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

1.1 Product identifier

TRADE NAME:

Lead & tin & copper soft solder alloys with flux SW26 / RC1

OTHER NAME:

Sn60Pb38Cu2 RC1/3/2,2% (1.1.2.B)
Sn60Pb38Cu2 RC1/2,2% (1.1.2.B)
Sn60Pb38Cu2 SW26/3/2,2% (1.1.2.B)
Sn60Pb38Cu2 SW26/2,2% (1.1.2.B)

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

RELEVANT IDENTIFIED USES:

Intended for industrial and professional applications. Restricted to professional users.

USES ADVISED AGAINST:

Consumer and not identified uses.

1.3 Details of the supplier of the safety data sheet

Supplier: Transfer Multisort Elektronik Ltd.
Coleshill, Birmingham Coleshill House Suite 1C, 1 Station Road
+44 1675790026 e-mail: office@tme-uk.eu

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 in Poland (open: 8.00 a.m.-4.00 p.m.)
+48 22 519 29 48 or +48 22 519 29 49

Section 2: Hazards identification

2.1 Classification of the substance or mixture

CLASSIFICATION ACCORDING TO REGULATION (EC) NO 1272/2008

Reproductive toxicity, Hazard Category 1A (Repr. 1 A)
May damage fertility. May damage the unborn child (H360FD)
Reproductive toxicity, Additional category, Effects on or via lactation (Lact.)
May cause harm to breast-fed children (H362)
Specific target organ toxicity — Repeated exposure, Hazard Category 1 (STOT RE1)
Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion (H372)

Sensitization, Skin hazard category 1 (Skin Sens 1)
May cause an allergic skin reaction (H317)

HARMFUL EFFECTS OF HUMAN HEALTH EFFECTS:

May cause an allergic skin reaction. May damage fertility. May damage the unborn child. May cause harm to breast-fed children. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion.
There is a danger of lead poisoning in its processing. Fumes and vapors of lead, separated during the processes of soldering are damaging and irritating to the respiratory system. Lead compounds such as oxides and alloys have toxic and mutagenic effects, may accumulate in the body and impair fertility.

EFFECTS OF OPERATION ON THE ENVIRONMENT:

If you use rightly, does not pose a threat to the environment.

EFFECTS OF ACTION RELATED TO PHYSICOCHEMICAL PROPERTIES:

Not applicable

2.2 Label elements

HAZARD SYMBOLS:

Danger

RISK PHRASES:

H360FD May damage fertility. May damage the unborn child.
H362 May cause harm to breast-fed children.
H372 Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion.
H317 May cause an allergic skin reaction

SAFETY PHRASES:

P260 Do not breathe dust/fume.
P308 + P313 If exposed or concerned: Get medical advice/ attention.
P501 Dispose of contents/container to authorized waste collector.

OTHER INFORMATION:

Contains rosin. Contains lead. Restricted to professional users.

2.3 Other hazards

When applying or processing products containing lead and lead-based products there is a risk of lead poisoning. The criteria for PBT or vPvB according to Annex XIII of Regulation REACH do not apply to inorganic substances.
The mixture does not contain substances included on the list established in accordance with Article 59(1) as having endocrine disrupting properties and substances with endocrine disrupting properties in accordance with the criteria laid down in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

Section 3: Composition/Information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures:

TIN (Sn):

Range of percentages:	57,50 – 60,50 %
CAS number:	7440-31-5
EC number:	231-141-8
Registration number:	01-2119486474-28-0000
Classification acc. to 1272/2008/EC:	not classified

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

LEAD (Pb) MASSIVE: [PARTICLE DIAMETER ≥ 1 MM]

Range of percentages:	35,50 – 38,50 %
CAS number:	7439-92-1
EC number:	231-100-4
UN number:	082-014-00-7
Registration number:	01-2119513221-59-0056
Classification acc. to 1272/2008/EC:	Lact. H362, Repr.1A H360FD, STOT RE1 H372

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

COPPER (Cu):

Range of percentages:	1,20 – 1,60%
CAS number:	7440-50-8
EC number:	231-159-6
Registration number:	01-2119480154-42-0045
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:	0 – 3,0%
CAS number:	8050-09-7
EC number:	232-475-7
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), calophony 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.

