EDSYN GMBH EUROPA
Zentrum für Löt- und Entlötsysteme

EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

16.07.2014

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

INTERNATIONAL STANDARD NORM ISO 11014-1

Trade name: SAC	**Solder wire Sn95,5Ag3,8Cu0,7 Flux F-SW 34** **DIN EN 29 453 NF EN 29 454.1**
1.) MANUFACTURER **Address:**	**EDSYN GMBH EUROPA** Finkenweg 2 Tel.: 09342 - 6413 D 97892 Kreuzwertheim Fax: 09342 - 6417
2.) HAZARDS IDENTIFICATION	The information in this section is applicable on all mentioned identified uses in this SDS.
2.1) Classification and general hazards	Not classified as dangerous according to the criteria of directive(s) 67/548/EEC and/or 1999/45/EC.
Fire hazard:	None
NFPA-code:	1-1-0
2.2) Environmental hazards	
Ecology - general:	The solder wire is not biodegradable and may therefore not be disposed in the environment.
Ecology - water:	Flux used for solder wire is readily biodegradable - Metals are not biodegradable and may therefore not be disposed in the environment.
Ecology - waste materials:	Do not discharge into surface water - Do not discharge into the sewer - Recycle/reuse - LWCA (the Netherlands): KGA category 05
2.3) Other dangers	
Other dangers:	The product is not hazardous as supplied nor is it hazardous when handled under normal conditions. This product may become hazardous in use and the information in this data sheet reflects the hazards associated with solder operations. Work under local exhaust/ventilation.
3.) COMPOSITION / INFORMATION ON INGREDIENTS	
Name:	F-SW-34
EC N°:	All components are EINECS listed.
REACH:	All components are pre-registered according to REACH regulations.

Components	CAS N°	EC N°	WEIGHT %	Classification
tin	7440-31-5	231-141-8	*)	-
silver	7440-22-4	231-131-3	*)	-
copper	7440-50-8	231-159-6	*)	
flux incorporated	-	-	1.6 ± 0.2	-

*) Weight dependend on the respective alloy (see alloy overview)

Alloy	Tin % wt	Silver % wt	Copper % wt
Sn95,5Ag3,8Cu0,7	Rest	3.8 ± 0.2	0,7 ± 0.2

4.) FIRST AID MEASURES	The information in this section is applicable on all mentioned identified uses in this SDS.
4.1) Effects and symptoms	
Symptoms / injuries:	Handle in accordance with good industrial hygiene and safety practice.
Symptoms / injuries after eye contact:	In case of splash from hot solder, irritation to the eyes and if not removed, may result in serious injury – Vapours produced during soldering operations can give slight irritation of the eye tissue.

	Symptoms / injuries after skin contact:	The melted product adheres to the skin and causes burns.
4.2)	**First aid measures**	
	First aid measures after inhalation:	Remove the victim into fresh air – Respiratory problems: consult a doctor/medical service.
	First aid measures after skin contact:	Lead-free solder alloys are not likely to have a harmful effect on the skin. Wash hands immediately after handling the product – In case of splash from molten metal, wash affected skin areas with copious amounts of running water. Further treatment of the burn. – Soap may be used – Take victim to a doctor if irritation persists.
	First aid measures after eye contact:	Rinse immediately with plenty of water – Take victim to an ophtalmologist if irritation persists.
	First aid measures after ingestion:	Dilute stomach contents with water or milk. Do NOT induce vomiting. Ask for medical advice.
4.3)	**Medical advice**	No information available.
5.)	**FIRE FIGHTING MEASURES**	The information in this section is applicable on all mentioned identified uses in this SDS.
	General measures:	Not applicable for solder wire.
	Extinguishing agents – fire fighting instructions:	Never use water near molten metal. FIRE EXTINGUISHING MEDIA D powder Dry sand
	Fire hazard:	None
	Reactivity hazard:	Upon burning: formation of metallic fumes/vapours.
	Personal protection (Emergency response):	Gloves – Heat resistant gloves – Heat/fire exposure: compressed air/oxygen apparatus.
	Other information (fire fighting):	Massive metal and the oxides are not combustible.
6.)	**ACCIDENTAL RELEASE MEASURES**	The information in this section is applicable on all mentioned identified uses in this SDS.
6.1)	**Protective measures**	
	General measures:	Not applicable for solder wire.
6.2)	**Environmental measures:**	No information available.
6.3)	**Disposal**	
	Disposal:	Carefully collect the spill/leftovers – Collect all waste in suitable and labelled containers and dispose according to local legislation.
	Methods for cleaning:	If melted: allow liquid to solidify before taking it up – Do not discharge into groundwater, surface water or sewerage.
6.4)	**Other information**	No information available.
7.)	**HANDLING AND STORAGE**	
7.1)	**Handling**	
	Handling the product:	Vapours produced during soldering operations. Avoid breathing dust/fume. Work under local exhaust/ventilation. Lead-free solder alloys are not likely to have a harmful effect on the skin. Wash hands immediately after handling the product.
7.2)	**Storage**	

