

# MATERIAL SAFETY DATA SHEET

## Pb-Free Solder Wire

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Trade name:** BT-19, GUMMIX SB RMA, KR-19SH RMA, SR-34Super, SR-34 SR-37, SR-38 RMA, SR-55/-LFM-86/-48/-41/-34/-22/-14/-S

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**Date:** 2007/11/23

### 2. COMPOSITION AND INFORMATION ON THE INGREDIENTS

Name	CAS-Nr.	Content	Symbol	R-sätze
Tin	7440-31-5	0-100%	-	-
Copper	7440-50-8	0-100%	-	-
Rosin based flux	8050-09-7	2,0-10,0%	Xi	R-37; 42/43
Silver	7440-22-4	0-100%	-	-

### 3. HAZARDS IDENTIFICATION

<b>Main Hazards</b>	Contact with the molten liquid will cause severe burns. Repeated exposure may cause cumulative effects.
<b>Health Effects Inhalation</b>	Inhalation of dust and/or fumes will result in symptoms similar to those for ingestion, also Gastrointestinal irritation and Vomiting. Repeated exposure coupled with slow elimination may result in accumulation.
<b>Health Effects Ingestion</b>	Contact with the molten liquid will cause severe burns. Long term exposure may include: Constipation or Diarrhoea, Fatigue, Anorexia, Abdominal pain, Reduction in the oxygen carrying capacity of the blood. Swallowing may cause irritation of the mouth & digestive tract.
<b>Health Effects Skin</b>	Contact with the molten liquid will cause severe burns. Repeated or prolonged contact may cause Itching, Sensitisation, Soreness, Defatting of the skin and Dermatitis.
<b>Health Effects Eye</b>	Molten liquid will cause severe burns and may result in blindness.

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.
<b>Skin contact</b>	Promptly flush contaminated skin with soap or mild detergent and water. Promptly remove clothing if penetrated and flush the skin with water. Contact physician if irritation continues.
<b>Ingestion</b>	Rinse nose, mouth and throat with water. Drink a few glasses of water or milk. Try to induce vomiting. Get medical attention.
<b>Inhalation</b>	Move the exposed person to fresh air at once.

#### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Use an Alcohol resistant foam, Water spray, Dry chemical or Carbon Dioxide. Sand may be used for small fires.
<b>Unsuitable Extinguishing media</b>	<b>Do Not use water jet.</b>
<b>Special hazards</b>	Gives off hazardous fumes in a fire.
<b>Fire fighters protective equipment</b>	Wear full protective clothing and Self contained breathing apparatus operating in the positive pressure mode.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Wear the appropriate protective clothing.
<b>Environmental precautions</b>	Prevent any material entering watercourses and drains etc. Advise the Local and River authorities if spillage has entered watercourses soil or vegetation.
<b>Spillage</b>	Wipe up with disposable towels, transfer waste into a suitable Container for safe disposal. Avoid creating dust.

#### 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid spilling, skin and eye contact. Eye wash station should be available at the work place. Provide good ventilation. Avoid inhalation of vapours. Persons susceptible to allergic reactions should not handle this product.
<b>Storage</b>	Store in ca cool dry ventilated area in manufactures cartons. Ensure correctly labelled.

## 8. PERSONAL PROTECTION AND EXPOSURE CONTROL

Protective equipment



National standards for Occupational Exposure

See also Regulatory information

**Engineering control procedures**

Engineering solutions should be implemented to prevent or reduce exposure to soldering fumes and dust. This should include process or personnel enclosure. Mechanical dust and fume extraction to atmosphere/scrubber. Control of process to reduce or eliminate emissions. Documented process and safety controls and personnel protection, gloves, Masks etc.

**Respiratory protection**

Where there is a high risk to fume and dust ingestion a respirator should be worn.

**Hand protection**

When handling hot liquid (to be avoided if possible) thick thermally insulating gloves should be worn. Avoid damp or wet gloves. Wash hand after handling with soap and warm water particularly before eating or drinking.

**Eye and Facial protection**

Wear approved chemical safety goggles where eye exposure is reasonably probable.

**Body protection**

Normal industrial workwear, avoid exposed skin. Protective footwear.

