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MATERIAL SAFETY DATA SHEET

[In accordance with COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Official Journal of the European Union No L.132 of 29.05.2015)]

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Trade name: **SOLDER WIRE WITH FLUX**

S-Sn63Pb37, S-Sn60Pb40 with flux EVO, EVO11, PRO, SW26, SW26G, RC1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses:

tin-lead solder wire with flux core. Soft soldering manual and automatic

Uses advised against:

Not determined

1.3 Details of the supplier of the safety data sheet

Supplier: **Cynel-Unipress Sp z o.o.**

Address: ul. Białołęcka 231B, 03-253 Warszawa, Poland

Telephone/Fax number: +48 22 519 29 48/ 22 519 29 46

E-mail address : marketing@cynel.com.pl

1.4 Emergency telephone number

Emergency Phone # : 112

Section 2. Hazards identification

2.1 Classification of the substance or mixture

May cause an allergic skin reaction, Skin Sens 1 H317

2.2 Label elements

Hazard pictograms and signal words



WARNING

Product identifier

Contains lead

Hazard statements

If skin irritation or rash occurs: Get medical advice/attention.

2.3 Other hazards

Lead in the metallic form is not classified as dangerous. However, there is a danger of lead poisoning in its processing. Fumes and vapours of lead, separating during the processes of soldering are damaging and irritating



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to the respiratory system. Lead compounds such as oxides and alloys have toxic and mutagenic effects, may accumulate in the body and impair fertility.

No information whether the mixture meets criteria for PBT or vPvB in accordance with Annex XIII of Regulation REACH.

Section 3. Composition/Information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures:

Tin (Sn)

Range of percentages: 57,72 – 61,60%
CAS number: 7440-31-5
EC number: 231-141-8
Registration number: 01-2119486474-28-XXXX
Classification acc. to 1272/2008/EC: not classified

Substance with defined value of the permissible concentration in the working environment at Community level.

lead metallic (Pb)

Range of percentages: 35,40 – 58,69%
CAS number: 7439-92-1
EC number: 231-100-4
Registration number: 01-6211951322165-96-0056
Classification acc. to 1272/2008/EC: not classified

Substance with defined value of the permissible concentration in the working environment at Community level.

Rosin:

Range of percentages: ≤ 3%
CAS number: 8050-09-7
EC number: 231-100-4
Registration number: 01-2119480418-32-XXXX
Classification acc. to 1272/2008/EC: Skin Sens 1 H317

Full text of each relevant H phrase is given in section 16.

Section 4. First aid measures

4.1 Description of first aid measures

General information: at room temperature (outside of the dangers of a mechanical nature), alloy in metallic form does not pose risk to human health and life. But in the process of soldering the main risks are: high temperature, solder fumes and vapours.

Skin contact:



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Wire: wash the affected skin thoroughly with soap and water.

In the process of soldering: possible thermal burn. Damaged skin rinse with cold water. Apply a sterile dressing. Consult with the doctor.

Eye contact:

Wire: exposure not possible. However, if filings get into eyes, immediately wash out with plenty of water with the eyelid hold wide open, for at least 10-15 min. Remove any contact lenses. Obtain medical attention if necessary.

In the process of soldering: splashes of molten metal can cause burns. Apply a sterile dressing. Immediately consult an ophthalmologist.

Ingestion: exposure not possible.

Inhalation:

Wire: exposure not possible.

In the process of soldering: take victim to fresh air and obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact: may cause irritation, redness.

Skin contact: may cause redness, burning sensation, burns (during soldering)

After inhalation of fumes soldering: fumes and vapours can cause headaches, dizziness, respiratory tract irritation, danger of cumulative effects.

4.3 Indication of any immediate medical attention and special treatment needed

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured.

Section 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: CO₂, extinguishing powder, foam, water spray. Use extinguishing measures that are appropriate to the environment

Unsuitable extinguishing media: water jet – risk of the propagation of the flame

5.2 Special hazards arising from the substance or mixture

During combustion may release toxic gases, vapors, and fumes. Do not inhale combustion products – it can be dangerous for health.

5.3 Advice for firefighters

Personal protection typical in case of fire. Self-contained breathing apparatus and protective clothing should be worn.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Use personal protective equipment.



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6.2 Environmental precautions

In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify the appropriate emergency services.

6.3 Methods and material for containment and cleaning up

Pick it up mechanically. Treat collected material like a waste or reuse it.

6.4 Reference to other sections

Appropriate conduct with waste product – section 13

Appropriate personal protective equipment – section 8

Section 7. Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Ensure adequate ventilation during the soldering process. Before break and after work wash carefully hands. Avoid contact with eyes and skin. Do not breathe fumes in the process of soldering. Unused containers keep tightly closed.