In case of health problems, immediately contact to a doctor or poison control center. Please check vital functions. If victim is unconscious, please provide adequate ventilation. Prevent the victim from cooling down.

SKIN CONTACT:

Solder alloy: In case of exposure wash the affected skin thoroughly with soap and water.

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

EYE CONTACT:

Solder alloy: if filings get into the eyes, immediately rinse with plenty of water with the eyelids wide open, for at least 10-15 min. Consult an ophthalmologist.

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

INGESTION:

Rinse mouth with water. Do not induce vomiting without medical advice. Consult a physician.

The form of the product causes that exposure is unlikely. Consume the product may be a consequence of not following basic hygiene rules, e.g. washing hands after work or exposure to high concentrations of dust and fumes in the workplace.

INHALATION:

Wire: exposure not possible.

In the process of soldering: take the affected person to fresh air and obtain medical ensure help. Symptoms of poisoning may appear after a few days.

4.2 Most important symptoms and effects, both acute and delayed

Lead is bioaccumulating in the body. Exposure to low concentrations of lead can provides increased levels of lead in the body to toxic levels. Symptoms of chronic poisoning can be similar to food poisoning.

EYE CONTACT:

may cause irritation, redness, tearing.

SKIN CONTACT:

may cause redness, burning sensation, bums (during soldering). Lead can be absorbed through the intact skin as a result of prolonged contact.

INHALATION:

irritation of respiratory tract, cough, headaches and dizziness.

Lead can cause “fever of foundry” with metallic taste in the mouth, fever, chills, cough, weakness, muscle aches, increased white blood cell count, gastrointestinal irritation with nausea, vomiting

and diarrhea. After absorption into the blood, lead is toxic to the hematopoietic system, the central nervous system and the kidneys. Symptoms of lead poisoning include: general weakness, loss of weight, insomnia, hypotension, constipation, anorexia, abdominal pain, colic. Symptoms of exposure may only appear after a few days.

INGESTION:

Symptoms of lead poisoning include: general weakness, loss of weight, insomnia, hypotension, constipation, anorexia, abdominal pain, colic.

4.3 Indication of any immediate medical attention and special treatment needed

A decision regarding further medical treatment by a physician should be made after thorough examination of the injured.

Section 5: Firefighting measures

5.1 Extinguishing media

SUITABLE EXTINGUISHING MEDIA:

extinguishing powder, sand

Extinguishing with extinguishing powders or sand promotes the limitation of the release of toxic fumes of lead, lead oxides and other metals.

UNSUITABLE EXTINGUISHING MEDIA:

CO_2, foam, water jet – risk of the propagation of the flame

5.2 Special hazards arising from the substance or mixture

Non-combustible product. During the combustion at> 400° C may be create products with toxic and irritating fumes contains lead, tin and copper. Do not inhale combustion products – it can be dangerous to 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 to the breakdown area for the outsiders, until the suitable cleaning operations are completed. Use personal protective equipment. Ensure that the consequences of failure are removed by trained personnel only. Do not inhale dust. Avoid direct contact with the product. There must be adequate ventilation. Wear a face mask if the ventilation is insufficient.

FOR NON-EMERGENCY PERSONNEL

Use protective clothing made of natural materials (cotton) or synthetic fibers, gloves made of nitrile. Use safety goggles. Do not inhale dust, smoke, vapour. Remove sources of ignition. . Ensure that the consequences of failure are removed by trained personnel only.

