




16.07.2014

**Material Safety Data Sheet - according to Regulation (EC) No. 1907/2006 (REACH)**

**INTERNATIONAL STANDARD NORM ISO 11014-1**

Trade Name: CR 44				SMD Solder paste CR 44 DIN EN 29 453		Flux F-SW 32 NF EN 29 454.1.2.3		
1.) <u>MANUFACTURER</u> Address:				EDSYN GMBH EUROPA Finkenweg 2 D 97892 Kreuzwertheim Tel.: 09342 - 6413 Fax: 09342 - 6417				
2.) <u>HAZARDS IDENTIFICATION</u>				This article does not contain dangerous substances of preparations intended to be released under normal or reasonably foreseeable conditions of use.				
2.1) Classification:				Xi Irritating				
2.2) Information pertaining to special dangers for human and environment: Adverse human health effects and symptoms:				At soldering generated vapours can irritate the eyes and provoke headache, irritate breathing organs or harm them. Inhalation can cause sickness, vomiting, headache or joint and muscular pain. Can slightly irritate skin and eyes. At temperatures over 500° C lead can be set free in the form of steam. Prolonged contact can provoke a sensitization. Hot melted solder can cause severe burns. Swallowing of metal alloys is hazardous for your health. Danger of a cumulative effect. Can harm blood, kidneys and the nervous system.				
Adverse environmental effects:				Water hazardous, contains lead				
Other adverse hazards:				Danger of breathing in fumes of lead at temperatures higher than 500° C. At processing under normal conditions and under surveillance of general hygienic rules no harm is caused by the product.				
3.) <u>COMPOSTITION / INFORMATION ON INGREDIENTS</u>								
3.1) Chemical characterization:				Solder pastes are a mixture of metal powder alloy with a flux based on rosin with activators and thixotropic agents.				
3.2) Hazard ingredients:								
Chemical name	EC-No. (EINECS)	Reach-No.	Index-No.	CAS-No.	Content (%)	Classification		Remark
						Hazard statements	R-phrases	
Tin (Sn)	231-141-8	n.a.	n.a.	7440-31-5	50-63%/weight	n.a.		
Lead (Pb)	231-100-4	n.a.	n.a.	7439-92-1	30-37%/weight	Xi,	R61, R62, R20/22, R33	 Xi
Silver (Ag)	231-131-3	n.a.	n.a.	7440-22-4	0-2%/weight	n.a.		
Resin mix	232-477-8	n.a.	n.a.	8050-18-8	1-3,5%/weight	n.a.		
Terpenes mix		n.a.	n.a.	9855-5	6-9%/weight	n.a.		
Thixotropic agents mix	232-418-6	n.a.	n.a.	8020-84-6	1,5-3%/weight	n.a.		



16.07.2014

<b>3.3) Additional statements:</b>	<p>At processing under normal conditions and under surveillance of general hygienic rules no harm is caused by the product. Take note of the regulations and recommendations at use of lead and lead containing products.</p>
<b>4.) <u>FIRST AID MEASURES</u></b>  <b>4.1) General information:</b>  <b>4.2) In case of inhalation:</b>  <b>4.3) In case of skin contact:</b>  <b>4.4) In case of eye contact:</b>  <b>4.5) In case of ingestion:</b>	<p>The above listed alloys contain lead.</p> <p>In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still. In case of respiratory tract irritation, consult a physician.</p> <p>After contact with skin, wash immediately with soap and plenty of water. In case of skin irritation, consult a physician.</p> <p>In case of contact with eye flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Consult a doctor.</p> <p>If person is conscious, drink plenty of water. Immediate medical treatment necessary. At ingestion the material is hazardous. Danger of a cumulative effect.</p>
<b>5.) <u>FIRE-FIGHTING MEASURES</u></b>  <b>5.1) Suitable extinguishing media:</b>  <b>5.2) Extinguishing media which must not be used for safety reasons:</b>  <b>5.3) Special exposure hazards arising from the substance or preparation itself, combusting products, resulting gases:</b>  <b>5.4) Special protective equipment for fire-fighters:</b>  <b>5.5) Additional information:</b>	<p>Foam, extinguishing powder, CO<sub>2</sub></p> <p>Water</p> <p>In case of fire may be liberated: Carbon monoxide, Carbon dioxide or other hazardous fumes. At soldering with open flame the flux can inflame and burn. At temperatures over 500° C fumes of lead can be set free. At very high temperatures metal fumes can be set free.</p> <p>In case of fire: Wear self-contained breathing apparatus.</p> <p>Do not inhale explosion and combustion gases. Co-ordinate fire-fighting measures to the fire surroundings.</p>
<b>6.) <u>ACCIDENTAL RELEASE MEASURES</u></b>  <b>6.1) Personal precautions:</b>  <b>6.2) Environmental precautions:</b>  <b>6.3) Methods for cleaning up:</b>  <b>6.4) Additional information:</b>	<p>Protective glasses and safety gloves are recommended. Provide adequate ventilation and personal safety equipment after own checking.</p> <p>Do not allow to enter drains / surface water / ground-water.</p> <p>Take up mechanically, placing in appropriate containers for disposal.</p> <p>Be aware of regulations of lead and lead containing products.</p>



