

MATERIAL SPECIFICATION

MATERIAL SAFETY DATA SHEET

SECTION 1 CHEMICAL PRODUCT IDENTIFICATION

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|---------------------|-----------------------------------|
| MSDS Name | Leaded Solder Wire |
| Product Description | ΠOC 60/61, ΠOC 63 FLUX RMA KS-6 |
| Composition | Tin/Lead |
| Product Type | FLUX RMA KS-6 |
| Diameter | 0.5/0.8/1.0/1.2/1.5/2.0MM |
| Weight | 10/12/20/50/100/200/250/500/1000G |

| | |
|------|---|
| RMA | Mildly activated rosin flux (per QQ-S-571F) |
| RA | Activated rosin or resin flux (per QQ-S-571F) |
| ROL1 | Rosin flux with low flux residue activity (per QQ-S-571F) |

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

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|------------------------|--------------------|
| MSDS Product Name | Leaded Solder Wire |
| Material Chemical Type | Welding |

| Composition | CAS # | OSHA PEL (mg/m ³) | TLV-TWA (mg/m ³) | TLV-STEL (mg/m ³) |
|-------------|------------|----------------------------------|---------------------------------|----------------------------------|
| Sn | 7440-31-5 | 2.0 | 2.0 | N/A |
| Pb | 7439-92-1 | 0.1 | 0.2 | N/A |
| Rosin/ Flux | 65997-06-0 | N/A | 0.1 | N/A |

SECTION 3 HAZARDS IDENTIFICATION

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| Health Hazards | Acute Stimulate an eye skin, and upper respiratory track. |
| Safety Hazards | Causes severe burns. Risk of serious damage to eyes. Limited evidence of a carcinogenic effect. |

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| Symptoms and consequences | Headache, Dizziness, nausea and anaesthesia. Irritate skin, eyes and respiratory tract. Dry skin |
| Inhalation | Turn to fresh air, if worse, seek medical care immediately. |
| Skin | Clean skin by soap and water, if worse, seek medical care immediately. |
| Eyes | Wash by water in 10 minutes immediately, if worse, seek medical care. |
| Ingestion | Do not vomit, drink if possible, if worse, seek medical care. |

SECTION 5 FIRE FIGHTING MEASURES

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| Fire extinguishing measure and extinguishing media | CO-blanket, chemical dry powder, alcohol resistant foam. Soil/ Sand only when little fire. |
| Personal Protection | Respiratory protection must be worn. |
| Others | Cool down the machine nearby by Showering. |

SECTION 6 LEAK HANDLING

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| General Information | Exclude sources of ignition and ventilate the area. Isolate from sources of heat, sparks and open flame. |
| Personal Protection | Wear protective clothing for all parts of the body. |
| Spill/Leak | Do not allow to enter drains or watercourses and place in container for disposal according to local regulations.. |

SECTION 7 HANDLING and STORAGE

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| Handling | Do not allow to enter drains or watercourses. |
| Storage | In Fresh air. |
| Storage temperature | 25°C |

SECTION 8 SPECIAL PROTECTION INFORMATION

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| Breath protection (Specify type) | There is enough ventilation did not require under normal circumstances |
| Local exhaust | Yes |

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| Machine(Ordinary) | Yes |
| Special announcement | Not applicable |
| Protective gloves | Rubber, Neoprene,PVC or Equivalent |

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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|------------------|----------------------|
| Form | Solid |
| Color | Silver and white |
| Odour | Odourless |
| Boiling Point | Not Applicable |
| Melting Point | 183-227°C |
| Density (20 °C) | 8.5g/cm ³ |

SECTION 10 STABILITY AND REACTIVITY

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|----------------------------------|-------------------------------|
| Stability | Stable under normal condition |
| Condition | Fire and spark |
| Taboo | Strong Oxidant |
| Hazardous Decomposition Products | None |