FOR EMERGENCY RESPONDERS

Use protective clothing made of natural materials (cotton) or synthetic fibers. Use full safety mask. Do not inhale dust, smoke, vapour. Remove sources of ignition. Mark the contamination of the area.

6.2 Environmental precautions

Prevent entry into drains, surface and ground water and soil. In case of release of large amounts of the product, notify the appropriate emergency services.

6.3 Methods and material for containment and cleaning up

Pick it up mechanically. Avoid dust formation during collection. The waste must be collected and transported in sealed container. Treat collected material like a waste or reuse it. Hand over the waste to waste management companies.

6.4 Reference to other sections

Appropriate conduct with waste product – section 13
Appropriate personal protective clothing – section 8

Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices Before break and after work wash hands carefully. Avoid contact with eyes and skin. Do not breathe fumes in the process of soldering. Ensure proper ventilation during soldering process. Do not eat, drink and smoke during the handling. Avoid creating dust in the workplace. Use as intended. Wear personal protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

Keep in properly labeled original packaging. Keep in a dry and well-ventilated place. Keep away from strong acids and oxidants. Store at temp. 5-30˚C. The recommended humidity level of 20-80%. Keep away from food and beverages.

7.3 Specific end use(s)

The product for manual and automatic soft soldering restricted to professional users.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Follow the procedures for monitoring the concentrations of hazardous components in the air and the procedures for the control of air quality in the workplace - as long as they are available and reasonable on a given workplace - according to the relevant European Standards. Take into account the conditions at the site of exposure and appropriate measurement methodology adapted to working conditions.

THE FOLLOWING CURRENT NATIONAL OCCUPATIONAL EXPOSURE LIMIT VALUES APPLY (EUROPEAN UNION):

Specification	TLV-TWA [µg/m^3] *	TLV-STEL [mg/m^3]
Lead and its inorganic compounds	100	—
Tin and its inorganic compounds	—	—
Copper and its inorganic compounds	10	—

* Measured or calculated in relation to a reference period of eight hours as a time-weighted average.

LIST OF MAK AND BAT VALUES 2022 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	-		—	—
Lead and its inorganic compounds (inhalable fraction) except lead arsenate and lead chromate	0,004I mg/m^3		II (8)	A
Copper	0,01R		II (2)	C

Specification	BV[3)]	Value or correlation	Assay material[8)]	Sampling time[9)]
Lead [7439-92-1] and its inorganic compounds (except lead arsenate and lead chromate)	Carc cat:[6)]	4	Preg(BAT)[7)]	A
	BAT[4)]	150 µg/l	B	a
	BAR[5)]	30 µg/l see Section XV.1 for women	B	a
		40 µg/l see Section XV.1 for men	B	a
Copper and its inorganic compounds	BAT	not established	U	-
	BLW	not established	U	-

1) BV = assessment values in biological material

2) (BAT/ /BAR) BAT = biological tolerance value ("Biologischer Arbeitsstoff-Toleranz-Wert")

3) BAR = biological reference value ("Biologischer Arbeitsstoff-Referenzwert")

4) Carc cat = Carcinogen category

5) Preg(BAT) = Pregnancy Risk Group for BAT value

6) Assay material: B = whole blood , U = urine

7) Sampling time: a = not fixed

8) R, I see section Vd

9) I/II or "–" see Section VI

10) A, B, C – see Section VIII

MAXIMUM ADMISSIBLE CONCENTRATIONS AND INTENSITIES FOR AGENTS HARMFUL TO HEALTH IN THE WORKING ENVIRONMENT IN POLAND, DZ.U. 2018 POZ. 1286 AS AMENDED

Specification	NDS [mg/m^3]	NDSCh [mg/m^3]	NDSP [mg/m^3]	Number of fibers [cm^3]	Remark [2)]
Lead and its inorganic compounds with the exception of lead (II) arsenate (II) and lead (II) chromate (VI) - calculated on Pb - inhalable fraction [1)]	0,05	—	—	—	—
Tin and its inorganic compounds, except for stannane - calculated as Sn, inhalable fraction [1)]	2,0	—	—	—	—
Dusts are not classified due to toxicity	10	—	—	—	—
Copper and its inorganic compounds	0,20	—	—	—	—

11) Inhalable fraction - an aerosol fraction penetrating through the nose and mouth, which when deposited in the airways poses a health hazard, determined in accordance with the PN-EN 481 standard.