16.07.2014

<div>7.) <b><u>HANDLING AND STORAGE</u></b></div> <div>7.1) <b>Handling:</b> <b>Advices on safe handling:</b> <b>Protective measures:</b>  <b>Technical measures:</b>  <b>Specific requirements or handling rules:</b>  <b>Precautions against fire and explosion:</b></div> <div>7.2) <b>Storage:</b> <b>Technical measures and storage conditions:</b>  <b>Packing materials:</b>  <b>Requirements for storage rooms and vessels:</b>  <b>Hints on storage assembly:</b></div>	<div>Avoid inhalation, skin and eye contact.</div> <div>So not let the product leak into canalization, waters or ground.</div> <div>Always close containers tightly after the removal of product.</div> <div>Usual measures for fire prevention. Product can burn at use of flame soldering.</div> <div>No special protection measures are necessary.</div> <div>Cans, cartridges</div> <div>Store in original container in a cool, well-ventilated place.</div> <div>Keep away from food, drink and animal feeding stuffs.</div>																														
<div>8.) <b><u>EXPOSURE CONTROLS / PERSONAL PROTECTION</u></b></div> <div>8.1) <b>Additional information on plant design:</b></div> <div>8.2) <b>Exposure controls:</b></div>	<div>Generally a sufficient ventilation is to be foreseen at soldering.</div>																														
<table><tr><th colspan="5">Components with occupational exposure limits resp. biological occupational exposure limits requiring monitoring</th></tr><tr><th>Ingredient</th><th>Approximate Percent by weight</th><th>Registration number</th><th>Occupational Exposure Limits (OELs)</th><th>LD50/LC50 Species and Route</th></tr><tr><td>Tin CAS# 7440-31-5</td><td>60-63</td><td>01-2119486474-28-0004</td><td>OSHA PEL 2 mg/m³ ACGIH TLV 2 mg/m³ NIOSH REL 2 mg/m³</td><td>No data</td></tr><tr><td>Lead CAS# 7439-92-1</td><td>36-40</td><td>Registration N° not available</td><td>OSHA PEL 0.05 mg/m³ ACGIH TLV 0.05 mg/m³ NIOSH REL 0.1 mg/m³</td><td>No data</td></tr><tr><td>Silver CAS# 7440-22-4</td><td>0-4</td><td>01-2119555669-21-0025</td><td>OSHA PEL 0.01 mg/m³ NIOSH REL 0.01 mg/m³ ACGIH TLV 0.1 mg/m³</td><td>LD50 Mouth-oral&gt;10.000 mg/kg</td></tr><tr><td>Flux on resin basis</td><td>10-14</td><td>Registration N° not available</td><td>No data</td><td>No data</td></tr></table>		Components with occupational exposure limits resp. biological occupational exposure limits requiring monitoring					Ingredient	Approximate Percent by weight	Registration number	Occupational Exposure Limits (OELs)	LD50/LC50 Species and Route	Tin CAS# 7440-31-5	60-63	01-2119486474-28-0004	OSHA PEL 2 mg/m³ ACGIH TLV 2 mg/m³ NIOSH REL 2 mg/m³	No data	Lead CAS# 7439-92-1	36-40	Registration N° not available	OSHA PEL 0.05 mg/m³ ACGIH TLV 0.05 mg/m³ NIOSH REL 0.1 mg/m³	No data	Silver CAS# 7440-22-4	0-4	01-2119555669-21-0025	OSHA PEL 0.01 mg/m³ NIOSH REL 0.01 mg/m³ ACGIH TLV 0.1 mg/m³	LD50 Mouth-oral>10.000 mg/kg	Flux on resin basis	10-14	Registration N° not available	No data	No data
Components with occupational exposure limits resp. biological occupational exposure limits requiring monitoring																															
Ingredient	Approximate Percent by weight	Registration number	Occupational Exposure Limits (OELs)	LD50/LC50 Species and Route																											
Tin CAS# 7440-31-5	60-63	01-2119486474-28-0004	OSHA PEL 2 mg/m³ ACGIH TLV 2 mg/m³ NIOSH REL 2 mg/m³	No data																											
Lead CAS# 7439-92-1	36-40	Registration N° not available	OSHA PEL 0.05 mg/m³ ACGIH TLV 0.05 mg/m³ NIOSH REL 0.1 mg/m³	No data																											
Silver CAS# 7440-22-4	0-4	01-2119555669-21-0025	OSHA PEL 0.01 mg/m³ NIOSH REL 0.01 mg/m³ ACGIH TLV 0.1 mg/m³	LD50 Mouth-oral>10.000 mg/kg																											
Flux on resin basis	10-14	Registration N° not available	No data	No data																											
<div>8.2.1) <b>Occupational exposure controls:</b> <b>Personal protection equipment:</b>  <b>Respiratory protection:</b></div>	<div>No personal respiratory protective equipment normally required.</div>																														