	Storage area:	Store at ambient temperature. Store in a dry area.
	Maximal storage time:	2 years
	LGK Storage class:	LGK 13
7.3)	**Special use(s) and requirements**	No information available. Handling and storage information is applicable on all mentioned identified uses in this SDS. Consistency of data in the SDS with CSR is considered, as far as the information was available at the time of compilation (cfr revision date and version number).
8.)	**EXPOSURE CONTROLS / PERSONAL PROTECTION**	
8.1)	**Exposure information**	
	Component:	tin
	CAS N°:	7440-31-5
	Limit value name:	Tin (metal)
	Limit value (mg/m³):	2
	VME name:	Etain
	VME (mg/m³):	0.1
	VLE (mg/m³):	0.2
	TLV name:	Tin Metal
	TLV-TWA (mg/m³):	2
	Component:	silver
	CAS N°:	7440-22-4
	Limit value name:	Silver (metal)
	Limit value (mg/m³):	0.1
	MAK Short time value (mg/m³):	0.8 E/15'/4x
	MAC name:	Silver
	MAC (mg/m³):	0.1
	VME name:	Argent (mètal)
	VME (mg/m³):	0.1
	TLV name:	Silver Metal
	TLV-TWA (mg/m³):	0.1
	Component:	Copper
	CAS N°:	7440-50-8
	Limit value name:	Copper (rook, stof & nevel as Cu)
	Limit value (mg/m³):	0.2
	MAK Short time value (mg/m³):	0.2 E/15'/4x
	MAC name:	Copper
	MAC (mg/m³):	0.1 I (inhalable fraction)
	VME name:	Cuivre (fumées/poussières en Cu)
	VME (mg/m³):	0.2
	TLV name:	Copper (fume, dust & mists, as Cu)
	TLV-TWA (mg/m³):	2.2
8.2)	**Exposure control – Risk management measures**	
	Handling the product:	Vapours produced during soldering operations. Avoid breathing dust/fume. Work under local exhaust/ventilation. Lead-free solder alloys are not likely to have a harmful effect on the skin. Wash hands immediately after handling the product.
	Personal protection (Material-Handling):	Safety glasses

	Gloves Heat resistant gloves if handling hot metal
8.3) Environmental exposure control – Risk management measures	No information available.
8.4) Technical risk management measures	No information available.
9.) PHYSICAL AND CHEMICAL PROPERTIES	
9.1) General information	
Appearance:	Solid wire
State of aggregation:	Solid
Odour:	Odourless
Colour:	Silvery-white to grey
9.2) Important health, safety & environmental info	
Flashpoint:	(Flux) 170° C
Relative density:	Sn95,5Ag3,8Cu0,7: 7.5 g/cm³
Melting point:	IEC-EN-61190-1-3: Sn95,5Ag3,8Cu0,7: 217° C - 226° C
9.3) Other information	
Solubility in water:	Insoluble
	All properties are determined in accordance with the specifications laid down in the Commission Regulation on testing methods referred to in Article 13 paragraph 3 or any other comparable method.
10.) STABILITY AND REACTIVITY	The information in this section is applicable on all mentioned identified uses in this SDS.
10.1) Stability	
Instability:	Stable under normal conditions.
10.2) Conditions to avoid	
Conditions to avoid:	High temperatures. Will emit toxic metallic oxides.
Reactivity hazard:	Upon burning: formation of metallic fumes/vapours.
10.3) Materials to avoid	No information available.
10.4) Hazardous decomposition products	
Hazardous decomposition products:	Tin, copper and silver compounds.
11.) TOXICOLOGICAL INFORMATION	The information in this section is applicable on all mentioned identified uses in this SDS.
11.1) Toxicity	
Component:	silver
LD50 oral rat:	> 10000 mg/kg
LD50 dermal rat:	> 2000 mg/kg
11.2) Effects and symptoms	
Symptoms / injuries:	Handle in accordance with good industrial hygiene and safety practice.
Symptoms / injuries after skin contact:	The melted product adheres to the skin and causes burns.
Symptoms / injuries after eye contact:	In case of splash from hot solder, irritation to the eyes and if not removed,

