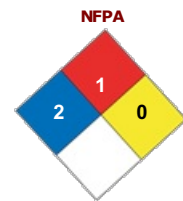


Personal Protective Equipment		WHMIS Pictograms
		
Protective Gloves	Chemical Splash Goggles	D2B Toxic

## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** R276 Sn96.5Ag3.0Cu0.5  
**Product Code:** R276 Lead Free Solder  
**MSDS Manufacturer Number:** R276  
**MSDS Creation Date:** June 12, 2009  
**MSDS Revision Date:** October 20, 2009



HMIS	
Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	1

\* Chronic Health Effects

## SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Proprietary	Proprietary	1 - 5 by weight	
Silver	7440-22-4	1 - 5 by weight	
Tin	7440-31-5	60 - 100 by weight	
Polymerized rosin	65997-05-9	5 - 10 by weight	
Tripropylene glycol monobutyl ether	55934-93-5	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.  
**Route of Exposure:** Eyes. Skin. Inhalation. Ingestion.  
**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  
**Ingestion:** Ingestion of the product may produce gastrointestinal irritation and disturbances.  
**Target Organs:** Eyes. Skin. Respiratory system. Digestive system. Central nervous system. Liver. Kidney.  
**Aggravation of Pre-Existing Conditions:** May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

## 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
NFPA Other:	

## 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 up 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 between 0°C and 10°C (32°F and 50°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.

### 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

## 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)
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## 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.
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## 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: D2B Toxic
Risk Phrases:	R42/43 May cause sensitization by inhalation and skin contact. R22 Harmful if swallowed. R36/37/38 Irritating to eyes, respiratory system and skin.
Safety Phrase:	S2 Keep out of the reach of children. S22 Do not breathe dust. S24 Avoid contact with skin. S37 Wear suitable gloves. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S56 Dispose of this material and its container to hazardous or special waste collection point. S63 In case of accident by inhalation: remove casualty to fresh air and keep at rest.

### Silver :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

### Tin :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

### Polymerized rosin :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

### Tripropylene glycol monobutyl ether :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

### WHMIS Pictograms



## SECTION 16 - ADDITIONAL INFORMATION

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HMIS Health Hazard:	2
HMIS Fire Hazard:	1
HMIS Reactivity:	0
HMIS Personal Protection:	1
MSDS Creation Date:	June 12, 2009
MSDS Revision Date:	October 20, 2009

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