Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

24.02.2021

Material Safety Data Sheet - according to Regulation (EC) No. 1907/2006

INTERNATIONAL STANDARD NORM ISO 11014-1

Trade	e name: SS	Solder wire Sn60Pb38Cu2 DIN EN 29 453	Flux F-SW 32 NF EN 29 454.1
1.)	IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING		
1.1.)	Product identifier		
	Trade name :	LEAD SOLDER WIRES with flux TIN -COPPE	ER
	Product code:	SS	
1.2.)	Relevant identified uses of the substance or mixture and uses advised against	Soft soldering	
	Use descriptor system (REACH):	SU 3 Industrial uses: uses of substances as s industrial sites PC 38 Welding and soldering products (with fl flux products	
1.3.)	Details of the supplier of the safety data sheet	nux products	
	Manufacturer: Address:	EDSYN GMBH EUROPA Finkenweg 2 Tel.: 09342 -	
1.4.)	Emergency telephone number	D - 97892 Kreuzwertheim Fax: 09342 - Emergency number	- 6417
2.)	HAZARDS IDENTIFICATION		
2.1.)	Classification of the substance or mixture		
	In compliance with EC regulation No. 1272/2008 and its amendments.	Reproductive toxicity, Category 1A, (Repr. 1A Reproductive toxicity, Effects on or via lactatic This mixture does not present a physical haza recommendations regarding the other product This mixture does not present an environment foreseeable environmental damage under sta	on (Lact., H362). ard. Refer to the ts present on the site. tal hazard. No known or
2.2.)	Label elements		
	In compliance with EC regulation No. 1272/2008 and its amendments.		
	Hazard pictograms:	GHS08	
	Signal word:	DANGER	

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

24.02.2021

Product identifiers: EC 231-100-4 LEAD

Additional labeling: For professional use only.

Hazard statements: H360FD May damage fertility. May damage the unborn child.

H362 May cause harm to breast-fed children.

Precautionary statements – Prevention: P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face

protection.

2.3.) Other hazards

Other hazards not contributing to the classification:

The mixture does not contain substances classified as "Substances of Very High Concern" (SVHC) >= 0.1% published by the European

Very High Concern" (SVHC) >= 0.1% published by the European

Chemicals Agency (ECHA) under article 57 of REACH:

http:/echa.europa.eu/fr/candidate-list-table

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the RECH regulations EC 1907/2006.

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.

The product could cause burns during soldering.

Its use during soldering may produce or release fumes which can be

sensitizing for the respiratory system to asthmatics.

3.) COMPOSITION/INFORMATION ON INGREDIENTS

3.2.) Mixtures Composition:

name	Product identifier	Note	%
tin	(CAS No.) 7440-31-5 (EC No. 231-141-8 (REACH No.) 01-2119486474-28-0033	(1)	58.00 – 60.00 %
lead	(CAS No.) 7439-92-1 (EC No). 231-100-4 (REACH No.) 01-2119513221-59-XXXX GHS08 Drg Repr. 1A, H360FD Lact., H362	(1) (2)	36,00 – 38.00 %
Modified Rosin	(CAS No.) 65997-05-9 (EC No). 500-163-2 (REACH No.) 01-2119964093-37-XXXX		0.50 – 3.00 %
copper	(CAS No) 7440-50-8 (EC No) 231-159-6 (Reach No) 01-2119480154-42-0002	(1)	1.90 – 2.00 %
ADIPIC ACID	(CAS No) 124-04-9 (EC No) 204-673-3 (REACH No.) 01-2119457561-38-0000 GHS07 Wng Eye Irrit. 2, H319	(1)	0.05 – 0.30 %

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

24.02.2021

Information	· · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • • • • •

- (1) Substance for which maximum workplace exposure limits are available.
- (2) Carcinogenic, mutagenic or reprotoxic (CMR) substance.

4.) FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor. NEVER induce swallowing by an unconscious person.

4.1.) Description of first aid measures

In the event of exposure by inhalation:

Take affected persons into fresh air. If irritation persists, get medical attention.

In the event of splashes or contact with eyes:

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids

If there is any redness, pain or visual impairment, consult an

ophthalmologist.

In the event of splashes or contact with skin:

Watch out for any remaining product between skin and clothing, watches,

shoes, etc.

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.

In the event of swallowing:

4.2.) Most important symptoms and effects,

Seek medical attention, showing the label.

both acute and delayed
4.3.) Indication of any immediate medical

No data available.

attention and special treatment needed

No data available.

5.) FIREFIGHTING MEASURES

5.1.) Extinguishing media

Non-flammable.

Suitable methods of extinction

In the event of a fire, use:

- dry chemical agents

- sprayed water or water mist

- dry sand

Unsuitable methods of extinction

In the event of a fire, do not use:

- water jet

- Foam

5.2.) Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke, Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed:

- metal oxides, metal dust

Molten metal reacts violently with oxidising agents.

