Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

6. Oktober 2004

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.)	<u>Manufacturer:</u> Address:	EDSYN GMB Finkenweg 2 D 97892 Kreu		Tel.: 09342 - 6413 Fax: 09342 - 6417		
2.)	COMPOSITIONS / INFORMATION ON THE COMPONENTS					
	2.1 Description:	Solder wire Ti	n/Lead/Copper w	vith incorporated flux	Type 1.1.3 B	
	2.2 Components:	Alloys:	Codes	Concentration	R Phrases:	
		Tin Lead Copper	7440-31-5 7439-92-1 7440-8	60% 38% 2%	20/22-33-61	
		Flux: Colophony	8050-09-7	0.6 to 3.3%		
3.)	HAZARD IDENTIFICATION 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), peripherical 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: ch toxic copmpor cat.1 (develop	emical or mecha unds. Lead comp	nical processing of le ounds are classified also harmful by inhal		

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

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Europe directive 82/605/EEC - lead in air at the workplace: 0.15 mg /m3 (time weighted average over 40h/week) lead in blood: Pb-B < $70\mu g$ / dl (80 μg / dl allowed if PPZ < 20 μg g hemoglobin or ALA-U < 20 mg / g creatinin or ALA-U > 6 european units).
The limit value for the vapours coming from heated rosin cored flux is TLV=0,1 mg/m3.
Workers exposed to metallic lead and its compounds must be submitted to a special medical monitoring consisting in a clinical examination and biological analyses. 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.
The biological monitoring is based on: - 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.
Biological monitoring is always more preventive if several parameters are used to do so, on accordance with the selection made by the occupations physician.
air purifying respirator for limited operations where permissible exposure levels may be exceeded.
appropriate gloves.
safety glasses or facial shield (if ejections may occur).
appropriate protective clothing
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 a processed. Strict hygiene requirements will be prescribed including the need to refrain from smoking, eating or drinking at the workplace. Post at enforce non-smoking policy. Working or protective clothing and street clothes must be stored separately. It will be prescribed to wash thorough hands and face before eating, drinking or smoking.
WIRES
Reels of 500 g to 1 kg

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Characteristic data:

PH: not applicable

Density (alloy): 8,5 kg / dm3 at 20°C

Melting point (alloy) 183 to 190°C

- Acid value (fluxR): 160 to 190 (MgKoh/g)
- Acid value (flux RMA): 204 (MgKoh(g)
- Acid value (flux RA): 208 (MgKoh/g

Melting point (flux) 80 to 100°C

- Halogen content R: < 0.005- Halogen content RMA: 0.41- Halogen content RA: 0.86

Explosivity: Not concerned

Solubility: insoluble in water,

soluble in acetic acid, in nitric acid in hot concentrated sulphuric acid.

10.) STABILITY AND REACTIVITY

The product is stable in normal conditions

Conditions to avoid: Mechanical and thermal operations giving rise to dusts or fumes without

appropriate ventilation.

Materials to avoid:

Due to the toxic properties of lead salts, avoid accidental contact with

acids, particularly with acetic acid.

Hazardous decomposition products: Not applicable.

REMARK: Significant emission of lead vapors from about 450°C

11.) TOXICOLOGICAL INFORMATION

Acute toxicity: (acute occupational are rare).

Chronic and long term toxicity: 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:

blood symptoms: anemia.

renal symptoms: chronic renal insufficiency.

digestive symptoms: abdominal pains, constipation and possible

increasing of blood pressure.

nervous system (central and peripheral)

(encephalopathy exceptionally occurs among exposed workers).

Reproduction: 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.

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16.) OTHER INFORMATION

Bibliography:

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.