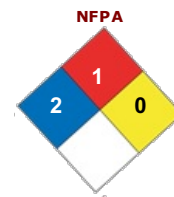


| Personal Protective Equipment | | WHMIS Pictograms |
|---|---|---|
|  |  |  |
| Protective Gloves | Chemical Splash Goggles | D2A Toxic |

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: R562 Sn62Pb36Ag2
Product Code: R562
MSDS Manufacturer Number: R562
Manufacturer Name: Kester
Address: 800 W. Thorndale Avenue
Itasca, IL 60143
General Phone Number: (630)-616-4000
Customer Service Phone Number: (800)-2KESTER (253-7837)
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300 Outside of the U.S. and Canada: (703) 527-3887
Website: msds@kester.com
MSDS Creation Date: June 12, 2009
MSDS Revision Date: September 30, 2012



HMIS

| | |
|---------------------|----|
| Health Hazard | 2* |
| Fire Hazard | 1 |
| Reactivity | 0 |
| Personal Protection | |

* Chronic Health Effects

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS# | Ingredient Percent | EC Num. |
|---|-------------|--------------------|---------|
| Silver | 7440-22-4 | 1 - 5 by weight | |
| Proprietary | Proprietary | 5 - 10 by weight | |
| Tin | 7440-31-5 | 30 - 60 by weight | |
| Rosin | 8050-09-7 | 1 - 5 by weight | |
| Lead | 7439-92-1 | 30 - 60 by weight | |
| Poly(oxy-1,2-ethanediyl), .alpha.-(isooctylphenyl)-.omega.-hydroxy- | 9004-87-9 | 1 - 5 by weight | |

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview: WARNING! Irritant. Potential Sensitizer Exposures to soldering fumes and vapors may be irritating to eyes, respiratory system, and skin. Carcinogenic Category 2
Route of Exposure: Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:
Eye: Smoke during soldering can cause eye irritation.
Skin: May cause skin irritation.
May cause an allergic skin reaction
May be absorbed through the skin in harmful amounts.
Inhalation: Inhalation of vapors, fumes or mists of the product may be irritating to the respiratory system.
May cause allergy or asthma symptoms or breathing difficulties if inhaled
Harmful if inhaled
Ingestion: Ingestion of the product may produce gastrointestinal irritation and disturbances.
Fatal if swallowed
Chronic Health Effects: Suspected of damaging fertility or the unborn child
Repeated and prolonged exposure to lead and lead compounds may cause abdominal pain, diarrhea, loss of appetite, metallic taste, nausea, vomiting, lassitude, insomnia, muscle weakness, joint and

muscle pain, irritability, headache and dizziness. Red blood cells may be damaged resulting in anemia. Gastritis and injury to the kidneys, liver, male gonads, and central nervous system may also occur.

Target Organs: Eyes. Skin. Respiratory system. Digestive system. Central nervous system. Liver. Kidney.

Aggravation of Pre-Existing Conditions: Persons with pre-existing eye, skin or respiratory conditions may be more susceptible to the effects of this product.

Lead

Carcinogenicity: IARC: Group 2B: Possibly carcinogenic to humans.

SECTION 4 - FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

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

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: > 93°C (> 199°F)

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

Hazardous Combustion Byproducts: Oxides of carbon, oxides of nitrogen, aliphatic aldehydes, and other organic substances may be formed during combustion..

NFPA Ratings:

NFPA Health: 2

NFPA Flammability: 1

NFPA Reactivity: 0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions: Avoid contact with eyes and skin. Use proper personal protective equipment as listed in section 8.

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Methods for containment: Contain spills with an inert absorbent material such as soil, sand or oil dry. Prevent from spreading by covering, diking or other means.

Methods for cleanup: Pick or scoop up material and put into a suitable container for proper disposal.

SECTION 7 - HANDLING and STORAGE

Handling: Use with adequate ventilation. Avoid breathing vapor and fumes. Use only in accordance with directions.

Storage: Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use. Recommended storage temperature is at or near 5°C or 42°F.

Hygiene Practices: Wash thoroughly after handling. Avoid inhaling vapors, mists, or fumes.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Eye/Face Protection: Tightly fitting safety goggles.

Skin Protection Description: Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data. Nitrile rubber or natural rubber gloves are recommended.

Respiratory Protection: The need for respiratory protection will vary according to the airborne concentration of the decomposition products released and accumulated in the area. In case of insufficient ventilation, wear suitable respiratory equipment. Wear the appropriate respiratory protection according to the conditions and exposure levels in the area.

PPE Pictograms:



EXPOSURE GUIDELINES

Silver :

Guideline ACGIH: TLV-TWA: 0.1 mg/m³
 Guideline OSHA: PEL-TWA: 0.01 mg/m³

Tin :

Guideline ACGIH: TLV-TWA: 2 mg/m³
 Guideline OSHA: PEL-TWA: 2 mg/m³

Rosin :

Guideline ACGIH: Sensitizer.: Sen

Lead :

Guideline ACGIH: TLV-TWA: 0.05 mg/m³
 Guideline OSHA: PEL-TWA: 0.05 mg/m³

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance: Paste.

Color: Silver Gray

Boiling Point: Not determined.

Melting Point: Not determined.

Density: > 4.5 g/cm³ at 20°C (68°F)

Solubility: Insoluble

Flash Point: > 93°C (> 199°F)

Explosive Properties: Product does not present an explosion hazard.