	may result in serious injury - Vapours produced during soldering operations can give slight irritation of the eye tissue.
12.) ECOLOGICAL INFORMATION	The information in this section is applicable on all mentioned identified uses in this SDS.
12.1) Ecotoxicity	
a) LC50 / EC50	
Component:	tin
EC50 Daphnia 1:	1,5 mg/l (504 h, DAPHNIA MAGNA)
EC50 other aquatic organisms 1:	21,23 mg/l (96 h, TUBIFEX TUBIFEX) 42 mg/l (48 h, DAPHNIA MAGNA)
b) BCF	
Component:	tin
BCF fishes 2:	< 0,00036 mg/g (PISCES, DRY WEIGHT)
c) TLM	No information available.
12.2) Mobility	
Ecology - general:	The solder wire is not biodegradable and may therefore not be disposed in the environment.
Ecology - waste materials:	Do not discharge into surface water - Do not discharge into the sewer - Recycle/reuse - LWCA (the Netherlands): KGA category 05
Ecology - water:	Flux used for solder wire is readily biodegradable - Metals are not biodegradable and may therefore not be disposed in the environment.
12.3) Persistence and degradability	
Component:	tin
WGK remark:	No water pollutant (classification in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS)).
Component:	silver
WGK remark:	3
Component:	copper
WGK remark:	No water pollutant (classification in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS)).
12.4) Bioaccumulation	No information available.
12.5) Results of PBT assessment	No information available.
12.6) Other information	No information available.
13.) DISPOSAL CONSIDERATIONS	
Ecology - general:	The solder wire is not biodegradable and may therefore not be disposed in the environment.
Ecology - waste materials:	Do not discharge into surface water - Do not discharge into the sewer - Recycle/reuse - LWCA (the Netherlands): KGA category 05.
EURAL:	10 08 11 - dross and skimmings other than those mentioned in 10 08 10.
14.) TRANSPORT INFORMATION	
14.1) ADR (Road transport)	
ADR transport regulations:	Not subject

State during transport (ADR-RID):	Rail and road transport: not subject to ADR-RID
Proper Shipping Name:	Non-hazardous goods
14.2) RID (Railway transport)	
RID class:	Not subject
RID transport regulations:	Not subject
Proper Shipping Name:	Non-hazardous goods
14.3) ADNR (Inland waterways shipping)	
ADNR class:	Not subject
Proper Shipping Name:	Non-hazardous goods
14.4) IMDG (Sea transport)	
IMDG transport regulations:	Not subject
Proper Shipping Name:	Non-hazardous goods
14.5) ICAO / IATA (Air transport)	
ICAO transport regulations:	Not subject
Proper Shipping Name:	Non-hazardous goods
Additional rules to be obtained at EDSYN GMBH EUROPA	
Remark:	Above mentioned regulations are in force at the moment of publication of this (SDS) safety data sheet. With reference to possible modifications in transport regulations of dangerous goods, we advise you to verify its validity at **EDSYN GMBH EUROPA**.
15.) <u>REGULATORY INFORMATION</u>	
15.1) Components indicating danger classification	
Label name:	Not classified as dangerous.
15.2) Classification and labelling	Not classified as dangerous according to the criteria of directive(s) 67/548/EEC and/or 1999/45/EC.
15.3) Compliancy additional legislation	Not classified as dangerous according to the criteria of directive(s) 67/548/EEC and/or 1999/45/EC.
16.) <u>OTHER INFORMATION</u>	
SDS Version:	2.0/ED
Review date SDS:	01/10/2009
SDS revision reason:	Reach regulation 1907/2006 Annex II
Other information:	Intrastat code 8311 30 00
	The information in this Material Safety Data Sheet (SDS) is believed to be correct as of the date issued. Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability or the accuracy of this information or the suitability of our products in any given situation. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. The products discussed are sold without such warranty, either expressed or implied.