



**Material Safety Data Sheet - according to directive 1907/2006/EC**

**INTERNATIONAL STANDARD NORM ISO 11014-1**

<b>Trade Name: SSALC</b>	<b>Solder wire Sn99 Ag0,3 Cu0,7 DIN EN 29 453</b>	<b>F-SW32 Type 1.1.3.B NF EN 29 454.1</b>																																																					
<b>1.) <u>Manufacturer:</u> <u>Address:</u></b>	<b>EDSYN GMBH EUROPA</b> Finkenweg 2 D 97892 Kreuzwertheim Tel.: 09342 - 6413 Fax: 09342 - 6417																																																						
<b>2.) <u>COMPOSITION / INFORMATION ON INGREDIENTS</u></b>	<table border="1"><thead><tr><th>Product (Metall)</th><th>Symbol</th><th>CAS-No..</th><th>EC-No.</th><th>R-Phrases</th><th>S-Phrases</th></tr></thead><tbody><tr><td>Tin</td><td>Sn</td><td>7440-31-5</td><td>231-141-8</td><td>-</td><td>-</td></tr><tr><td>Silver</td><td>Ag</td><td>7440-22-4</td><td>231-131-3</td><td>-</td><td>-</td></tr><tr><td>Copper</td><td>Cu</td><td>7440-50-8</td><td>231-159-6</td><td>-</td><td>-</td></tr></tbody></table> <p>Alloys composition Sn99Ag0,3Cu0.7</p> <table border="1"><thead><tr><th>Tin %</th><th>Lead %</th><th>Copper %</th><th>Silver %</th><th>Bismuth %</th><th>Antimony %</th></tr></thead><tbody><tr><td>99</td><td>-</td><td>0,7</td><td>0,3</td><td>-</td><td>-</td></tr></tbody></table> <p>Incorporated flux composition</p> <table border="1"><thead><tr><th>Product</th><th>CAS-No.</th><th>EC-No.</th><th>R-Phrases</th><th>S-Phrases</th><th>%</th></tr></thead><tbody><tr><td>Modified rosin</td><td>-</td><td>-</td><td colspan="2">Not classified hazardous</td><td rowspan="2">1,6 %</td></tr><tr><td>Organic acid</td><td>124-04-9</td><td>204-673-3</td><td>Xi R36</td><td>S2</td></tr></tbody></table>		Product (Metall)	Symbol	CAS-No..	EC-No.	R-Phrases	S-Phrases	Tin	Sn	7440-31-5	231-141-8	-	-	Silver	Ag	7440-22-4	231-131-3	-	-	Copper	Cu	7440-50-8	231-159-6	-	-	Tin %	Lead %	Copper %	Silver %	Bismuth %	Antimony %	99	-	0,7	0,3	-	-	Product	CAS-No.	EC-No.	R-Phrases	S-Phrases	%	Modified rosin	-	-	Not classified hazardous		1,6 %	Organic acid	124-04-9	204-673-3	Xi R36	S2
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<b>3.) <u>HAZARDS IDENTIFICATION</u></b>	<p><b>Hazard description:</b> The product is not classified as dangerous. This product is not classed as flammable.</p> <p><b>Information concerning particular hazards for human and environment:</b> The product could cause burns during soldering. Its use during soldering may produce or release fumes which can be sensitizing to asthmatic workers.</p> <p><b>Prevention:</b> It is recommended to wear safety glasses, protective gloves, to wash hands after use and to work with a good ventilation of area, and suitable fumes extraction system locally installed. See the recommendations concerning the other products in the room.</p> <p><b>GHS label elements:</b> None</p>																																																						
<b>4.) <u>FIRST AID MEASURES</u></b>	<p><b>General information:</b> Take affected persons out into the fresh air. Take affected persons out of danger area and lay down.</p>																																																						



