



**Material Safety Data Sheet - according to directive 91/155/EWG**

**INTERNATIONAL STANDARD NORM ISO 11014-1**

Trade Name: SA	Solder wire S-Sn96 Ag4 DIN EN 29 453	Flux R RA NF EN 29 454.1
1.) <u>Manufacturer:</u> <u>Address:</u>	EDSYN GMBH EUROPA Finkenweg 2 D 97892 Kreuzwertheim Tel.: 09342 - 6413 Fax: 09342 - 6417	
2.) <u>COMPOSITIONS / INFORMATION ON THE COMPONENTS</u>  2.1 Description:  2.2 Components:	Solder wire Silver/Tin with incorporated flux Type 1.2.3 B  <b>Alloys:            Codes            Concentration    R Phrases:</b>  Tin                    7440-31-5            Rest Silver                7440-22-4            3.5% to 4.%	
3.) <u>HAZARD IDENTIFICATION</u>  3.1 Warning:  3.2 Instability:  3.3 Incompatibility:  3.4 Hazardous products of decomposition: :	This product is stable.  Avoid contact with basics, acids and oxidizing chemicals. Hazardous reactions with mineral acids: sulfuric acids, phosphoric, nitric (concentrated).  No hazardous reaction when normally used.	
4.) <u>FIRST AID MEASURES</u>  4.1 Inhalation:  4.2 Skin:  4.3 Eyes:  4.4 Ingestion:	Always carry out soldering and melting operations in well ventilated areas to prevent a concentration of fumes higher to the MAC values. Burns: cool affected parts under running water . Do not remove adhering material, apply a sterile dressing an seek medical advice. May cause sensitisation by skin contact. Immediately flood the eye with plenty of water for at least 15 minutes. Obtain medical attention. Do not induce vomiting. Get medical attention. Do not give water when unconscious. Keep warm and at rest.	
5.) <u>FIRE FIGHTING MEASURES</u>  5.1 Extinguishing media: 5.2 Unsuitable extinguished media: 5.3 Special fire fighting measures: 5.4 Special protective equipment for fire fighting:  Risks of explosure and fire:	-CO <sub>2</sub> foam – Alcohol resistant foam – Dry powder. Do not use water jet. None.  Wear full protective clothing and self-contained breathing apparatus.	



28. Juli 2005

<p>6.) <b><u>ACCIDENTAL RELEASE MEASURES</u></b></p> <p><b>6.1 Personal precautions:</b>  <b>6.2 Environmental precautions:</b></p> <p><b>6.3 Measures for cleaning:</b></p> <p><b>Other data:</b></p>	<p>Wear appropriate protective clothing.  Residues should be stored in closed containers. Extract fumes. Try to prevent the material from entering drains or water courses. Disposals should be in accordance with local states.  Scrapped off the released product, store it in a closed container before throughing it, wash the contaminated surface with an organic solvant or a detergent. Transfer into suitable containers for recovery or disposal.  Kühn-Brett Remarks "Hazardous materials" text.</p>										
<p>7.) <b><u>HANDLING AND STORAGE</u></b></p> <p><b>7.1 Handling:</b>  <b>7.1.1 Personal protective equipment:</b>  <b>7.1.2 Measures for safety handling:</b></p> <p><b>7.1.3 Using advices:</b></p> <p><b>7.2 Storage:</b>  <b>7.2.1 Conditions of storage and protective equipment:</b>  <b>7.2.2 Incompatible materials:</b>  <b>7.2.3 Recommended packaging:</b></p> <p><b>Not advisable:</b></p> <p><b>Classification reference:</b></p>	<p>Wear gloves and eye-protection. Use local exhaust ventilation.  Ensure efficient local air ventilation or extraction systems at the workplace. Extract fumes during the melting. Avoid breathing metal fumes. Make sure that people work in safety conditions. Do not drink, do not smoke in soldering areas.</p> <p>Hazardous reactions with concentrated sulfuric acid, concentrated phosphoric acid and concentrated nitric acid.</p> <p>Storage area should be at ambient temperature (20°C-25°C). Avoid sun exposure and heating.</p> <p>Strong oxidizing chemicals.</p> <p>Store in original containers.  * plastics PP or PE, recyclable polypropylen spools, recyclable containers.  * metallic (as aluminum).</p> <p>Page 13 according to VCI-</p>										
<p>8.) <b><u>EXPOSURE CONTROLS AND PERSONAL PROTECTION</u></b></p> <p><b>8.1 Occupational exposure standards:</b>  <b>8.2 Personal protective equipment:</b></p> <p><b>Measures of control:</b>  <b>Other measures:</b></p> <p><b>8.3 Personal protection:</b>  <b>Respiratory protection:</b>  <b>Hand protection:</b>  <b>Eye protection:</b>  <b>Body protection:</b></p>	<p>According to INRS ND 19456-153-93 et ND 1962-155-94:  Ensure efficient air and vapour extraction/ventilation at the workplace.</p> <table border="1"> <thead> <tr> <th>N°CAS</th> <th>Texts</th> <th>Material</th> <th>Values</th> <th>Units</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>P2, ensure appropriate air ventilation or extraction systems.</p> <p>Wear PVC or rubber gloves.</p> <p>Use correctly fitting protective goggles. Face shield when handling hot product.</p> <p>Wear appropriate working clothes.</p>	N°CAS	Texts	Material	Values	Units					
N°CAS	Texts	Material	Values	Units							



