



# MATERIAL SAFETY DATA SHEET

[In accordance with the criteria of Regulation No 1907/2006 (REACH) and 453/2010]

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

### 1.1 Product identifier

**TIN COPPER LEAD FREE RESIN CORED SOLDER WIRE**

**1.1.3**

**F4V12**

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

Relevant identified uses: lead-free solder with flux core (wires). Soft soldering manual and automatic.

Uses advised against: not determinate.

### 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 for a competent person responsible for msds: [biuro@theta-doradztwo.pl](mailto:biuro@theta-doradztwo.pl)

### 1.4 Emergency telephone number

112

## Section 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Human health hazards

Irritant. May cause sensitisation by skin contact.

#### Environmental effects

Not classified as dangerous for the environment.

#### Physicochemical adverse effects

None.

### 2.2 Label elements\*

#### Hazard symbols

None.

#### Substance name for labeling

None.

#### Risk phrases

None.

#### Safety phrases

None.

\* According to Directive 1999/45/EC, metal alloys, non-hazardous to human health as they are marketed, must not be labeled in accordance with the provisions of the Directive.

### 2.3 Other hazards

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



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## Section 3: Composition/information on ingredients

### 3.1 Substances

Not applicable.

### 3.2 Mixtures


#### Tin (Sn)

Range of percentages: 96-99,7%  
 CAS number: 7440-31-5  
 EC number: 231-141-8  
 Registration number: substance comes under the law of temporary period  
 Classification acc. to 67/548/EC: not classified  
 Classification acc. to 1272/2008/EC: not classified

#### Copper (Cu)

Range of percentages: 0,3-3,5%  
 CAS number: 7440-50-8  
 EC number: 231-159-6  
 Registration number: substance comes under the law of temporary period  
 Classification acc. to 67/548/EC: not classified  
 Classification acc. to 1272/2008/EC: not classified

#### Rosin

Range of percentages: < 3%  
 CAS number: 65997-06-0  
 EC number: 266-041-3  
 Registration number: substance comes under the law of temporary period  
 Classification acc. to 67/548/EC:  Xi R36/37/38  
 Classification acc. to 1272/2008/EC: Eye Irrit. 2, H319; STOT SE. 3, H335; Skin Irrit. 2, H315

#### Rosin (colophony)

Range of percentages: < 3%  
 CAS number: 8050-09-7  
 EC number: 232-475-7  
 Registration number: substance comes under the law of temporary period  
 Classification acc. to 67/548/EC: R43  
 Classification acc. to 1272/2008/EC: Skin Sens. 1, H317

Full text of R and H phrases is provided in Section 16.

## Section 4: First aid measures

### 4.1 Description of first aid measures

#### Skin contact:

Solder: exposure not possible. However, in the event of exposure 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:

Solder: 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.



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## Inhalation:

Solder: 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 during soldering: may cause irritation, redness, tearing.

Skin contact during soldering: may cause skin irritation, redness, burning, pain. May cause allergic reactions at very sensitive people.

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

## 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: CO<sub>2</sub>, 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. Use personal protective equipment. Do not inhale dust.

### 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. See also section 8.

### 7.2 Conditions for safe storage, including any incompatibilities

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

### 7.3 Specific end use(s)

Lead-free solder with flux core (wires). Soft soldering manual and automatic.



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## Section 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Airborne Exposure Limits:

For tin:

-ACGIH Threshold Limit Value (TLV): 2 mg/m<sup>3</sup> (TWA)

-OSHA Permissible Exposure Limit (PEL): 2 mg/m<sup>3</sup> (TWA)

For copper:

-ACGIH Threshold Limit Value (TLV): 0,2 mg/m<sup>3</sup> (TWA)

-OSHA Permissible Exposure Limit (PEL): 0,1 mg/m<sup>3</sup> (TWA)

### 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.

#### Solder

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

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:	odourless
odour threshold:	not determinate
pH:	not applicable
melting point/freezing point:	227÷240°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):	7,4 g/cm <sup>3</sup>
solubility(ies):	not soluble in water
partition coefficient: n-octanol/water:	not determinate
auto-ignition temperature:	not self-ignition
decomposition temperature:	not determinate



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explosive properties:  
oxidising properties:  
viscosity (20°C):

not display  
not display  
not applicable

## 9.2 Other information

No additional data.

## Section 10: Stability and reactivity

### 10.1 Reactivity

Product is reactive; reacts with oxidants, peroxides, acids and bases.

### 10.2 Chemical stability

The product is stable under normal conditions.

### 10.3 Possibility of hazardous reactions

In contact with incompatible materials reacts violently with emission of heat. In contact with acids and bases reacts with liberation of hydrogen.

### 10.4 Conditions to avoid

Moisture.

### 10.5 Incompatible materials

Strong oxidants, bromine, chlorine trifluoride, copper nitrate, ammonium nitrate, sodium and potassium peroxide, hydrogen peroxide, sodium nitride, chlorine, acids, bases.

### 10.6 Hazardous decomposition products

Not known.

## Section 11: Toxicological information

### 11.1 Information on toxicological effects

Information on the acute and / or delayed effects of exposure have been identified on the basis of information on product classification and / or toxicological studies.

#### 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.

Product may cause allergic reactions at highly sensitive people during long-term direct contact with skin.

## Section 12: Ecological information

### 12.1 Toxicity

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

### 12.2 Persistence and degradability

Not biodegradable.

### 12.3 Bioaccumulative potential

Danger of cumulative effects 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.



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## 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.

Legal basis: Directive 2006/12/EC, European Parliament and Council Directive 94/62/EC, Council Directive 91/689/EEC.

## 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.

### 14.4 Packing group

Not applicable.

### 14.5 Environmental hazards

Not classified as dangerous for the environment.

### 14.6 Special precautions for user

During cargo handling wear personal protective equipment as described in section 8.

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

Not applicable.

## Section 15: Regulatory information

### 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.

**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 (Text with EEA relevance).

**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).

**Commission Regulation (EU) No 453/2010** of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Text with EEA relevance).

**Directive 2006/12/EC** of the European Parliament and of the Council of 5 April 2006 on waste.

**European Parliament and Council Directive 94/62/EC** of 20 December 1994 on packaging and packaging waste.

**Council Directive 91/689/EEC** of 12 December 1991 on hazardous waste.



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### 15.2 Chemical safety assessment

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

### Section 16: Other information

#### Full text of indicated R- and H- phrases mentioned in section 3

R36/37/38	Irritating to eyes, respiratory and skin.
R43	May cause sensitisation by skin contact.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H315	Causes skin irritation.
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.

#### Explanation of abbreviations and acronyms

Eye Irrit. 2	Eye irritation category 2
STOT SE. 3	Specific Target Organ Toxicity – single exposure, category 3
Skin Irrit. 2	Skin irritation category 2
Skin Sens. 1	Skin sensation category 1

#### Other data

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Composed by:	Joanna Puchalska-Gad (on the basis of producer's data).
Safety Data Sheet made by:	„ <b>THETA</b> ” Doradztwo Techniczne

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.