5.3.) Advice for firefighters

Wear full body protective clothing and appropriate self-contained breathing

apparatus.

Cool adjacent containers with water spray.

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

		24.02.2021
6.)	ACCIDENTAL RELEASE MEASURES	
6.1.)	Personal precautions, protective equipment and emergency procedures	Consult the safety measures listed under headings 7 and 8.
	For non first aid worker	Keep persons without protective equipment away from danger area.
	For first aid worker	First aid workers will be equipped with suitable personal protective equipment (See section 8).
6.2.)	Environmental precautions	Prevent any material from entering drains or waterways.
6.3.)	Methods and material for containment and cleaning up	Retrieve the product by mechanical means (sweeping/vacuuming).
6.4.)	Reference to other sections	No data available.
<u>7.)</u>	HANDLING AND STORAGE	Requirements relating to storage premises apply to all facilities where the mixture is handled.
7.1.)	Precautions for safe handling	Always wash hands after handling. The workplace must be ventilated and fumes must be captured at the emission source. Due to its high density, the product is heavy. Avoid the fall of the product. Wear protective shoes and gloves.
	Fire prevention:	Prevent access by unauthorised personnel.
	Recommended equipment and procedures:	For personal protection, see section 8. Observe precautions stated on label and also industrial safety regulations.
	Prohibited equipment and procedures:	No smoking, eating or drinking in areas where the mixture is used.
7.2.)	Conditions for safe storage, including any incompatibilities	No data available.
	Storage:	On spool, in original cardboard, at room temperature, keep away from inclemency. During 12 months. Do not store with food products.
	Packaging	Always keep in packaging made of an identical material to the original.
7.3.)	Specific end use(s)	No data available.
8.)	EXPOSURE CONTROLS/PERSONAL PROTECTION	
8.1.)	Control parameters	
	Occupational exposure limits	

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

24.02.2021

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Thershold LimitValues, 2010):

CAS	TWA:	STEL:	Ceiling:	Definition:	Criteria:
7440-31-5	2 mg/m3				
7439-92-1	0.05 mg/m3	-	-	-	-
7440-50-8	0.2 mg/m3	-	-	-	-
124-04-9	5 m/m3				

- France (INRS-ED984: 2012)

CAS	VME-ppm:	VME-mg/m3	VLE-ppm:	VLE-mg/m3:	Notes:	TMP No:
7439-92-1	-	0.15	-	-	-	1

- UK / WEL (Werkplace exposure limits, EH40/2005, 2007):

TWA:	Tin % wt	STEL:	Ceiling:	Definition:	Criteria:
7440-50-8	0.2 mg/m3	-	-	-	-

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

ADIPIC ACID (CAS: 124-04-9)

Final use: Workers.

Exposure method: Inhalation.

Potential health effects:

DNEL:

Short term local effects.
5 mg of substance/m3

TIN (Cas: 7440-31-5)

Final use: Workers.

Exposure method: Dermal contact.

Potential health effects: Short term systemic effects.

DNEL: Short term systemic effects.

133.3 mg/kg body weight/day

Exposure method: Dermal contact.

Potential health effects:

DNEL:

Long term systemic effects.

133.3 mg/kg body weight/day

Exposure method: Inhalation.

Potential health effects: Short term systemic effects.

DNEL: Short term systemic effects.

11.75 mg of substance/m3

Exposure method: Inhalation.

Potential health effects:

DNEL:

Long term systemic effects.

11.75 mg of substance/m3

Final use: Consumers.

Exposure method: Ingestion.

Potential health effects:

DNEL:

Short term systemic effects.

80 mg/kg body weight/day

Exposure method: Ingestion.

Potential health effects:

DNEL:

Long term systemic effects.

80 mg/kg body weight/day

Exposure method: Dermal contact.

Potential health effects: Short term systemic effects.

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

24.02.2021

DNEL:

80 mg/kg body weight/day

Exposure method:

Dermal contact.

Potential health effects:

Long term systemic effects.

DNEL:

80 mg/kg body weight/day

Exposure method:

Exposure method:

Inhalation.

Potential health effects:

Short term systemic effects. 3.476 mg of substance/m3

DNEL:

Inhalation.

Potential health effects:

Long term systemic effects. 3.476 mg of substance/m3

DNEL:

Predicted no effect concentration

(PNEC):

. .

ADIPIC ACID (CAS: 124-04-9)

Environmental compartment:

Soil.

PNEC:

0.0228 mg/kg

Environmental compartment:

Fresh water.

PNEC:

0.126 mg/l

. .._ ..

Sea water.

Environmental compartment: PNEC:

0.0126 mg/l

LEAD (CAS: 7439-92-1)

Environmental compartment:

Soil.

