

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

1.1 Product identifier

TRADE NAME:

Lead-free soft solder alloys with GL13

OTHER NAME:

Sn99,3Cu0,7	GL13/1/3,0% (2.1.2.B)	Sn97Cu3	GL13/1/3,0% (2.1.2.B)
Sn99,3Cu0,7	GL13/3/3,0% (2.1.2.B)	Sn97Cu3	GL13/3/3,0% (2.1.2.B)
Sn99,3Cu0,7	GL13/3,0% (2.1.2.B)	Sn97Cu3	GL13/3,0% (2.1.2.B)

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

RELEVANT IDENTIFIED USES:

Lead-free soft solder alloy with flux for manual and automatic soft soldering.

USES ADVISED AGAINST:

All other than identified

1.3 Details of the supplier of the safety data sheet

Cynel-Unipress Sp. z o.o.
ul. Białołęcka 231B, 03-253 Warszawa, Poland
+48 22 519 29 48/ 22 519 29 46
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**Skin corrosion/irritation, Hazard Category 2 (Skin Irrit. 2)**

Causes skin irritation (H315)

Serious eye damage/eye irritation, Hazard Category 2 (Eye Irrit.2)

Causes serious eye irritation (H319)

HARMFUL EFFECTS OF HUMAN HEALTH EFFECTS:

Causes serious eye irritation. Causes skin irritation

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:



Warning

SUBSTANCE NAME FOR LABELING:

H315 Causes skin irritation

H319 Causes serious eye irritation

RISK PHRASES:

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention

SAFETY PHRASES:

None

OTHER INFORMATION:

None

2.3 Other hazards

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.

The criteria for PBT or vPvB according to Annex XIII of Regulation REACH do not apply to inorganic substances.

Section 3: Composition/Information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures:

TIN (Sn):

Range of percentages: 96,50 – 99,50%

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.

COPPER (Cu):

Range of percentages: 0,50 – 3,50%
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.

2-AMINOETHANOL:

Range of percentages: 0,1 – 2,40 %
CAS number: 141-43-5
UN number: 603-030-00-8
WE number: 205-483-3
Registration number: 01-2119486455-28-xxxx
Classification acc. to 1272/2008/EC: Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Corr. 1B H314, Eye Damage 1 H318, STOT SE3 H335 Aquatic Chronic 3 H412,

Specific concentration limits

Concentration range (%): ≥ 5% STOT Single Exp.3

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). 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.

4.2 Most important symptoms and effects, both acute and delayed

Prolonged exposure on dust/fume cause metallic taste in mouth, loss of appetite, headache and general weakness. It can also cause bluish or grayish discoloration of the skin, eyes and mucous membranes (argyria). It occurs slowly, it may take several years before it develops. These stains are irreversible.

Gastro-intestinal symptoms are the first symptoms for high oral intakes of soluble copper compounds. Vomiting may occur. The most critical organ for delayed effects from "copper" excess is the liver. Nose-lung irritation may be a symptom occurring after inhalation of copper containing fumes/dusts/mists.

EYE CONTACT:

may cause irritation, redness, tearing.

SKIN CONTACT:

may cause redness, burning sensation, bums (during soldering).

INHALATION:

irritation of respiratory tract, cough, headaches and dizziness. Symptoms of exposure may only appear after a few days.

INGESTION:

Gastro-intestinal symptoms are the first symptoms for high oral intakes of soluble mixture.

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 metals.

UNSUITABLE EXTINGUISHING MEDIA:

CO₂, 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 copper and tin. 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)

Applications are listed in section 1.2.

Section 8: Exposure controls/personal protection

8.1 Control parameters

LIST OF MAK AND BAT VALUES 2025 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	Sens.
copper	0,01 R		II (2)	C	—
2-aminoethanol	0,2	0,51	I (1)	C	Sh
Tin	—		—	—	—

R the respirable fraction

I the inhalable fraction

C, D – see Section VIII

Sens danger of sensitization

Sh -skin

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

Specification	TLV-TWA [mg/m ³] *	TLV-STEL [mg/m ³]
Tin and its inorganic compounds	—	—
2-aminoethanol**	7,6	15
Copper and its inorganic compounds	10	—

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

** Draft

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

[In accordance with 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) (Official Journal of the European Union No L.203 z 26.06.2020)]

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.

2-AMINOETHANOL

DNEL respiratory tract (long-term) worker 1.0 mg / m³
DNEL respiratory tract (long-term) consumer 0.18 mg / m³
DNEL skin (long-term) worker 3.00 mg / kg body weight / day
DNEL skin (long-term) consumer 1.50 mg / kg body weight / day
DNEL oral (long-term) consumer 1.5 mg / kg body weight / day
DNEL eyes, consumer - medium risk
PNEC freshwater 0.07 mg / L (assessment factor 10)
PNEC marine waters 0.007 mg / l (assessment factor 100)
PNEC STP 100 mg / l (assessment factor 10)
PNEC freshwater sediments 0.357 mg / kg
PNEC marine sediments 0.036 mg / kg
PNEC soil 1.29 mg / kg (assessment factor 1000)

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)

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

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

[In accordance with 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) (Official Journal of the European Union No L.203 z 26.06.2020)]

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 $0,4 \pm 0,05$ 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	227 °C
Boiling point or initial boiling point and boiling range	the temperature cannot be determined, boiling point for the component with the lowest boiling point: 2-aminoethanol 167 °C (1013,25 hPa)
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	no data
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	7,31 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)

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:

2-aminoethanol

LD50 oral - rat - 1089 mg/kg (401 OECD)

LD50 skin - rat - 2504 mg/kg

LD50 inhalation -1487 mg/m³ air

Tin

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

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

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

Irritating in the form of dust or vapors. May cause shortness of breath, fever, general weakness, sweating, and feverish inflammation of the smoke. Dust can cause mechanical irritation of the conjunctiva with tears, pain, and embolism.