7.2 Including any incompatibilities

Keep only in original, tightly closed containers in dry and well-ventilated place. Store at temp. 5-25°C. An acceptable level of humidity 20-80%. Keep away from food and beverages. Keep away from strong oxidants, acids and bases.

7.3 Specific end uses

Product used in the manufacture of low-melting solder pastes.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Airborne Exposure Limits:

For tin:

-ACGIH Threshold Limit Value (TLV): 2 mg/m³ (TWA)

-OSHA Permissible Exposure Limit (PEL): 2 mg/m³ (TWA)

For lead:

-ACGIH Threshold Limit Value (TLV): 0,05 mg/m³ (TWA)

-OSHA Permissible Exposure Limit (PEL): 0,05 mg/m³ (TWA)

Regulation of the Minister of Labour and Social Policy of 6 June 2014. On maximum permissible concentration and intensity of harmful factors in the work environment (Dz.U. 2014 poz. 817)

Specification	NDS	NDSCh	NDSP
Tin [CAS 7440-31-5] and its inorganic compounds - fume and dust	2 mg/m ³	—	—



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Lead [7440-36-0] and its inorganic compounds	0,05 mg/m ³	—	—
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Royal Decree of 11 March 2002 on the protection of the health and safety of workers against the risks related to chemical agents at work (MB 14.3.2002, Ed 2; Erratum MB 26.6.2002, 2 Ed.)

Specification	Value limit [ppm]	Value limit [mg/m ³]	Value short [ppm]	Short value duration [mg/m ³]	classification additional
Lead [7439-91-1]	—	0,15	—	—	—
Tin [CAS 7440-31-5]	—	0,1	—	0,2	D ¹⁾

1) D means that the absorption of the agent through the skin, mucous membranes or eyes, is an important part of the exhibition total. This reduction can be done both by direct contact and by the presence of the agent in the air.

List of MAK and BAT Values 2014 Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area

Specification	MAK [ppm]	MAK [mg/m ³]	Peak limitation	Pregnancy risk group
Tin [CAS 7440-31-5]	—	0,1	—	0,2
Lead [7439-91-1] and its inorganic compounds	*BLW, BAR		—	—

* BLW 300µg/l (women >45 years and men, BAR 70µg/l (women)

Please check also any national occupational exposure limit values in your country.

8.2 Exposure controls

Use the product in accordance with good occupational hygiene and safety practices. Ensure locally ventilation of every working place (the sucker over the releasing fumes place) and general ventilation. When handlings do not eat, drink or smoke. Before break and after work carefully wash hands.

Wire

Hand and body protection – not required. Eye protection – not required. Respiratory protection – not required. Soldering process

Hand and body protection - wear protective gloves and protective clothing that can prevent injuries associated with the high temperature of molten solder.

It is recommended to regularly change gloves and replace them immediately if appear any signs of damage or change in appearance (colour, elasticity, shape).

Eye/face protection - in case of risk of the eyes contamination or at high concentrations of fumes wear eye protection.

Respiratory protection - use respiratory protection in case of exceeding the limit values or inadequate ventilation.

Personal protective equipment must meet requirements of directive 89/686/CE. Employer is obliged to ensure equipment adequate to activities carried out, with quality demands, cleaning and maintenance.

Environmental exposure controls



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Do not allow the product to contaminate ground water, sewage, waste water or soil.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

physical state:	solid
colour:	grey, metallic
odour:	odour-free
threshold:	not determinate
pH:	not applicable
melting point/freezing point for	183 - 190 °C
initial boiling point and boiling range:	not determinate
flash point:	not applicable
evaporation rate:	not determinate
flammability (solid, gas):	not flammable
upper/lower flammability or explosive limits:	not applicable
vapour pressure (20 °C):	not applicable
relative vapour density:	not determinate
vapour density:	not determinate
density (20 °C):	8,65 g/cm ³
solubility(ies):	not soluble in water
partition coefficient: n-octanol/water:	not determinate
auto-ignition temperature:	not self-ignition
decomposition temperature:	not determinate
explosive properties:	not display
oxidising properties:	not display
viscosity (20 °C):	not applicable

9.2 Other safety information

No additional data

Section 10. Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is stable under normal conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Moisture.



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10.5 Incompatible materials

Oxidizing agents, acids

10.6 Hazardous decomposition products

Not known.

Section 11. Toxicological information

11.1 Information on toxicological effects

Tin

LD50 (oral, rat) > 2 000 mg/kg

LD50 (skin, rat) > 2 000 mg/kg

LC50 (inhalation, rat) > 4,75 mg/l/4h

Lead

TCL₀ (inhalation, man) 0,01 mg/m³

TDL₀ (oral, rat) 790-1140 mg/kg

Lead compounds damage the peripheral and central nervous system and cause anemia, mainly due to inhibition of synthesis of hemoglobin red blood cells. Lead accumulates in the body, mainly in the bones, as well as in the kidney and other tissues. Acute symptoms of poisoning may occur after a few days of exposure to high concentrations of dust or fumes in excess of the airborne limit values. Symptoms of exposure include abdominal pain, diarrhea followed by constipation, loss of appetite, metallic taste in the mouth, nausea, vomiting, fatigue, insomnia, muscle weakness, joint pain, irritability, headache, dizziness, increased blood pressure. May occur anemia, kidney damage, liver and female gonads and central nervous system. Lead compounds cause severe irritation and hypersensitivity of respiratory tract, shortness of breath, short breath and asthma symptoms. There is a danger of cumulative effects.