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<p><b>After inhalation:</b></p> <p><b>After skin contact:</b></p> <p><b>After eye contact:</b></p> <p><b>After swallowing:</b></p>	<p>Take affected persons into fresh air. If irritation persists, get medical attention.</p> <p>Immediately wash with water and soap and rinse thoroughly. If skin irritation persists, get medical attention. If burns should occur from molten metal, treat for burn and get medical assistance if necessary.</p> <p>Rinse opened eye for several minutes under running water. Get medical attention if irritation occurs.</p> <p>Call for a doctor immediately. Do not induce vomiting unless directed to do so by medical personnel.</p>
<p>5.) <b><u>FIRE FIGHTING MEASURES</u></b></p> <p><b>Suitable extinguishing agents:</b></p> <p><b>Extinguishing agents to avoid:</b></p> <p><b>Special hazards caused by the substance, its products of combustion or resulting gases:</b></p> <p><b>Protective equipment:</b></p>	<p>Non flammable product</p> <p>Dry chemical powder, water spray or foam.</p> <p>Do not use water jet on fire where molten metal is present.</p> <p>Molten metal produces fumes or vapours that may be sensitizing to asthmatic persons. Molten metal reacts violently with oxidising agents.</p> <p>Do not inhale combustion gases. Wear full body protective clothing.</p>
<p>6.) <b><u>ACCIDENTAL RELEASE MEASURES</u></b></p> <p><b>Person related safety precautions:</b></p> <p><b>Measures for environmental protection:</b></p> <p><b>Measures for cleaning/collecting:</b></p> <p><b>Additional information:</b></p>	<p>Remove persons from danger area. Wear protective equipment. Keep unprotected persons away. Use respiratory protective device against the effects of fumes/dust. Ensure adequate ventilation.</p> <p>Do not allow to enter sewers / surface or ground water. Collect the product.</p> <p>After cooling, collect the released product and store it in sealed containers. Not relevant due to the massive form of the product.</p> <p>Exposure levels indicated in section 8 are relevant to these and other operations. See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information</p>
<p>7.) <b><u>HANDLING AND STORAGE</u></b></p> <p>7.1) <b>Handling:</b></p> <p>7.2) <b>Storage:</b></p>	<p>Due to its high density, the product is heavy. Avoid the fall of the product. Wear protective shoes. S37 Wear suitable gloves. Wash hands after handling.</p> <p>Stow away from foodstuffs. Avoid the possibility of contact with acids. On spool, in original cardboard, at room temperature, keep away from inclemency. S2 Keep out of the reach of children. S13 Keep away from food, drink and animal feedingsstuffs.</p>