12) Labeling the substance with the term "skin" means that the absorption of substances through the skin can be just as important as with inhalation

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

PNEC LEAD

	Value	Assessment factor	Remarks/Justification
PNEC freshwater sediment (mg/kg d.w.)	174	3	Based on the use of the species sensitivity distribution approach
PNEC freshwater sediment (mg/kg d.w.)	41	10	Based on AVS correction
PNEC marine sediment (mg/kg d.w.)	164	3	Based on the use of the species sensitivity distribution approach and pooling of AVS - freshwater/marine toxicity data
PNEC aqua – freshwater (µg/L)	5,6 µg dissolved Pb/L	3	Based on the use of the SSD approach and for normalization of the toxicity data at reasonable worst case DOC of 2.6 mg/l
PNEC aqua - marine water (µg/L)	3,4 µg dissolved Pb/L	3	Based on the use of the species sensitivity distribution approach
PNEC soil (mg/kg d.w.)	147	2	Based on the use of the species sensitivity distribution approach
PNEC – oral (mg/kg food) for birds	16,9	6	----------
PNEC - oral (mg/kg paszy) for mammals	10,9	6	----------
PNEC STP (mg/L)	0,1	10	----------

TIN

DNEL inhalation (long-term) worker 71 mg / m³
DNEL skin (long-term) worker 10 mg / kg body weight / day
DNEL inhalation (long-term) consumer 17 mg / m³
DNEL skin (long-term) consumer 80 mg / kg body weight / day
DNEL oral (long-term) consumer 5 mg / kg body weight / day

COPPER

DNEL skin (long-term) worker 137 mg / kg body weight / day
DNEL skin (long-term) consumer 137 mg / kg body weight / day
DNEL oral (long-term) consumer 0.041 mg / kg body weight / day
PNEC freshwater 6.3 µg / L (assessment factor 1)
PNEC marine waters 5.2 µg mg / l (assessment factor 1)
PNEC sewage treatment plant 230 µg / l (assessment factor 1)
PNEC freshwater sediments 87 mg / kg (assessment factor 1)
PNEC marine sediments 676 mg / kg
PNEC soil 65 mg / kg (assessment factor 2)

DNEL LEAD FOR WORKERS

Exposure pattern	Route	Descriptors	DNEL/DMEL (appropriate unit)	Most sensitive endpoint
Long-term – systemic effects	systemic (µg/dL Pb we blood)	NOAEL = 40 µg Pb/dl blood	40 µg Pb/dL blood	Adult neurological function
		NOAEL = 10 µg Pb/dl blood	10 µg Pb/dL blood	Developmental effect on foetus of pregnant women

DNEL LEAD FOR GENERAL POPULATION

Exposure pattern	Route	Descriptors	DNEL/DMEL (appropriate unit)	Most sensitive endpoint
Long-term – systemic effects	systemic (µg/dL Pb we blood)	NOAEL = 40 µg Pb/dl	20 µg Pb/dL	Adult neurological function
		NOAEL = 10 µg Pb/dl	10 µg Pb/dL	Foetal development for a pregnant woman
Neurological function		NOAEL = 10 µg Pb/dl	10 µg Pb/dL	IQ development in individual child
		NOAEL = 5 µg Pb/dl	5 µg Pb/dL	IQ development in a large number of children