SECTION 11 TOXICOLOGICAL INFORMATION

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|---------------------------|--|
| Acute Toxicity Oral | Hypo toxicity , LD50 > 2000mg/kg |
| Acute Toxicity Skin | Hypo toxicity , LD50 > 2000mg/kg |
| Acute Toxicity Inhalation | Hypo toxicity , LD50 > 5mg/L |
| Skin Irritation | Slight irritation under permission of EU |
| Eye Irritation | Irritate |
| Skin Sensation | Part of Sensation |
| Repeated-dose Toxicity | Repeated exposures do not cause significant toxic reactions. |
| Mutagenicity | None |
| Influence | Repeated inhalation may cause dermatitis, irritation of eye and respiratory system and paralysis |

SECTION 12 DISPOSAL CONSIDERATION

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|-----------------------|---|
| Waste Treatment | Recycling or reuse |
| Product Treatment | Recycling or reuse |
| Local Law Information | Dispose the waste according to the local regulations. |

SECTION 13 ECOLOGICAL DATAS

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|--------------------------|--|
| Flex | Avoid release to soil in Liquid Form. If so, it may pollute underground water. |
| Toxicity to Fish | None, LD/EC/IC50 > 1000mg/L |
| To Aquatic invertebrates | None, LC/EC/IC50 > 1000mg/L |
| Dirty treatment | None, LC/EC/IC50 > 1000mg/L |
| Other | This product is not going to cause any toxicity to the aquatic environment. |

SECTION 14 TRANSPORTIATION DATA

| | |
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| Classification | Not applicable |
| Hazardous Marks | Not applicable |
| Packaging | Not applicable |
| ICAO U.N.no. | Not applicable |

SECTION 15 REGUALTION INFORMATION

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| 1) EC Dangerous Classification |
| (R36/37) Eye and skin irritation |
| (R20/R21) Hazard with inhalation and ingestion |
| (R38) Irritate to skin |
| 2) EC Safety No. |
| (S9) Storage in fresh air. |
| (S16) Avoid fire - No smoking. |
| (S24/25) Avoid contact to skin and eye |
| (S33) Precaution to ESD and EOS |

(S36) Wear protective clothes

(S43A) Put out fire with sand, soil, chemical powder and foam.

SECTION 16 OTHER INFORMATION

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|-----------------|--|
| Reference datas | None |
| SDS | To all relevant customers for solder wire. |
| Attention | The above information is believed to be accurate and is based on our present state of knowledge and experience. However, no warranty or representation with respect to such information is intended or given. This information is intended to be used for safety and environmental purposes only and should not be relied upon for any other purposes. |

| Flux name | Flux type | Flux description & features |
|-----------|-----------|---|
| ROL1 | ROL1 | rosin flux with a low halogen content; after soldering the non-aggressive brown residue remains, which is recommended to be removed |
| KS-6 | RMA | "neutral" organic water-soluble flux for soldering in hard-to-reach places; after soldering the non-aggressive residue remains, which should be washed off with water |
| KS5000 | RMA | halogen-free "no-clean" (no-need-to-clean) rosin flux for miniature soldering; after soldering the non-aggressive colorless residue remains, which do not need to be removed |
| KS5005 | RMA | halogen-free "no-clean" (no-need-to-clean) rosin flux for miniature soldering; after soldering the non-aggressive, slightly yellowish residue remains, which do not need to be removed |
| KS532 | RMA | "no-clean" (no-need-to-clean) universal halogen-free rosin flux; after soldering the minimal non-aggressive residue remains, the removal of which is usually not required, except for use at elevated temperatures |
| KS533 | RMA | "no-clean" (no-need-to-clean) universal halogen-free rosin flux; after soldering the colorless, non-aggressive residue remains, the removal of which is usually not required, except for use at elevated temperatures |
| KS10 | RA | resin flux (RA) is highly active, characterized by rapid wetting; after soldering the non-aggressive residue remains, which, if necessary, can be removed with special cleaners |

Flux content in solder wire 2.2%