

# MATERIAL SAFETY DATA SHEET

## Leaded solder wire

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Trade name:** Gummix 19, HR 19 M, KR-19SH RMA, KR-19SH RMA Ag2, KR-19 RMA, KR-19 60A, KR-19 50A Cu, KR-15, KR-28, SJ-7.

**Supplier:** Almit GmbH, Dekan-Groh-Str. 4, D-64720 Michelstadt/ Germany  
Tel.: +49 (0) 6066 96884-0, Fax: +49 (0) 6066 96884-18

**Date:** 2009-02-05

### 2. COMPOSITION AND INFORMATION ON THE INGREDIENTS

Name	CAS-No.	Content	Symbol	R-sentence
Tin	7440-31-5	60-65%	-	-
Lead	7439-92-1	Balance		R33
Rosin based flux	8050-09-7	1-10 %	Xi	R37 / 43

*R37: Irritating to respiratory system.*

*R43: May cause sensitisation by skin contact*

*R33: Danger of cumulative effects. See also TRGS220 and TRGS 505*

### 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. Heavy metal absorbed into the body of a pregnant woman can cause developmental abnormalities in the nervous system of the foetus.
<b>Health Effects Ingestion</b>	Contact with the molten liquid will cause severe burns. Solder alloy which contains heavy metal which is a cumulative poison. Long term exposure may include: Constipation or Diarrhoea, Fatigue, Anorexia, Abdominal pain, Reduction in the oxygen carrying capacity of the blood.
<b>Health Effects Skin</b>	Contact with the molten liquid will cause severe burns.
<b>Health Effects Eye</b>	Molten liquid will cause severe burns and may result in blindness.

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Flood the eye immediately with copious amounts of cool fresh water for 10-15 mins. Pay particular attention to under the eyelids. Call for immediate medical attention.
<b>Skin contact</b>	After contact with molten liquid, food with cold water. Call for immediate medical attention
<b>Ingestion</b>	Do not induce vomiting. Call for immediate medical attention.
<b>Inhalation</b>	Remove at once to fresh air. Call for immediate medical attention if there is any respiratory distress.

#### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Not combustible. Select the extinguisher medium to suit any other material involved.
<b>Unsuitable Extinguishing media</b>	Do NOT use water.
<b>Special hazards</b>	High temperatures may give off heavy metal dust and fumes.
<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>	Allow to solidify and cool. Transfer into a suitable container for safe disposal. Avoid creating dust.

#### 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid breathing or ingesting fumes or dust. Use local exhaust ventilation. Extreme care should be exercised to ensure all tools and vessels are dry and capable of withstanding the elevated temperatures. Serious explosions can be caused when damp tools or metal are brought into contact with molten liquid. Avoid live electrical equipment
<b>Storage</b>	Store in a cool dry ventilated area.

**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**

A full heat resistant helmet face shield should be worn, Goggles or Safety glasses as appropriate.

**Body protection**

Normal industrial work wear, avoid exposed skin. Protective footwear.

**Biological Standards**

For blood lead monitoring and medical surveillance requirements, refer to the HSC Approved code of practice supporting the Control of Lead and Work Regulations.

Employees should be under medical surveillance IF the Risk Assessment made under the Control of Lead at Work Regulations indicates they are likely to be exposed to significant concentrations of heavy metal, or if the Company medical adviser or a Doctor certifies that an employee should be under medical surveillance.

A female employed on work which exposes her to lead MUST notify her employer as soon as possible if she becomes pregnant. The Company medical Adviser should be advised of their pregnancy and working environment i.e.: Exposure to Lead.

Under the management of Health And Safety at Work (Amendment) Regulations 1994 employers should assess the risks at work to the health of pregnant workers, those who have recently given birth, or who are currently Breast feeding.

## 9. CHEMICAL AND PHYSICAL PROPERTIES

<b>Appearance</b>	Metallic wire with Flux.		
<b>Colour</b>	Grey		
<b>Smell</b>	Mild (		
<b>Boiling point (°C, interval)</b>	350	<b>Pressure</b>	
<b>Melting-/Freezing point (°C, interv.)</b>	183-190 °C	<b>Flux</b>	°
<b>Density (g/ml)</b>	- g/cm <sup>3</sup>	<b>Temperature (°C)</b>	<b>74</b>
<b>Steam denseness (air =1)</b>	1,2		
<b>Steam pressure</b>		<b>Temperature (°C)</b>	<b>20</b>
<b>Solubility</b>	Not soluble in water		
<b>Flame point (°C)</b>	> 150	<b>Method</b>	None known
<b>Ignition temperature (°C)</b>	> 250		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under all normal factory condition's.
<b>Conditions to avoid</b>	Avoid contact with air.
<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>	Molten liquid may give of fumes. Avoid temps. above 500 °C.

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity</b>	Can lead to weakness, insomnia, hypertension, headaches and joint pains.
<b>Reproductive and Developmental</b>	Heavy metal may cause developmental problems in a foetus.
<b>Skin contact</b>	Absorption through the skin is not significant.
<b>Chronic Toxicity / Carcinogens</b>	Damage in the blood – forming, nervous urinary and reproductive systems.

## 12. ENVIRONMENTAL INFORMATION

<b>Ecotoxicity</b>	Rated has slightly toxic to Aquatic species.
<b>Degradability and Persistence</b>	Resistant to Bio-degradation and insoluble in water.
<b>Mobility</b>	Product is insoluble and inviolate, will accumulate in the ground.
<b>Bio-accumulation</b>	Has the potential to bio-accumulate.

### 13. DISPOSAL PROCEDURES

<b>Product disposal</b>	Waste should be disposed under the „Special Waste“ regulations. COPA 1980. Metal should be re-cycled if possible and disposed through your metal supplier if possible. Control of Pollution Act 1974, and the Environmental Protection Act 1990.
<b>Container disposal</b>	Containers must not be re-used. Dispose with care. See European Waste Catalogue (EWC): 06 04 05.

### 14. TRANSPORT PROCEDURES

<b>Road transport:</b>	ADR: Not classified as hazardous for transport.
<b>Transport by train: RID</b>	Not classified as hazardous for transport.
<b>Marine pollutant IMDG Class</b>	No. Not classified as hazardous for transport.
<b>Transport by air: IATA</b>	Not classified as hazardous for transport

## 15. REGULATORY INFORMATION

<b>Label Information</b>	Health, Safety, Environment. Irritant
<b>Risk phrases</b>	R-61 May cause developmental problems in a foetus. R-20/22 Damaging to Health in inhalation and ingestion. R-33 Danger of cumulative effects. R-62 May reduce capability of reproduction.
<b>Safety phrases</b>	P2 warning. Contains Lead 23: 24: & 27.
<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: Respiratory Protective Equipment-a Practical Guide for Users. HS(G)53: Approved Code of Practice-Management of Health & Safety at Work A Step by Step Guide to the COSHH Regulations HS(G)97

This safety data sheet has been revised 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 conditions 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.