In the form of dust or fumes is irritating. May cause shortness of breath, fever, general weakness, sweating, resolving without treatment (so-called smoke-induced fever metals). Dusts may cause mechanical irritation of the conjunctiva with tearing, pain, congestion.

Acute component toxicity

Tin

In the form of dust or fumes is irritating. May cause shortness of breath, fever, general weakness, sweating, resolving without treatment (so-called smoke-induced fever metals). Dusts may cause mechanical irritation of the conjunctiva with tearing, pain, congestion.

Toxicity of mixture

Based on available data, the classification criteria are not met.

Product toxicity

Eye contact during soldering: may cause irritation, redness, tearing.

Skin contact during soldering: may cause skin irritation, redness, burning, pain.

After inhalation of fumes soldering: fumes and vapours can cause headaches, dizziness, respiratory tract irritation



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Section 12. Ecological information

12.1 Toxicity

No specific toxicity test results. This product is not classified as dangerous for the environment.

However, lead compounds such as oxides and salts are toxic for aquatic organisms. Maximum concentrations of lead in sewage for industrial heating is 0,1 mg/dm³; for other types of wastewater is 0,5 mg/dm³. The permissible level of lead in ambient air is 0,5 µg/m³ when averaged over a calendar year.

12.2 Persistence and degradability

No data

12.3 Bioaccumulative potential

Risk of accumulation of heavy metals in aquatic organisms

12.4 Mobility in soil

Poorly mobile in soil and aquatic environment. Heavier than water, sinks to the bottom and stays there

12.5 Results of PBT and vPvB assessment

Not determinate.

12.6 Other adverse effects

This product has no influence on the global warming or the ozone layer depletion

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods for the product: disposed of in accordance with applicable regulations. Do not remove with household waste. Residues stored in their original containers. Recycle or re-processed. Recommended way of disposing of waste: thermal transformation.

Disposal methods for used packing: recovery / recycling / elimination of packaging waste carried out in accordance with applicable regulations. Only completely emptied packaging can be recycled.

Section 14. Transport information

14.1 UN number

Not applicable, product is not classified as hazardous during transport.

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable



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14.4 Packaging group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Not necessary

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Section 15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.

Commission Regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (Text with EEA relevance).

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with later changes (adaptation to technical and scientific progress 1-10 ATP)

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Proposal for harmonised classification and labelling, based on regulation (EC) No 1272/2008 (CLP Regulation), Annex VI, Part 2, 20 September 2012

Regulation of the Minister of Labour and Social Policy of 6 June 2014. On maximum permissible concentration and intensity of harmful factors in the work environment (Dz.U. 2014 poz. 817)

Royal Decree of 11 March 2002 on the protection of the health and safety of workers against the risks related to chemical agents at work (MB 14.3.2002, Ed 2; Erratum MB 26.6.2002, 2 Ed.)

List of MAK and BAT Values 2014 Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area



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Council Directive 91/689/EEC of 12 December 1991 on hazardous waste
Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and
repealing certain Directives (Text with EEA relevance)

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), concluded in
Geneva on 30 September 1957 (Dz. U. Nr 110, poz. 641).

15.2 Chemical Safety Assessment

There are no data on the safety assessment for chemical substances contained in the mixture

Section 16. Other information

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding
handling chemicals, and in particular, undergo proper workplace training.

Date of issue: 10.07.2015

Version: 1.1/EN

The information above is based on a current available data concerning the product, but also on the experience
and knowledge in this field of the producer. They are neither a quality description of the product nor a guarantee
of particular features. They are to be treated as aid to safety in transport, storage and usage of the product. That
does not free the user from the responsibility of improper usage of the information above and also of improper
compliance with the law norms in the field.

Explanation of abbreviations and acronyms

PBT Persistent, Bioaccumulative and Toxic substance

vPvB very Persistent, very Bioaccumulative substance

TWA Time Weighted Average

TLV Threshold Limit Value

PEL Permissible Exposure Limit

Skin Sens H317 May cause an allergic skin reaction

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding
handling chemicals, and in particular, undergo proper workplace training.

Other data Classification of the substances on the basis of information from ECHA. Classification of mixture
was performed on the basis of the data concerning the contents of dangerous components using calculation
method based on the Regulation (EC) No 1272/2008 (CLP).