8.2 Exposure controls

APPROPRIATE ENGINEERING CONTROLS

Ensure adequate general and local ventilation. In case of insufficient ventilation use respiratory protection. When handling do not eat, drink, take medicine and smoke. Before break and after

work carefully wash hands. Avoid dusting. Avoid contact with skin, eyes and inhalation of dust, fumes and vapors produced during processing of the product.
Employer is obliged to ensure equipment adequate to activities carried out, with quality demands, cleaning and maintenance.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection
In the event of exceedances of limit values use respiratory protection with filter type ABEK P1 or depending on the concentration exceeded (P2, P3)
If you work in closed spaces or where there is a risk of an uncontrolled expansion use insulating respiratory protective equipment.
Skin, hand and body protection
Use protective clothing made of natural materials (cotton) or synthetic fibers, gloves made of nitrile or latex (thickness 0,4 ± 0,05 mm, breakthrough time > 60 min)
Eye protection
Use safety goggles that protect against splatter during soldering.

Handle in accordance with good industrial hygiene and safety procedures. Do not allow the crossing of the environment, the work place concentration limits for hazardous constituents.
After work, remove soiled clothing. Wash hands and face thoroughly after handling product, before eating, smoking and at the end of the working period. Do not eat, drink or smoke when working.

ENVIRONMENTAL EXPOSURE CONTROLS

Prevent entry into sewage collection system and watercourses.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid
Colour	gray
Odour	odorless
Melting point/freezing point	183 / 190 ˚C
Boiling point or initial boiling point and boiling range	the temperature cannot be determined for the mixture, the boiling point for the component with the lowest boiling point: pine rosin> 200 ˚C
Flammability	not data
Lower and upper explosion limit	does not apply to solids
Flash point	does not apply to solids
Auto-ignition temperature	does not apply to solids
Decomposition temperature	> 300 ° decomposition temperature of hydrogenated resin
pH	not applicable, the mixture is insoluble in water

Kinematic viscosity	does not apply to solids
Solubility	insoluble in water
Partition coefficient n-octanol/water (log value)	not applicable the mixture
Vapour pressure	not applicable
Density and/or relative density	8,50 g/cm^3
Relative vapour density	does not apply to solids

Particle characteristics

diameter / [mm]	> 1,00	≤ 1,00 ; 2,50 >	≤ 2,50 ; 3,00 >	< 3,00 ; 6,00 >
tolerance / [mm]	±0,05	±0,10	±0,15	±0,30

9.2 Other safety information

No relevant physical and chemical parameters for safe use of the mixture

Section 10: Stability and reactivity

10.1 Reactivity

Under normal conditions of storage and use, hazardous decomposition products not be reactivity

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.

10.4 Conditions to avoid

Extreme temperature and humidity.

10.5 Incompatible materials

Strong oxidizing agents, bases and acids (nitric acid, hot sulfuric acid, hydrogen sulfide), halogens, ammonium nitrate, chlorine trifluoride, hydrogen peroxide, sodium azide, zirconium, disodium acetylene, oxidants, concentrated nitric acid, picric acid and derivatives thereof

10.6 Hazardous decomposition products

None under normal conditions of use and storage.

Section 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

TOXICITY OF MIXTURE

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

TOXICITY OF COMPOUNDS:

Tin

LD50 (oral, rat) > 2 000 mg/kg
LD50 (skin, rat) > 2 000 mg/kg
LC50 (inhalation, rat) > 4,75 mg/l/4h

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

Lead

TCL_0 (inhalation, man) 0,01 mg/m^3
TDL_0 (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. Anemia, kidney , liver, female gonads and central nervous system damage may occur. 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.

Reproductive toxicity:

Lead penetrates the placental barrier. Animal studies have shown teratogenic effects. As a result of excessive exposure to lead the pregnant women have neurological disorders in children.

The adverse effects of lead on reproduction have been demonstrated in studies in experimental animals as well as in humans, men and women. At the battery factory workers, with a mean lead exposure of 8.5 years, compared to the control group, increased frequency of pathological changes in semen.