## 9. CHEMICAL AND PHYSICAL PROPERTIES

<b>Appearance</b>	Metallic wire with Flux.		
<b>Colour</b>	Grey		
<b>Smell</b>	Mild (or faint)		
<b>Boiling point (°C, interval)</b>	350	<b>Pressure</b>	<b>760mm Hg</b>
<b>Melting-/Freezing point (°C, interval)</b>	> 200 °C	<b>Flux</b>	<b>&gt; 60 °C</b>
<b>Density (g/ml)</b>	6-10- g/cm <sup>3</sup>	<b>Temperature (°C)</b>	<b>20</b>
<b>Steam denseness (air =1)</b>	7,4	<b>Temperature (°C)</b>	<b>20</b>
<b>Steam pressure</b>		<b>Temperature (°C)</b>	<b>20</b>
<b>Solubility</b>	Not soluble in water		
<b>Flame point (°C)</b>	Not applicably	<b>Method</b>	None known
<b>Ignition temperature (°C)</b>	Not applicably		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Normally stable.
<b>Conditions to avoid</b>	Avoid contact with strong oxidizers.
<b>Materials to avoid</b>	Solder will react with concentrated Nitric Acid to release Nitric Oxide which will oxidise to Nitrogen Dioxide. Workers exposed to these gasses should seek medical attention. Other strong acids may also react in a similar way.
<b>Hazardous Decomposition products</b>	Could not polymerise. Molten liquid may give off fumes. Avoid temps. above 400 °C. Heated Colophony gives rise to fumes associated with asthma.

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity</b>	Can lead to weakness, insomnia, hypertension, headaches and joint pains. Low order of toxicity.
<b>Reproductive and Developmental</b>	None known
<b>Skin contact</b>	Prolonged or repeated exposure could cause severe irritation. Could cause sensitization by skin contact.
<b>Irritancy – Eyes</b>	Irritant of eyes and mucous membranes.
<b>Irritancy - Skin</b>	May cause skin irritation
<b>Human</b>	Inhalation may cause sensitisation of the respiratory system.

## 12. ENVIRONMENTAL INFORMATION

<b>Ecotoxicity</b>	No data on possible environmental effects have been found.
<b>Degradability and Persistence</b>	The chemical is not readily biodegradable.
<b>Mobility</b>	Product is insoluble and inviolate.
<b>Bio-accumulation</b>	No bioaccumulation expected

## 13. DISPOSAL PROCEDURES

<b>Disposal methods</b>	Confirm disposal procedures with environmental engineer and local regulations.
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## 14. TRANSPORT PROCEDURES

<b>Road transport: ADR</b>	Not classified as hazardous for transport.
<b>Transport by train: RID</b>	Not classified as hazardous for transport.
<b>Marine pollutant IMDG Class</b>	Not classified as hazardous for transport.
<b>Transport by air: IATA</b>	Not classified as hazardous for transport

## 15. REGULATORY INFORMATION

### Label Information



**Harmful**

<b>Risk phrases</b>	R-37 Irritating to respiratory system. R-43 May cause sensitization by skin contact.
<b>Safety phrases</b>	S-24 Avoid contact with skin. S-37 Wear suitable gloves.
<b>Applicable E Directives</b>	Dangerous Substances Directive 67\548/EEC and as amended by Directive 92/32/EEC. Dangerous Preparations Directive 88/379/EEC and as amended by Directive 90/492/EEC. Directive 70/1107/EEC Protection of Workers from risk related to exposure to Physical, Chemical and Biological agents at work. Administration Directive substances that are dangerous for water; VwVwS dated 17.05 1999..
<b>Technical Guidance</b>	An Introduction to Local Exhaust Ventilation HS(G)37: A Step by Step Guide to the COSHH Regulations HS(G)97

This safety data sheet has been revise and rewritten to comply with the Chemicals (Hazard Information & (Packaging) Regulations 1997. Commission Directive 91/155/EEC. As amended by Directive 93/112/EEC.

## 16. OTHER INFORMATION

No warranty is expressed or implied concerning the accuracy of this data.  
In case of doubt or for clarification Almit GmbH should be consulted. Almit are unable to anticipate all condition's under which the product may be used, and users are advised to carry out an assessment of workplace risk and carry out their own tests to determine the Safety and Suitability for the process and conditions of use.