28. Juli 2005

<p><b>8.4 General protective and hygienic instructions:</b></p>	<p>Do not eat, do not drink, do not smoke at the workplace. Wash hands thoroughly with water and soap before taking breaks, when finishing work and especially before eating. Keep away from food and beverages.</p>														
<p>9.) <b><u>PHYSICAL AND CHEMICAL PROPERTIES</u></b></p> <p><b>9.1 Physical properties</b></p> <p><b>Boiling point/range (°C):</b> <b>Boiling point/range (°C):</b> <b>Melting point/range:</b> <b>Density (at 20°C)</b></p> <p><b>9.2 Chemical or incorporated flux</b></p> <p><b>Halid content:</b> <b>I<sub>A</sub>:</b> <b>Watersolubility (at °C):</b> <b>Solvent content:</b> <b>Softening point:</b></p> <p><b><u>Further Particulars:</u></b></p>	<p><b><u>Binary alloy n° 7 according to NF EN 29453 Standard</u></b></p> <p>Physical state: wire Colour: silver metal Odour: none</p> <p>(of tin) 2260 °C (of silver) 2595 °C S-Sn96Ag4 221 °C S-Sn96Ag4 7.3 g/cm<sup>3</sup></p> <p><b><u>No-clean flux according to NF EN 29454.1 standard type 1.2.3 B</u></b></p> <table border="0"> <thead> <tr> <th><b><u>Flux R</u></b></th> <th><b><u>Flux RA</u></b></th> </tr> <tr> <th><b><u>Flux FSW32</u></b></th> <th><b><u>Flux FSW26</u></b></th> </tr> </thead> <tbody> <tr> <td>&lt;0.005</td> <td>0.86</td> </tr> <tr> <td>160 to 190</td> <td>208</td> </tr> <tr> <td>Insoluble</td> <td>insoluble</td> </tr> <tr> <td>None</td> <td>none</td> </tr> <tr> <td>80 to 100°C</td> <td>80 to 100°C</td> </tr> </tbody> </table> <p>According to International System ISO 31-8.</p>	<b><u>Flux R</u></b>	<b><u>Flux RA</u></b>	<b><u>Flux FSW32</u></b>	<b><u>Flux FSW26</u></b>	<0.005	0.86	160 to 190	208	Insoluble	insoluble	None	none	80 to 100°C	80 to 100°C
<b><u>Flux R</u></b>	<b><u>Flux RA</u></b>														
<b><u>Flux FSW32</u></b>	<b><u>Flux FSW26</u></b>														
<0.005	0.86														
160 to 190	208														
Insoluble	insoluble														
None	none														
80 to 100°C	80 to 100°C														
<p>10.) <b><u>STABILITY AND REACTIVITY</u></b></p> <p><b>Conditions to avoid:</b> <b>Materials to avoid:</b></p> <p><b><u>Other particulars:</u></b></p>	<p>No decomposition if used in accordance with the specifications. Powerful oxidizing chemicals.</p>														
<p>11.) <b><u>TOXICOLOGICAL INFORMATION</u></b></p> <p><b>Toxicological analyses:</b> <b>Special remarks:</b> <b>General remarks:</b></p>	<p>This good is not concerned in its final shape. Possible intoxication by ingestion or by skin contact.</p>														
<p>12.) <b><u>ECOLOGICAL INFORMATION</u></b></p> <p><b>Persistence/Degradation:</b></p> <p><b>Water pollution:</b></p>	<p>Tin is not biodegradable and cannot be disposed of. Water polluting product: WGK. Do not allow to reach the ground water, rivers and drains of water courses.</p>														



28. Juli 2005

<p><b>CSB-Values:</b> <b>BSB5:</b> <b>AOX-Data:</b></p> <p><b>General indications:</b></p>	<p>mg/g mg/g Containing the chemical formula of heavy metals (refer to Legal rules 76/464/CEE): Rest Tin (Sn), About 3.5% Silver (Ag).</p>
<p><b>13.) <u>DISPOSAL</u></b></p> <p><b>Product disposal:</b> <b>Waste code number:</b> <b>Container disposal:</b></p>	<p>The product which is not used and its wastes can be returned to the manufacturer. Metals should be recovered when possible. N°</p> <p>Dispose of in accordance with the official regulations.</p>
<p><b>14.) <u>TRANSPORT INFORMATION</u></b></p> <p><b>RID/ADR – Class:</b> <b>IMDG –Class</b> <b>IATA – Class:</b> <b>Other regulatory arrangements:</b> <b>RIMO R/F:</b></p>	<p>Not hazardous product regarding transport Not classified No Not restricted none none</p>
<p><b>15.) <u>REGULATORY INFORMATIONS</u></b></p> <p><b>Labelling information:</b> <b>EU guidelines:</b></p> <p><b>Documents in accordance to the regulations:</b></p> <p><b>Technical instructions for air:</b></p> <p style="text-align: right;"><b>Tin:</b></p> <p><b>Water hazard class:</b></p>	<p>This product is classified and labelled as hazardous substance.</p> <p>91/322/EU dated 29 may 1991: EU limit values NF EN 481 NF EN 482</p> <p>INRS 1945-153-93/ revised in february 1995: professional exposure limits values to chemical substances. N°27, 1990,20 p.</p> <p>Emission 5 mg/m<sup>3</sup> per 25 g/h mass current. Tin and its derivates belong to class III.</p>
<p><b>16.) <u>OTHER INFORMATION</u></b></p>	<p>The relevant data sheet is applicable here. The information contained here in is based on data considered accurate and is offered at no charge. Our aim, by providing the above information which reflects the current status of our knowledge and experience, is to describe our product in terms of safety requirements. Liability is expressly disclaimed for loss or injury arising out of use of this information or the use of any materials designated. Supplementary copies of this data sheet are available on request.</p>