Rosin:

It does not show acute toxicity after oral or dermal exposure. On the other hand, the low vapor pressure excludes inhalation exposure.

LD50 (oral)> 2000 mg / kg
LD50 (skin, rat)> 2,000 mg / kg

Copper

ORAL: High concentration of dissolved copper ions may cause gastrointestinal disturbances. Animal acute studies by the oral route are available with CuO (Sanders, 2002a), copper sulfate (Lheritier, 1994), and coated copper flakes (Sanders, 2001a). The comparison of the toxicity profiles confirms that solubility / bioavailability is important for the read-across of the toxicity data of copper-bearing substances. The available animal studies combined with the in-vitro bioavailability studies assessed the acute toxicity of copper powder and block form. The assessment concluded that, in accordance with Regulation (EC) No 1272/2008 and Directive 67/548 / EEC, copper sulphate and coated copper flakes met the criteria as harmful when ingested (LD50> 300 mg / kg bw rats). that in accordance with Regulation (EC) No 1272/2008 and Directive 67/548 / EEC,

copper (solid and powder) and CuO do not meet the criteria for classification due to ingestion (LD50> 2000 mg / kg bw). In humans, the acute effects on the gastrointestinal tract associated

with the addition of copper sulphate to drinking water were investigated (Araya et al, 2001 and 2003), the NOAEL was determined at 4 mg Cu / L. At higher doses (from 6 to 8 mg Cu / L as CuSO4, given in dragees on an empty stomach), the most commonly reported symptom was nausea (10% to 6 mg / l, and 18% to 8 mg / l), usually occurring within 15 minutes after serving. Other gastrointestinal symptoms (vomiting, diarrhea, abdominal pain) were reported less frequently and abdominal pain was not related to concentration.
Acute inhalation toxicity:
solid copper has a particle size> 10 µm and downstream users do not come into contact with particles with a d50 diameter <10 µm. Therefore, according to Regulation (EC) No 1272 and Directive 67/548 / EEC, the criteria for classification as harmful by inhalation are not met.
INHALATION: The available acute inhalation toxicity data on coated copper flakes (Wesson, 2001) and copper oxychloride (Wesson, 2003) indicate that these soluble materials should be classified as "harmful by inhalation" (LD50: 1-5 g / m3 air, rats). Inhalation toxicity was characterized by local damage at the site of particle deposition (effect on the respiratory tract and lungs). Solid copper has a particle size> 10 µm and downstream users do not come into contact with particles with a d50 diameter <10 µm. Therefore, according to Regulation (EC) No 1272 and Directive 67/548 / EEC, the criteria for classification as harmful by inhalation are not met.
THROUGH THE SKIN: Taking into account the available acute dermal toxicity data for copper (coated copper flakes (Sanders, 2001 b)), copper compounds (copper sulphate (Lheritier, 1993), and copper oxide (Sanders, 2002b)) (LD50> 2000 mg / kg bw) and classification criteria according to Regulation (EC) 1272/2008 and Directive 67/548 / EEC, it was specified that neither copper nor any of the tested copper compounds require classification for acute dermal toxicity. The classification criteria for finely divided and soluble copper compounds according to Regulation (EC) No 1272/2008 and Acute Toxicity Directive 67/548 / EEC lead to classification as harmful by ingestion and inhalation.
For solid copper and copper powder, the classification criteria for acute toxicity are not met according to Regulation (EC) No 1272/2008 and Directive 67/548 / EEC

ACUTE TOXICITY

based on available data, the classification criteria are not met

SKIN CORROSION/IRRITATION

based on available data, the classification criteria are not met

SERIOUS EYE DAMAGE/IRRITATION

based on available data, the classification criteria are not met

RESPIRATORY OR SKIN SENSITISATION

may cause an allergic skin reaction

GERM CELL MUTAGENICITY

based on available data, the classification criteria are not met
Evidence for the genotoxic effects of highly soluble inorganic lead compounds is contradictory and numerous studies have both positive and negative effects.

