAGENIC ONLY IN THE MOUSE LYMPHOMA ASSAY, BUT NEGATIVE IN THE AMES TEST.

EFFECTS OF OVEREXPOSURE:

COPPER OR COPPER/ZINC ALLOY METAL IS SLIGHTLY TOXIC. INHALATION OF COPPER OR COPPER/ZINC ALLOY POWDER MAY CAUSE ACUTE IRRITATION OF THE NOSE AND/OR TRACHEA: MAY PRODUCE ACUTE GASTROENTERIC SYMPTOMS RESULTING IN VOMITING AND OR INFLAMMATION, AND/OR MAY CAUSE ACUTE MENTAL FUME FEVER. EXPOSURE OF SKIN TO COPPER OR COPPER/ZINC ALLOY POWDER MAY CAUSE ACUTE DERMATITIS. IN THE CASE OF CHRONIC EXPOSURE, THE LIVER, KIDNEYS, AND/OR SPLEEN MAY BE INJURED, AND/OR ANEMIA MAY DEVELOP. CHRONIC TOXICITY IS CONFINED TO THOSE PERSONS SUFFERING FROM PRE-EXISTING WILSON'S DISEASE.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:

THE FOLLOWING MEDICAL CONDITIONS MAY BE AGGRAVATED BY EXPOSURE TO COPPER OR COPPER/ZINC ALLOY POWDER:

- A) PERSONS AFFLICTED WITH CHRONIC RESPIRATORY DISEASE AND/ OR IMPAIRED PULMONARY FUNCTIONS, ESPECIALLY THOSE WITH OBSTRUCTIVE AIRWAY DISEASES.
- B) PERSONS AFFLICTED WITH PRE-EXISTING LIVER DISEASE.
- C) PERSONS AFFLICTED WITH PRE-EXISTING KIDNEY DISEASE.
- D) PERSONS AFFLICTED WITH PRE-EXISTING SKIN DISORDERS.
- E) PERSONS AFFLICTED WITH PRE-EXISTING BLOOD DISORDERS.
- F) PERSONS AFFLICTED WITH PRE-EXISTING WILSON'S DISEASE.

ADDITIONAL KNOWN HEALTH HAZARDS: NO DATA FOUND

SECTION VII -- REACTIVITY DATA

STABILITY: ___ UNSTABLE ___ X STABLE

HAZARDOUS POLYMERIZATION: ___ MAY OCCUR ___ X WILL NOT OCCUR

INCOMPATIBILITY (MATERIALS TO AVOID):

MINERAL ACIDS AND OTHER COPPER/OR ZINC REACTIVE AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS:

COPPER AND ZINC, WHEN BURNING, WILL EMIT COPPER OXIDE AND/OR ZINC OXIDE.

CONDITIONS TO AVOID:

AVOID CONTACT WITH MINERAL ACIDS AND STRONG OXIDIZING AGENT

SECTION VIII -- SPILL OR LEAK PROCEDURES

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED:

PLACE LEAKING CONTAINERS IN A WELL VENTILATED AREA. AVOID BREATHING VAPORS. ELIMINATE ALL SOURCES OF HEAT, AS WELL AS ALL CONDITIONS NOTED IN SECTION VII, ABOVE. NOTIFY PROPER AUTHORITIES IF PUBLIC WATERS OR SEWERS ARE CONTAMINATED.

WASTE DISPOSAL METHODS:

AS A HAZARDOUS WASTE, THIS MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL ORDINANCES. INQUIRE OF YOUR LOCAL ENVIRONMENTAL AGENCIES FOR THE EXACT LEGAL REQUIREMENTS IN YOUR AREA.

REFER TO SECTIONS IV, V, VI, VII AND IX OF THIS DOCUMENT BEFORE ATTEMPTING ANY CLEANUP.

