



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

INTERNATIONAL STANDART NORM ISO 11014-1

Trade Name: SS	Solder wire S-Sn60 Pb38 Cu2 DIN EN 29 453	Flux F-SW 32 NF EN 29 454.1
1.) Manufacturer: Address:	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 Tin/Lead/Copper with incorporated flux Type 1.1.3 B Alloys: Codes Concentration R Phrases: Tin 7440-31-5 60% Lead 7439-92-1 38% 20/22-33-61 Copper 7440-8 2% Flux: Colophony 8050-09-7 0.6 to 3.3%	
3.) <u>HAZARD IDENTIFICATION</u> EEC Classification:	Inhalation of lead bearing dust or fumes is the main route of penetration in the organism for workers processing lead. > Absorption by ingestion is also possible. > Percutaneous absorption is of minor importance but possible if the skin is injured. > Symptoms of intoxication are preceded by more or less long stage of impregnation which can be detected by biological analyses. > Clinical symptoms vary with the subject and the impregnation extent: anaemia, nephritis and in several cases, abdominal pains (lead colics), peripheral and central neuropathy. > Workers exposure must be reduced at the lowest possible level, that suppose: - the respect of the limit values (cf § 8). - the setting up of collective and individual protection measures at workplaces. - a large information of the workers on using and handling precautions and their training for safety. - an appropriate medical monitoring. Lead metal is not classified in the annex 1 of the directive 67/548/EEC REMARK: chemical or mechanical processing of lead can give rise to toxic compounds. Lead compounds are classified toxic for reproduction cat.1 (development), they are also harmful by inhalation and swallowed; some have a specific classification.	



<p>4.) <u>FIRST AID MEASURES</u></p> <p>Inhalation:</p> <p>Ingestion:</p> <p>Skin contact:</p> <p>Eyes contact:</p>	<p><u>Dusts and fumes</u></p> <p>in case of large quantities inhaled, remove from the exposure area. Wash nose and lips.</p> <p>seek medical advice.</p> <p>no known hazardous reaction, wash with water and soap.</p> <p>flush thoroughly with clear water, in case of persisting irritation seek an ophthalmologist.</p>
<p>5.) <u>FIRE FIGHTING MEASURES</u></p> <p>Suitable extinguishing media:</p> <p>Extinguished media which must not be used:</p> <p>Special exposure hazards:</p> <p>Special protective equipment for fire fighting:</p>	<p>The solder wires S-Sn 60 Pb 38 Cu2 are not flammable.</p> <p>no specific agent, use the suitable media appropriate for surrounding material</p> <p>water on liquid metal.</p> <p>inhalation of toxic fumes.</p> <p>wear a self-contained breathing apparatus.</p>
<p>6.) <u>ACCIDENTAL RELEASE MEASURES</u></p> <p>Individual precautions:</p> <p>Environmental precautions:</p> <p>Methods for cleaning up:</p>	<p>prefer handle with gloves. If this precaution has not be observed, wash carefully hands and nails after handling.</p> <p>collect the product.</p> <p>not relevant due to the massive form of the product.</p>
<p>7.) <u>HANDLING AND STORAGE</u></p> <p>Handling:</p> <p>Storage:</p>	<p>set up a dust, fumes or vapour collection system at the point of emission. Use closed or hood covered systems for thermal operation avoid blow torch cutting (emission of toxic vapours)</p> <p>stow away from foodstuffs. Avoid the possibility of contact with acids.</p>



<p>8.) <u>EXPOSURE CONTROL / Individual protection</u></p> <p>Occupational exposure limit values:</p> <p>Medical monitoring of exposed workers:</p> <p>Respiratory protection:</p> <p>Hand protection:</p> <p>Eye protection:</p> <p>Skin protection:</p> <p>Hygiene measures:</p>	<p>Europe directive 82/605/EEC</p> <ul style="list-style-type: none"> - lead in air at the workplace: 0.15 mg /m³ (time weighted average over 40h/week). - lead in blood: Pb-B < 70µg / dl (80 µg / dl allowed if PPZ < 20 µg / g hemoglobin or ALA-U < 20 mg / g creatinin or ALA-U > 6 european units). <p>The limit value for the vapours coming from heated rosin cored flux is TLV=0,1 mg/m³.</p> <p>Workers exposed to metallic lead and its compounds must be submitted to a special medical monitoring consisting in a clinical examination and biological analyses.</p> <p>A pre-employment medical check-up is essential. The frequency of the medical controls varies depending on the level of lead concentration in air at the workplace and the results of biological analyses.</p> <p>The biological monitoring is based on:</p> <ul style="list-style-type: none"> - an impregnation indicator (blood lead level). - biological effects indicators (ZPP, hemoglobin, Creatinin, titrated in blood; ALA in urin). Examination of the renal function can also be useful. <p>Biological monitoring is always more preventive if several parameters are used to do so, on accordance with the selection made by the occupational physician.</p> <p>air purifying respirator for limited operations where permissible exposure levels may be exceeded.</p> <p>appropriate gloves.</p> <p>safety glasses or facial shield (if ejections may occur).</p> <p>appropriate protective clothing</p> <p>the employer will provide concerned workers (including occasionally) adequate information and training on the potential risks and the special precautions to be taken to minimize exposure when lead or lead alloys are processed. Strict hygiene requirements will be prescribed including the need to refrain from smoking, eating or drinking at the workplace. Post and enforce non-smoking policy. Working or protective clothing and street clothes must be stored separately. It will be prescribed to wash thoroughly hands and face before eating, drinking or smoking.</p>
<p>9.) <u>PHYSICAL AND CHEMICAL PROPERTIES</u></p> <p>Appearance:</p> <p>Packaging:</p>	<p>WIRES</p> <p>Reels of 500 g to 1 kg</p>