CARCINOGENICITY

based on available data, the classification criteria are not met

There is evidence that non-monatic lead compounds may be carcinogenic and have been classified by IARC as possibly carcinogenic to humans (Group 2A). It is believed, however, that this classification does not apply to lead in a massive form, taking into account the very low bioavailability of metallic lead, and carcinogenicity studies on lead metal powder were negative. Epidemiological studies of workers exposed to inorganic lead compounds have shown a limited relationship with stomach cancer. IARC recognized that lead metal is probably carcinogenic to humans (Group 2B)

REPRODUCTIVE TOXICITY

May damage fertility. May damage the unborn child. May cause harm to breast-fed children.
Exposure to high concentrations of lead
and inorganic lead compounds leading to systemic absorption may cause undesirable effects of fertility in men and women, including adverse effects on sperm quality. The prenatal exposure to an inorganic lead compound is also associated with adverse effects on the development of the unborn child.

STOT-SINGLE EXPOSURE

based on available data, the classification criteria are not met

STOT-REPEATED EXPOSURE

Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion. Lead is a cumulative poison and can be absorbed by the lead cation, it is unlikely that inhalation and consumption of lead in the form of a mass of alloy.

ASPIRATION HAZARD

based on available data, the classification criteria are not met

HEALTH EFFECTS OF LOCAL EXPOSURE

Skin contact:
may cause redness, dry skin, burning sensation, bums (during soldering)
Eye contact:
may cause irritation, redness, tearing. Contamination of eyes results in lachrymation, pain, redness of conjunctivas with a risk of damage to cornea.
Ingestion:
may cause stomach disorders (nausea, vomiting, abdominal pain)
Inhalation:
may cause cough, headaches and dizziness

People with asthmatic, chronic respiratory diseases and pregnant women should not work with the product.

11.2 Information on other hazards

The mixture does not cause adverse health effects due to endocrine disrupting properties.

Section 12: Ecological information

12.1 Toxicity

No specific toxicity test results for the mixture

Toxicity of component:
Rosin
LC50: ≥ 1000 mg/l/96h (Brachydanio rerio)
LC50: 46 mg/l/48h (Daphnia magna)
EC50: 59 mg/l/72h (Pseudokirchneriella subcapitata)
Lead:
Lead compounds such as salts and oxides are toxic to aquatic organisms. The permissible lead concentration in wastewater for the heating industry is 0.1 mg / dm3; for other types of sewage 0.5 mg / dm3. The permissible lead level in the atmospheric air is 0.5 µg / m3, averaged for the calendar year.
Lead is a relatively corrosion-resistant metal that is chemically not very reactive. However, the reaction products of lead in the environment, especially soluble lead salts, are assessed as very toxic to aquatic organisms and drinking water supplies. Do not allow discharges of solutions containing lead or its compounds to surface water, groundwater, soil and sewage system.
Tin:
Short-term toxicity, fish 96 h
LC50:> 12.4 µg / L (NOEC 12.4 µg / L) Pimephales promelas (total amount of tin in solutions containing tin) - OECD 203.
Long-term toxicity, aquatic invertebrates 7 days:
LC50 (mortality)> 3200 µg / L,
EC50
(reproductive) 1303 µg / L (total amount of tin in solutions containing tin) - Daphnia magna - EPA 1002.0.
Toxicity to algae
EC50 (72 h):> 19.2 µg / L (total amount of tin in solutions containing tin) - Pseudokirchnerella subcapitata - OECD 201.