SECTION IX -- SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION:

DO NOT BREATHE VAPORS OR SPRAY MISTS. WEAR AN APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/OSHA APPROVED) DURING AND AFTER APPLICATION UNLESS AIR MONITORING DEMONSTRATES VAPOR/MIST LEVELS ARE BELOW APPLICABLE LIMITS. FOLLOW RESPIRATOR MANUFACTURER'S DIRECTIONS FOR RESPIRATOR USE.

VENTILATION REQUIREMENTS: LOCAL EXHAUST RECOMMENDED WHEN APPROPRIATE TO CONTROL EXPOSURE TO MIST OR AEROSOLS. GENERAL EXHAUST IS NORMALLY ADEQUATE TO MINIMIZE EXPOSURE TO VAPORS.

PROTECTIVE GLOVES: RUBBER OR NEOPRENE TO MINIMIZE SKIN CONTACT.

EYE PROTECTION: SAFETY GOGGLES OR FULL FACE SHIELD WHENEVER A SPLASH HAZARD IS PRESENTED.

HYGIENIC SAFETY PRACTICES: WASH HANDS BEFORE EATING, USING TOBACCO PRODUCTS, OR USING THE WASHROOM. TOBACCO AND FOOD SHOULD BE CONSUMED IN DESIGNATED AREAS ONLY.

ADDITIONAL SAFETY EQUIPMENT: IMPERMEABLE APRONS AND BOOTS. SAFETY SHOWER AND EYE BATH SHOULD BE MADE AVAILABLE.

SECTION X -- SPECIAL PROCEDURES

TRANSPORTATION, STORAGE, AND HANDLING:

AVOID CONDITIONS LISTED IN SECTION VII. AVOID PROLONGED STORAGE AT TEMPERATURES IN EXCESS OF 100 F.

OTHER PRECAUTIONS:

LEATHER GLOVES, APRONS, BELTS, OR BOOTS MAY BE PERMEATED BY THESE MATERIALS, CAUSING DELAYED AND PERSISTENT IRRITATION CHEMICAL BURNS. LEATHER ITEMS SHOULD BE DISPOSED OF, ONCE CONTAMINATED.

SECTION XI -- DISCLAIMER

POLYMERIC MAKES NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ACCURACY OR RELIABILITY OF INFORMATION CONTAINED HEREIN, EXCEPT THAT SUCH INFORMATION IS, TO THE BEST OF POLYMERIC'S KNOWLEDGE AND BELIEF, ACCURATE AS OF THE DATE INDICATED ON THIS DOCUMENT. FINAL DETERMINATION OF SUITABILITY OF ANY MATERIAL IS THE SOLE RESPONSIBILITY OF THE USER. ALL MATERIALS MAY PRESENT UNKNOWN HEALTH HAZARDS AND SHOULD BE USED WITH CAUTION. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, WE CANNOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

SECTION XII -- PURCHASERS' OBLIGATIONS

POLYMERIC URGES THE CUSTOMER RECEIVING THIS MATERIAL SAFETY DATA SHEET TO STUDY IT CAREFULLY TO BECOME AWARE OF HAZARDS, IF ANY, OF THE PRODUCTS INVOLVED. IN THE INTEREST OF SAFETY, YOU SHOULD (1) NOTIFY YOUR EMPLOYEES, AGENTS, AND CONTRACTORS OF THE INFORMATION ON THIS SHEET, (2) FURNISH A COPY TO EACH OF YOUR CUSTOMERS FOR THIS PRODUCT, AND (3) REQUEST YOUR CUSTOMERS TO INFORM THEIR EMPLOYEES, CUSTOMERS, AND AGENTS, AS WELL.

SECTION XIII -- REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS: THE INGREDIENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

SARA TITLE III SECTION 313 INFORMATION: THIS PRODUCT DOES CONTAIN TOXIC CHEMICALS SUBJECT TO THE ANNUAL REPORTING REQUIREMENTS OF SECTION 313 OF THE TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372.

COPPER, ZINC AND ALUMINUM

STATE OF CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65): THIS PRODUCT DOES NOT CONTAIN CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE TOXICITY.