PNEC:

212 mg/kg

Environmental compartment:

Fresh water. 3.1 /I

Environmental compartment:

PNEC:

PNEC:

Sea water.

Environmental compartment:

Fresh water sediment.

PNEC:

174 mg/kg

Environmental compartment:

Marine sediment.

PNEC:

164.2 mg/kg

Environmental compartment:

Waste water treatment plant.

PNEC:

0.1 mg/l

8.2.) Exposure controls

Personal protective measures, such as

personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE):







Use personal protective equipment that is clean and has been properly maintained.

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

24.02.2021

Store personal protective equipment in a clean place, away from the work

area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation,

especially in confined areas.

Eye / face protection Avoid contact with eyes.

Before handling powders or dust emission, wear mask goggles in

accordance with standard EN 166.

Hand protection Wear suitable protective gloves in the event of prolonged or repeated skin

contact

Type of gloves recommended:

- cotton

Body protection Suitable type of protective clothing:

- protective work clothing

- protective shoes

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled

must be washed.

Respiratory protection Avoid breathing dust.

Type of FFP mask:

Wear a disposable half-mask dust filter in accordance with standard

EN149.

Independent breathing apparatus for respiratory protection:

It is recommended to set up a fumes exhaust system closer to their emission. In case of insufficient ventilation, wear suitable respiratory equipment. In case of formation of vapors, wear suitable respiratory

equipment with filter.

Thermal risks The product could cause burns during soldering.

9.) PHYSICAL AND CHEMICAL PROPERTIES

9.1.) Information on basic physical and chemical properties

General information:

Physical state: Solid

Important health, safety and environmental information

η**H**·

Boiling point/boiling range: Flash point interval: Vapour pressure (50°C):

Density:

Water solubility:

Melting point/melting range: Self ignition temperature:

Decomposition point/decomposition

range:

Not relevant. Not specified. Not relevant. Not relevant.

>1

Insoluble. Not specified. Not specified.

Not specified.

9.2.) Other information Density (Sn60Pb38Cu2): 8.65 @ 20°C

Solidus/Liquidus temperature (Sn60Pb38Cu2): 183°C / 190°C

Acid number (C): 190 mg/KOH/g Acid number (CA): 208 mg/KOH/g

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

	24.02.2021
	Chloride content (C) no chlorine Chloride content (CA): 0.86 % Chloride content (CMA): 0.53 %
10.) STABILITY AND REACTIVITY	
10.1.) Reactivity	The product is stable under normal conditions of use and storage, but reacts with strong oxidisers.
10.2.) Chemical stability	This mixture is stable under the recommended handling and storage conditions in section 7.
10.3.) Possibility of hazardous reactions	Reaction with strong oxidizers.
10.4.) Conditions to avoid	Avoid: -formation of dusts Dusts can form an explosive mixture with air.
10.5.) Incompatible materials	The product reacts with strong acids, especially with oxidisers acids.
10.6.) Hazardous decomposition products	No hazardous decomposition under normal conditions of use.
11.) TOXICOLOGICAL INFORMATION	
11.1.) Information on toxicological effects	Known human reproductive toxicant. May damage fertility and the unborn child.
11.1.1.)Substances:	Presents a risk on or via lactation.
Acute Toxicity:	
ADIPIC ACID (CAS: 124-04-9)	
Oral route:	LD50 = 5560 mg/kg Species: Rat
Dermal route:	LD50 > 7940 mg/kg Species: Rabbit
Inhalation route (n/a):	LC50 > 7.7 mg/l Species: Rat
COPPER (CAS: 7440-50-8)	
Oral route:	LD50 >= 300 mg/kg Species: Rat
Inhalation route (n/a):	LC50 >= 0.733 mg/l Species: Rat
LEAD (CAS: 7439-92-1)	Species: Others
TIN (CAS: 7440-31-5)	
Oral route:	2000 < LD50 <= 5000 mg/kg Species: Rat
Dermal route:	2,000 < LD50 <= 5000 mg/kg Species: Rat
Inhalation route (n/a):	LC50 > 4.75 mg/l

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

24.02.2021

Species: Rat

Skin corrosion/irritation: Tin is not irritating to the skin.

Copper is not irritating to the skin. Lead is not irritating to the skin.

Serious eye damage/irritation: Tin is not irritating to the eyes.

Copper is not irritating to the eyes. Lead is not irritating to the eyes.

Germ cell mutagenicity: Tin is not classified as mutagenic.

Massive copper does not show genotoxic effects.

Carcinogenicity: Tin does not show carcinogen effects.

COPPER (CAS: 7440-50-8)

Carcinogenicity Test: Negative.

No carcinogenic effects.

Species: Rat

Reproductive toxicant: Tin is not classified as reprotoxic.

COPPER (CAS: 7440-50-8) No toxic effects for reproduction

11.1.2.)Mixture

Acute Toxicity: No adverse health effect is expected under normal conditions of use.