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.

Hazardous Polymerization: Not reported.

Conditions to Avoid: No thermal decomposition if used according to specifications.

Incompatible Materials: Oxidizing agents. Strong acids and alkalis.

SECTION 11 - TOXICOLOGICAL INFORMATION

Silver :

Ingestion: Oral - Mouse LD50: 100 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Rosin :

Skin: Administration onto the skin - Human TCl₀: 20 pph/48H (Continuous) [Skin and Appendages - Dermatitis, allergic (After topical exposure)] (RTECS)

Inhalation: Inhalation - Rat LC50: 110 mg/m³ [Behavioral - Somnolence (general depressed activity) Cardiac - Pulse rate Lungs, Thorax, or Respiration - Respiratory depression] (RTECS)

Ingestion: Oral - Rat LD50: 3.0 mg/kg [Brain and Coverings - Other degenerative changes Liver - Other changes Biochemical - Metabolism (intermediary) - Other]
 Oral - Mouse LD50: 2.2 mg/kg [Behavioral - Somnolence (general depressed activity) Cardiac - Pulse rate Lungs, Thorax, or Respiration - Respiratory depression] (RTECS)

Lead :

Ingestion: Oral - Rat TDLo: 0.2 mg/kg [Reproductive - Paternal Effects - Spermatogenesis (including genetic material, sperm morphology, motility, and count)]
 Oral - Rat TDLo: 1050 ug/kg/30W (Intermittent) [Brain and Coverings - Other degenerative changes Behavioral - Alteration of classical conditioning Nutritional and Gross Metabolic - changes in metals, not otherwise specified]
 Oral - Rat TDLo: 93.6 mg/kg/30D (Continuous) [Kidney/Ureter/Bladder

- Other changes Blood - Other changes Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels - Other enzymes]
 Oral - Rat TDLo: 43.75 mg/kg/1W (Continuous) [Blood - Other changes Kidney/Ureter/Bladder - Other changes in urine composition Biochemical - Metabolism (intermediary) - Porphyrin including bile pigments]
 Oral - Rat TDLo: 790 mg/kg [Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus) Reproductive - Effects on Embryo or Fetus - Fetal death]
 Oral - Rat TDLo: 1140 mg/kg [Reproductive - Effects on Newborn - Behavioral]
 Oral - Rat TDLo: 520 mg/kg [Reproductive - Effects on Newborn - Biochemical and metabolic]
 Oral - Rat TDLo: 1100 mg/kg [Reproductive - Specific Developmental Abnormalities - Blood and lymphatic systems (including spleen and marrow) Reproductive - Effects on Newborn - growth statistics (e.g., %, reduced weight gain)]
 Oral - Rat TDLo: 1545 gm/kg [Reproductive - Effects on Newborn - Biochemical and metabolic Reproductive - Effects on Newborn - Behavioral] (RTECS)

Poly(oxy-1,2-ethanediyl), .alpha.-(isooctylphenyl)-.omega.-hydroxy- :

Ingestion: Oral - Rat LD50 : 7900 mg/kg [Details of toxic effects not reported other than lethal dose value]
 Oral - Mouse LD50 : 4450 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: No ecotoxicity data was found for the product.
Environmental Fate: No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name: Not Regulated.
DOT UN Number: Not Regulated.
IATA Shipping Name: Not Regulated.
IATA UN Number: Not Regulated.
IMDG UN Number : Not Regulated.
IMDG Shipping Name : Not Regulated.
ADR UN Number: Not Regulated.
ADR Shipping Name : Not Regulated.
RID UN Number : Not Regulated.
RID Shipping Name : Not Regulated.
ICAO UN Number : Not Regulated.
ICAO Shipping Name: Not Regulated.

SECTION 15 - REGULATORY INFORMATION

Canada WHMIS: Controlled - Class: D2A Very Toxic
Risk Phrases: R20/22 Harmful by inhalation and if swallowed.
 R33 Danger of cumulative effects.
 R42/43 May cause sensitization by inhalation and skin contact.
 R62 Possible risk of impaired fertility.
Safety Phrase: S1/2 Keep locked up and out of the reach of children.
 S23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
 S24 Avoid contact with skin.
 S29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
 S37/39 Wear suitable gloves and eye/face protection.
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 S63 In case of accident by inhalation: remove casualty to fresh air and keep at rest.
 S53 Avoid exposure — obtain special instructions before use.

Silver :

TSCA Inventory Status: Listed
Canada DSL: Listed

Tin :

TSCA Inventory Status: Listed

Canada DSL: Listed

Rosin :

TSCA Inventory Status: Listed

Canada DSL: Listed

Lead :

TSCA Inventory Status: Listed

Canada DSL: Listed

Poly(oxy-1,2-ethanediyl), .alpha.-(isooctylphenyl)-.omega.-hydroxy- :

TSCA Inventory Status: Listed

Canada DSL: Listed

GHS Pictograms:



SECTION 16 - ADDITIONAL INFORMATION

HMIS Health Hazard: 2*

HMIS Fire Hazard: 1

HMIS Reactivity: 0

MSDS Creation Date: June 12, 2009

MSDS Revision Date: September 30, 2012

Disclaimer: The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Material Safety Data Sheet as a source for hazard information.

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