27. Oktober 2011

<p><u>Characteristic data:</u></p> <p>PH:</p> <p>Melting point (alloy)</p> <p>Melting point (flux)</p> <p>Explosivity:</p> <p>Solubility:</p>	<p>not applicable</p> <p>Density (alloy): 8,5 kg / dm³ at 20°C</p> <p>183 to 190°C</p> <ul style="list-style-type: none"> - Acid value (fluxR): 160 to 190 (MgKoh/g) - Acid value (flux RMA): 204 (MgKoh(g) - Acid value (flux RA): 208 (MgKoh/g) <p>80 to 100°C</p> <ul style="list-style-type: none"> - Halogen content R: < 0.005 - Halogen content RMA: 0.41 - Halogen content RA: 0.86 <p>Not concerned</p> <p>insoluble in water, soluble in acetic acid, in nitric acid in hot concentrated sulphuric acid.</p>
<p>10.) <u>STABILITY AND REACTIVITY</u></p> <p>The product is stable in normal conditions</p> <p>Conditions to avoid:</p> <p>Materials to avoid:</p> <p>Hazardous decomposition products:</p>	<p>Mechanical and thermal operations giving rise to dusts or fumes without appropriate ventilation.</p> <p>Due to the toxic properties of lead salts, avoid accidental contact with acids, particularly with acetic acid.</p> <p>Not applicable.</p> <p>REMARK: Significant emission of lead vapors from about 450°C</p>
<p>11.) <u>TOXICOLOGICAL INFORMATION</u></p> <p>Acute toxicity:</p> <p>Chronic and long term toxicity:</p> <p>Reproduction:</p>	<p>(acute occupational are rare).</p> <p>obligatory biological monitoring of the workers exposed to metallic lead and to its compounds allows to know a saturnal impregnation before that clinical symptoms appear. Lead poisoning clinically appears under various forms of more less marked acuteness:</p> <ul style="list-style-type: none"> - blood symptoms: anemia. - renal symptoms: chronic renal insufficiency. - digestive symptoms: abdominal pains, constipation and possible increasing of blood pressure. - nervous system (central and peripheral) <p>(encephalopathy exceptionally occurs among exposed workers).</p> <p>women in age to bear children should only work at places of low exposure; take advice of the occupational physician. Comply with pregnant and breast-feeding women protection measures.</p>



27. Oktober 2011

<p>12.) <u>ECOLOGICAL INFORMATION</u></p> <p>Mobility</p> <p>Persistence/degradability:</p> <p>Bioaccumulation:</p> <p>Ecotoxicity:</p>	<p>not applicable</p> <p>Sn/Pb/Cu alloy is a particularly corrosion proof metal.</p> <p>absorbed lead compounds are, after biotransformation, accumulated by living organisms but there is no evidence of biomagnification.</p> <p>The availability to living organisms is strongly reduced by the insolubility of lead in water.</p>
<p>13) <u>Disposal considerations</u></p> <p>Surplus and wastes:</p> <p>Contaminated packaging:</p>	<p>Collect all wastes. Keep them in dedicated and labeled containers, avoiding blooming away and the leaching of the possible water soluble compounds. Use containers easy to empty.</p> <p>Look for recycling possibilities (primary or secondary metallurgy)</p> <p>Never dump the effluents polluted by lead compounds. Transfer to wash treatment system.)</p> <p>Dedust fumes before exhaust in the atmosphere. Comply with national and local regulation.</p> <p>Never use packaging for another purpose.</p>
<p>14.) <u>TRANSPORT INFORMATION</u></p>	<p>Not classified as dangerous goods by any international codes or agreements (RID / ADR, IMDG, LATA)</p>
<p>15.) <u>REGULATORY INFORMATION</u></p> <p>Classification, Labeling:</p> <p>Protection of the workers:</p> <p>Environment and public health:</p> <p>National regulatory:</p>	<p>Regularly applicable to member states of the European Community.</p> <p>not classified</p> <p>REMARK: Lead compounds are classified in the annex 1 of the directive 67/548/EEC.</p> <p>Directive 82/605/EEC 28/07/82 (protection of the workers from the risks related to lead: action levels, medical monitoring according to lead in air at the workplace and blood lead levels of exposed workers). Directive 92/85/EEC 19/10/92 (protection of pregnant and breast-feeding workers).</p> <p>Directive 82/884/EEC 03/12/82 (Pb limit value in the atmosphere: 2µg/m³ annual mean value). Directive 84/360/EEC 08/06/84 (decreasing air pollution by heavy metals and their compounds of industrial origin; provisions for local specific measures). Directive 91/689/EEC 12/12/91 (elimination of hazardous wastes, incl. lead and its compounds).</p> <p>comply, if need be, with any other national or local regulatory.</p>



27. Oktober 2011

<p>16.) <u>OTHER INFORMATION</u></p> <p>Bibliography:</p>	<p>This safety data sheet provides additional information to the technical leaflet but it does not replace it. The give information is honestly developed from our current knowledge of the product. User attention is strongly drawn to the possible risks in using a product for other uses it is made for. This safety data sheet has been written in accordance with the Directive 91/155/EEC. It does not exempt, in any case, the user 15 particularly, only aim at helping the recipient to fulfill its obligations when using the product. This list must not be regarded as exhaustive and the recipient has to check if other obligations are incumbent upon him because of other texts than those mentioned, particularly for holding and handling the product, for which he is the only liable.</p>
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