12.2 Persistence and degradability

Not biodegradable.
Rosin
Easily biodegradable in water

12.3 Bioaccumulative potential

Risk of accumulation of heavy metals in aquatic organisms.
Rosin BCF: 56,23
Tin has a low bioaccumulation capacity

12.4 Mobility in soil

Poorly mobile in soil and aquatic environment. Heavier than water, sinks to the bottom and remains here
Tin: Log Kd: 2.1 - 4.3L/kg

12.5 Results of PBT and vPvB assessment

Does not apply to inorganic substances

12.6. Endocrine disrupting properties

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7 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

The one introducing hazardous agents in packages is obliged to organize the collection system and ensure recycling including the recycling of hazardous agents packaging. The one introducing hazardous agents performs above duties on their own or by agreement with local government.

SPECIAL PRECAUTIONS:

Dispose of this material safely.

DISPOSAL METHODS FOR THE PRODUCT:

Do not dispose of the product together with domestic waste,do not release to sewage system. Do not allow contamination of groundwater and surface water. Recommended way of disposing of waste: recycling.

DISPOSAL METHODS FOR USED PACKAGING:

Contaminated packaging (after a thorough emptying) and unused product to pass to the designated recipient of waste.

Section 14: Transport information

14.1 UN number or ID number

Not applicable, product is not classified as hazardous in transportation.

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

Not necessary.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Section 15: Regulatory information

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

1. REGULATION (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation 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.
2. 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 1-18 ATP)
3. 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
4. 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
5. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
6. Council Directive 91/689/EEC of 12 December 1991 on hazardous waste
7. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives
8. European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste
9. 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).
10. List of MAK and BAT Values 2022 Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area
11. Regulation of the Minister of Labour and Social Policy of 12 June 2018 on Maximum Permissible Concentration and Intensity of Agents Harmful to Health in the Working Environment (Dz.U. 2018 poz. 1286 as amended)
12. European Commission Employment, Social Affairs & Inclusion Health and Saftety at work – The Scientific Committee on Occupational Exposure Limits (SCOEL)

15.2 Chemical Safety Assessment

Chemical safety assessment of the mixture has not been performed.

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.

EXPLANATION OF ABBREVIATIONS AND ACRONYMS

PEL	Permissible Exposure Limit
PBT	Persistent, Bioaccumulative and Toxic substance
vPvB	very Persistent, very Bioaccumulative substance
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration
LD50	lethal dose is an indication of the lethal toxicity of a given substance or type of radiation.
LC50	lethal concentration
CAS	unique numerical identifier assigned by Chemical Abstracts Service
WE	unique seven-digit identifier that was assigned to substances for regulatory purposes within the European Union by the European Commission
UN	The four-digit identification number of the material in the UN hazardous materials
NDS/MAK	The highest acceptable concentration
NDSCh	The highest permissible instantaneous concentration
NDSP	Concentration value of toxic chemical or dust
BCF	bio-concentration factor
Repr. 1 A	Reproductive toxicity, Hazard Category 1A
H360FD	May damage fertility. May damage the unborn child.
Lact.	Reproductive toxicity, Additional category, Effects on or via lactation
H362	May cause harm to breast-fed children
Skin Sens	Sensitization, Skin hazard category 1
H317	May cause an allergic skin reaction
STOT RE1	Specific target organ toxicity — Repeated exposure, Hazard Category 1
H372	Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion

Lead is subject to restrictions resulting from Annex XVII to REACH, pos. 30. Lead is on the candidate list of substances of very high concern (SVHCs) - date of entry 27/06/2018

Copper is listed as a substance with an informal risk assessment for endocrine disrupting properties. The assessment is currently under development.
https://echa.europa.eu/pl/substance-information/-/substanceinfo/100.028.326

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

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

The information contained in the SDS is to describe the product only in terms of safety requirements. The user is the one responsible for creating conditions for the safe use of the product, and assumes the responsibility for the consequences resulting from improper use of this product.

update of the legal acts in section 15.1
update card points: 1.1, 2.3, 7.3, 8.1, 9.1, 9.2, 10.3, 11.1, 11.2, 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 14.1, 14.7