16.07.2014

<p><b>Hand protection:</b></p> <p><b>Eye protection:</b></p> <p><b>Body protection:</b></p> <p><b>8.2.2) Environmental exposure controls:</b></p> <p><b>8.2.3) Final user exposure controls by substances released from articles:</b></p>	<p>Tested gloves must be worn  <b>Suitable gloves type:</b>  One-time gloves, PE (polyethylene), NR (natural rubber, natural latex), NBR (nitrile rubber)  Breakthrough times and swelling properties of the material must be taken into consideration. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.</p> <p>Eye glasses</p> <p>Not required.</p> <p>See section 7. No additional measures necessary.</p> <p>Not defined</p>
<p><b>9.) <u>PHYSICAL AND CHEMICAL PROPERTIES</u></b></p> <p><b>Form:</b></p> <p><b>Colour:</b></p> <p><b>Odour:</b></p> <p><b>Melting point / range:</b></p> <p><b>Boiling temperature:</b></p> <p><b>Flaming point:</b></p> <p><b>Flammability:</b></p> <p><b>Explosion danger:</b></p> <p><b>Vapour pressure:</b></p> <p><b>Density:</b></p> <p><b>Water solubility:</b></p> <p><b>pH value:</b></p> <p><b>Viscosity:</b></p> <p><b>Solvent separation test:</b></p> <p><b>Solvent content:</b></p>	<p>pasty</p> <p>metallic grey</p> <p>specific, very weak</p> <p>Rosin &gt; 80° C, Metal &gt; 179° C</p> <p>n/a</p> <p>n/a</p> <p>flammable with flame</p> <p>n/a</p> <p>n/a</p> <p>&gt; 3</p> <p>n/a</p> <p>n/a (Flux 4-6)</p> <p>400 – 1000 Pa</p> <p>n/a</p> <p>4-6% / weight</p>
<p><b>10.) <u>STABILITY AND REACTIVITY</u></b></p> <p><b>10.1) Conditions to avoid:</b></p> <p><b>10.2) Materials to avoid:</b></p> <p><b>10.3) Hazardous decomposition products:</b></p>	<p>n/a</p> <p>The product is stable under normal conditions.</p> <p>Thermal decomposition can lead to the escape of irritating gases and vapours. The following decomposition products result from melting: Carbon dioxides, carbon monoxides, gas / vapours, toxic.  At temperatures over 500° C fumes of lead can be set free. At very high temperatures metal fumes can be set free.</p>
<p><b>11.) <u>TOXICOLOGICAL INFORMATION</u></b></p> <p><b>11.1) Practical experience:</b></p>	<p>In seldom cases the product can cause temporary redness of the skin. Metallic tin and silver are generally considered as not toxic. Weakly water hazardous through copper.</p>



16.07.2014

EDSYN GMBH EUROPA • D-97892 Kreuzwertheim • Finkenweg 2 • ☎ (09342) 6413 📠 (09342) 6417



16.07.2014

<b>16.2) Training instructions:</b>	Make sure that employees are aware of the hazard risk and are trained in the usage of the product.
<b>16.3) Recommended restrictions on use:</b>	For industrial purposes only. The product must only be handled for soldering and by people who where informed sufficiently about the nature of the product and about the necessary safety precautions.

The above information describes exclusively the safety requirements if the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.