NOEL for effects on reproduction and development:> 1000 mg / kg / day (rat), 56 consecutive doses - OECD 421. Tests - both the Ames test and in vitro chromosome aberration (CHO cells) are negative.

Repeated dose target organ toxicity (oral gavage) NOEL> 1000 mg / kg / day (rat). 28 days study - OECD 407.

It does not cause any inhalation hazard.

Tin in the form of dust or fumes is irritating. May cause shortness of breath, fever, general weakness, sweating, and feverish inflammation of the smoke. Tin dust can cause mechanical irritation of the conjunctiva with tears, pain, and embolism.

Copper

ORAL: High concentrations 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 its block form. The evaluation 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 frequently 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 acute dermal toxicity data available 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

oral ATE_{mix} > 2 000

skin ATE_{mix} > 2 000

inhalation ATE_{mix} > 20

SKIN CORROSION/IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE/IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

based on available data, the classification criteria are not met

GERM CELL MUTAGENICITY

based on available data, the classification criteria are not met

CARCINOGENICITY

based on available data, the classification criteria are not met

REPRODUCTIVE TOXICITY

based on available data, the classification criteria are not met

STOT-SINGLE EXPOSURE

based on available data, the classification criteria are not met

STOT-REPEATED EXPOSURE

based on available data, the classification criteria are not met

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, blurs (during soldering)

Eye contact:

may cause irritation, redness, tearing.

Ingestion:

may cause stomach disorders (nausea, vomiting, abdominal pain)

Inhalation:

may cause cough, headaches and dizziness

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. This product is not classified as dangerous for the environment.

2-aminoethanol

EC50 freshwater algae: 2.8 mg / l

EC50 marine algae: 24.7 mg / l

EC10 or NOEC freshwater algae: 0.7 mg / l

Chronic NOEC in Daphnia magna reproduction test 0.85 mg / L.

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 determined for mixture

2-aminoethanol – easy biodegradable

12.3 Bioaccumulative potential

Not determined for mixture

12.4 Mobility in soil

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

Log Kd tin: 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.
2-aminoethanol is toxic to aquatic life.

Section 13: Disposal considerations

13.1 Waste treatment methods

Product: Do not release into the environment. Dispose of as waste; deliver to an authorized company. Recycling is recommended.

Product packaging: Do not release into the environment. Dispose of as waste; deliver to an authorized company. Recycling is recommended.

Spool: 15 01 02 Plastic packaging

Cardboard: 15 01 01 Paper and cardboard packaging

Community legislation:

DIRECTIVES 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) as amended EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 94/62/EC of 20 December 1994 on packaging and packaging waste as amended

DECISIONS COMMISSION DECISION of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council (Text with EEA relevance) (2014/955/EU)

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 1-22 ATP)
3. 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
4. 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)
5. 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) as amended
6. European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste as amended
7. DECISIONS COMMISSION DECISION of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council (Text with EEA relevance) (2014/955/EU)
8. 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).
9. List of MAK and BAT Values 2025 Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area
10. European Commission Employment, Social Affairs & Inclusion Health and Safety 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.

Copper is listed as substance with an informal risk assessment for endocrine disrupting properties. The assessment is currently under development.

<https://echa.europa.eu/en/substance-information/-/substanceinfo/100.028.326>

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
EC50	Half maximal effective concentration
EC10	effect concentration - substance concentration expressed in milligrams per litre causing the given pharmacological effect (e.g. inhibition of growth) at 10% of the examined population within specified time.
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
NDS/MAK	The highest acceptable concentration
NDSch	The highest permissible instantaneous concentration
NDSP	Concentration value of toxic chemical or dust
TLV-TWA	the highest admissible concentration/threshold limit value – weighted average value – concentration of toxic chemical whose impact on a worker during 8-hour daily shift and average weekly time of work provided in the Labour Code during the period of his occupational activity should not cause negative changes of his health condition and of health condition of his next generations.
TLV-STEL	the highest admissible short term concentration/short term exposure limit – weighted average of concentration of the specified, toxic chemical compound which should not cause negative changes of a worker's health if present in the work environment for not longer than

	15 minutes and not more often than twice per shift with occurrences separated by more than 1 hour
BCF	bioconcentration factor - calculated by considering pesticide tissue concentrations with respect to environmental pesticide concentrations.
Skin Corr. 1B H314	Skin corrosion/irritation, Hazard Category 1, Sub-Categories 1B Causes severe skin burns and eye damage.
Eye Dam. 1 H318	Serious eye damage/eye irritation, Hazard Category 1 Causes serious eye damage
Acute Tox. 4 H302	Acute toxicity (oral), Hazard Category 4 Harmful if swallowed.
Acute Tox. 4 H312	Acute toxicity (dermal), Hazard Category 4 Harmful in contact with skin.
Acute Tox. 4 H332	Acute toxicity (inhal.), Hazard Category 4 Harmful if inhaled.
STOT SE3 H335	May cause respiratory irritation. Specific target organ toxicity — Single exposure, Hazard Category 3, Respiratory tract irritation
Aquatic Chronic 3 H412	Hazardous to the aquatic environment — Chronic Hazard, Category 3 Harmful to aquatic life with long lasting effects

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 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 section: 1.3, 8.1, 13.1, 15.1