Skin corrosion/irritation: 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.

Serious eye damage/irritation: May cause eye irritation due to the fumes during soldering.

Respiratory or skin sensitisation: Its use during soldering may produce or release fumes which can be

sensitizing for the respiratory system to asthmatics.

12.) ECOLOGICAL INFORMATION

12.1.) ToxicityDo not allow product to reach ground water, water source or sewage

system.

12.1.1) Substances

TIN (CAS: 7440-31-5)
Crustacean toxicity: EC50 = 1.303 mg/l

Species: Ceriodaphnia dubia

ADIPIC ACID (CAS: 124-04-9)

Fish toxicity: LC50 > 1000 mg/l

Species: Brachydanio rerio Duration of exposure: 96 h

Crustacean toxicity: EC50 = 46 mg/l

Species: Daphnia magna Duration of exposure: 48 h

LEAD (CAS: 7439-92-1)

Fish toxicity: LC50 = 0.107 mg/l

Species: Oncorhynchus mykiss

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

	24.02.2021
	Duration of exposure: 96 h
	NOEC = 0.0293 mg/l
Crustacean toxicity:	EC50 = 0.1075 mg/l Species: Daphnia magna Duration of exposure: 48 h
	NOEC = 0.009 mg/l Species: Daphnia sp.
12.1.2) Mixtures	No aquatic toxicity data available for the mixture.
12.2.) Persistence and degradability	
12.2.1) Substances	
ADIPIC ACID (CAS: 124-04-9) Biodegradability:	Rapidly degradable.
COPPER (CAS: 7440-50-8) Biodegradability:	no degradability data is available, the substance is considered as not degrading quickly.
12.3.) Bioaccumulative potential	
12.3.1) Substances	
ADIPIC ACID (CAS: 124-04-9) Octanol/water partition coefficient	log Koe = 0.093
12.4.) Mobility in soil	No data available.
12.5.) Results of PBT- und vPvB assessment	No data available.
12.6.) Other adverse effects	No data available.
13.) <u>DISPOSAL CONSIDERATIONS</u>	Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.
13.1.) Waste treatment methods	Do not pour into drains or waterways.
<u>Waste:</u>	Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.
	Recycle or dispose of waste in compliance with current legislation, preferably vis a certified collector or company. Do not contaminate the ground or water with waste, do not dispose of waste into the environment.
Soiled packaging:	Empty container completely. Keep label(s) on container. Give to a certified disposal contractor.
14.) TRANSPORT INFORMATION	Exempt from transport classification and labelling.
<u>14.1</u>) <u>UN number</u>	-
14.2) UN prober shipping name	-

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

24.02.2021 14.3) Transport hazard class(es) 14.4) Packing group 14.5) Environmental hazards 14.6) Special Precautions for Users 15.) REGULATORY INFORMATION 15.1.) Safety, health and environmental regulations/legislation specific for the substance or mixture Classification and labelling information included in section 2 The following regulations have been used: EU Regulation No. 1272/2008 amended by EU Regulation No. 2016/1179. (ATP 9) Container information: No data available. Usage restrictions apply to the product: See annex XVII of EC regulation No. 1907/2006. For professional users only. Particular provisions: No data available. No data available. 15.2.) Chemical safety assessment 16.) OTHER INFORMATION We cannot anticipate any and all conditions and situations under which the information and our products or the combination of both with others will be used. We do not assume any liability in the safety and suitability of our products alone or in combination with others. Users must make their own tests to determine the safety and suitability of each product used alone or with other products for their own use. Except any previous written agreement, our products are sold without guarantee and customers must assume all liability for any loss or damage suffered by themselves or by third parties, either from handling or use of our products alone or with others. In case of any difference or variation seen during the use of the products we request that you contact our technical department. H319 Causes serious eye irritation. 16.1) Wording of the phrases mentioned H360FD May damage fertility. May damage the in section 3: unborn child. H362 May cause harm to breast-fed children. **DNEL**: Derived No-Effect Level 16.2) Abbreviations PNEC: Predicted No-Effect Concentration CMR: Carcinogenic, mutagenic or reprotoxic. ADR: European agreement concerning the international carriage of dangerous goods by Road. IMDG: International Maritime Dangerous Goods. IATA: International Air Transport Association. ICAO: International Civil Aviation Organisation

RID: Regulations concerning the International carriage of

Zentrum für Löt- und Entlötsysteme



EDSYN GMBH EUROPA, Postfach 1169, D-97888 Kreuzwertheim

	24.02.2021
Dangerous goods by rail. GHS08: Health hazard PBT: Persistent, bioaccumulable and toxic. vPvB: Very persistent, very bioaccumulable. SVHC: Substances of very high concern.	

Copyrights reserved to EDSYN GMBH EUROPA