<p>8.) <b><u>EXPOSURE CONTROLS / PERSONAL PROTECTION</u></b></p> <p>8.1) <b>Exposure control:</b></p> <p><b>Additional information:</b></p> <p>8.2) <b>Personal protective equipment:</b></p> <p><b>Respiratory protection:</b></p> <p><b>Hand protection:</b></p> <p><b>Eye protection:</b></p> <p><b>Body/Skin protection:</b></p> <p><b>General protective and hygienic measures:</b></p>	<p>Permissible air concentration (mg/m<sup>3</sup>)</p> <table border="1"> <thead> <tr> <th>Product</th> <th>PEL</th> <th>REL</th> <th>TLV</th> </tr> </thead> <tbody> <tr> <td>Tin</td> <td>2,0</td> <td>2,0</td> <td>2,0</td> </tr> <tr> <td>Silver</td> <td>0,01</td> <td>0,01</td> <td>0,1</td> </tr> <tr> <td>Copper</td> <td>1 0,1 (fume)</td> <td>1 0,1 (fume)</td> <td>1 0,2 (fume)</td> </tr> </tbody> </table> <p>PEL = Permissible exposure limit (OSHA)  REL = Recommended exposure limit (NIOSH)  TLV = threshold Limit value (ACGIH)  OSHA = Occupational Safety and Health Administration  ACGIH = American Conference of Governmental Industrial Hygienists  NIOSH = National Institute for Occupational Safety and Health</p> <p>Air purifying respirator for limited operations where permissible exposure levels may be exceeded. Suitable fumes extraction system must be locally installed.</p> <p>Cotton gloves are recommended.</p> <p>Safety glasses or facial shield (if ejections may occur). are recommended.</p> <p>Appropriate protective clothing. Protective work clothing is recommended : cotton blouse.</p> <p>Strict hygiene requirements will be prescribed at the workplace. The usual precautionary measures are to be adhered to when handling chemicals: do not smoke and eat at work place. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases / fumes. Avoid contact with the eyes and skin.</p>	Product	PEL	REL	TLV	Tin	2,0	2,0	2,0	Silver	0,01	0,01	0,1	Copper	1 0,1 (fume)	1 0,1 (fume)	1 0,2 (fume)
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<p>9.) <b><u>PHYSICAL AND CHEMICAL PROPERTIES</u></b></p> <p><b>Form:</b></p> <p><b>State:</b></p> <p><b>Colour:</b></p> <p><b>Appliction:</b></p>	<p>Wire Solid Silver For soft soldering</p> <table border="1"> <thead> <tr> <th>Properties</th> <th>T° solidus (°C)</th> <th>T° liquidus (°C)</th> <th>Density (g/cm<sup>3</sup>)</th> </tr> </thead> <tbody> <tr> <td>Sn99Ag0,3Cu0,7</td> <td>217</td> <td>228</td> <td>7,3</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Properties of fluxes</th> <th>Acid number (mg/g)</th> <th>Chloride content (%)</th> </tr> </thead> <tbody> <tr> <td>F-SW32</td> <td>392 bis 432</td> <td>0</td> </tr> </tbody> </table>	Properties	T° solidus (°C)	T° liquidus (°C)	Density (g/cm <sup>3</sup> )	Sn99Ag0,3Cu0,7	217	228	7,3	Properties of fluxes	Acid number (mg/g)	Chloride content (%)	F-SW32	392 bis 432	0		
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<p><b>10.) <u>STABILITY AND REACTIVITY</u></b></p> <p><b>Stability:</b></p> <p><b>Conditions to avoid:</b></p> <p><b>Materials to avoid:</b></p> <p><b>Hazardous decomposition products:</b></p>	<p>Stable under normal conditions of use and storage.</p> <p>Mechanical and thermal operations giving rise to dusts or fumes without appropriate ventilation. Strong oxidisers may cause violent reaction.</p> <p>Due to the toxic properties of lead salts, avoid accidental contact with acids, particularly with acetic acid.</p> <p>No hazardous decomposition under normal conditions of use.</p>
<p><b>11.) <u>TOXICOLOGICAL INFORMATION</u></b></p> <p><b>Eye contact:</b></p> <p><b>Skin contact:</b></p> <p><b>Inhalation:</b></p> <p><b>Acute toxicity:</b></p> <p><b>Toxicological analyses:</b></p>	<p>May cause eye irritation due to the fumes during soldering.</p> <p>May cause skin irritation in case of flux projections or fumes during soldering. It is recommended to wear cotton gloves to prevent burns by projections.</p> <p>Use of product during soldering may produce or release fumes due to heated rosin, which can be sensitizing to asthmatic workers.</p> <p>No adverse health effect is expected under normal conditions of use.</p> <p>This good is not concerned in its final shape.</p>
<p><b>12.) <u>ECOLOGICAL INFORMATION</u></b></p> <p><b>General notes:</b></p>	<p>Do not allow product to reach ground water, water course or sewage system. Sn/Ag/Cu alloy is a particularly corrosion proof metal.</p>
<p><b>13.) <u>DISPOSAL CONSIDERATIONS</u></b></p> <p><b>Surplus and wastes:</b></p> <p><b>Contaminated packaging:</b></p>	<p>Disposal must be made according to official regulations.</p> <p>Collect all wastes.</p> <p>Never use packaging for another purpose.</p>
<p><b>14.) <u>TRANSPORT INFORMATION</u></b></p> <p><b>14.1) Land transport ADR/RID (cross-border):</b> &gt;&gt;&gt;&gt; ADR, RID class:</p> <p><b>14.2) Air transport IATA-DGR:</b> &gt;&gt;&gt;&gt; IATA class:</p> <p><b>14.3) Maritime transport IMDG:</b> &gt;&gt;&gt;&gt; IMDG class:</p> <p><b>DOT regulations:</b> &gt;&gt;&gt;&gt; Hazard class:</p>	<p>Not classified as dangerous goods by any international codes or agreements (RID/ADR, IMDG, IATA)</p> <p>Not regulated.</p> <p>Not regulated.</p> <p>Not regulated.</p> <p>Not regulated.</p>
<p><b>15.) <u>REGULATORY INFORMATION</u></b></p>	<p>The product does not require any hazard warning label in accordance with EC directives regulations on dangerous substances.</p>



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<p>16.) <b><u>OTHER INFORMATION</u></b></p>          <p><b>Abbreviations and acronyms:</b></p>	<p>This material safety data sheet is entirely written in accordance with regulations in force.</p> <p>This safety data sheet provides additional information to the technical leaflet but it does not replace it. The given information is honestly developed from our current knowledge of the product. User's attention is strongly drawn to the possible risks in using a product for other uses it is made for. It does not exempt, in any case, the user to know and comply with the texts regulating its activity. All the mentioned regulatory, in item 15 particularly, only aim at helping the recipient to fulfill its obligations when using the product.</p> <p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. RID: Regulations Concerning the International Transport of Dangerous Goods by Rail. IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO) GHS: Globally Harmonized System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society)</p>
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