



Material Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product	Lead free wire
Manufacturer	Conrad Electronic SE
Address	Klaus-Conrad-Str. 1, D-92240 Hirschau
Telephone	+49 (0) 9604 / 40 - 8988
Date	09.11.2020

1.1. Product identifier

Product name Lead free wire

Product type Solid. [Cored Wire]

Other means of identification Not applicable

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

Not applicable

2. Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Sens. 1, H317 The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms



Signal word

Warning

Hazard statements

May cause an allergic skin reaction.



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Precautionary statements

Prevention	Wear protective gloves. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace.
Response	If on skin Wash with plenty of soap and water. If skin irritation or rash occurs, get medical attention.
Storage	Not applicable
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

Special packaging requirements

1. Containers to be fitted with child-resistant fastenings Not applicable.
2. Tactile warning of danger Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No.1907/2006, Annex XIII.

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification

None known.



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3. Composition/information on ingredients

3.1 Mixtures

Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Tin	REACH # 01-2119486474-28 EC 231-141-8 CAS 7440-31-5	≥90	Not classified.	[2]
Rosin	EC 232-475-7 CAS 8050-09-7 Index 650-015-00-7	≤3	Skin Sens. 1, H317, Aquatic Chronic 4, H413	[1]
Copper	REACH # 01-2119480154-42 EC 231-159-6 CAS 7440-50-8 EC 231-111-4	≤1	Not classified.	[2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.



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4. First aid measures

4.1 Description of first aid measures

Eye contact

1. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.
2. Check for and remove any contact lenses.
3. Continue to rinse for at least 10 minutes.
4. Get medical attention if irritation occurs.

Inhalation

1. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
2. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
3. It may be dangerous to the person providing aid to give mouth-to-Mouth resuscitation.
4. Get medical attention if adverse health effects persist or are severe.
5. If unconscious, place in recovery position and get medical attention immediately.
6. Maintain an open air-way.
7. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

1. Wash with plenty of soap and water. Remove contaminated clothing and shoes.
2. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
3. Continue to rinse for at least 10 minutes.
4. Get medical attention. In the event of any complaints or symptoms ,avoid further exposure.
5. Wash clothing before reuse.
6. Clean shoes thoroughly before reuse.

Ingestion

1. Wash out mouth with water. Remove dentures if any.
2. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
3. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink.
4. Stop if the exposed person feels sick as vomiting may be dangerous.
5. Do not induce vomiting unless directed to do so by medical personnel.
6. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
7. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.
8. If unconscious, place in recovery position and get medical attention immediately.
9. Maintain an open airway.
10. Loosen tight clothing such as a collar, tie, belt or waist-band.



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Protection of first-aiders

1. No action shall be taken involving any personal risk or without suitable training.
2. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
3. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact

No specific data.

Inhalation

No specific data.

Skin contact

Adverse symptoms may include the following irritation redness

Ingestion

No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.



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5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture

1. No specific fire or explosion hazard.
2. Hazardous combustion products: None
3. Decomposition products: may include the following materials: metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters

1. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
2. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

1. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
2. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.



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6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

1. No action shall be taken involving any personal risk or without suitable training.
2. Evacuate surrounding areas.
3. Keep unnecessary and unprotected personnel from entering.
4. Do not touch or walk through spilled material.
5. Provide adequate ventilation.
6. Wear appropriate respirator when ventilation is inadequate.
7. Put on appropriate personal protective equipment.

6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill

1. Move containers from spill area. Avoid dust generation.
2. Using a vacuum with HEPA filter will reduce dust dispersal.
3. Place spilled material in a designated, labeled waste container.
4. Dispose of via a licensed waste disposal contractor.

Large spill

1. Move containers from spill area.
2. Approach release from upwind.
3. Prevent entry into sewers, water courses, basements or confined areas.
4. Avoid dust generation.
5. Do not dry sweep.
6. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container.
7. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.



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7. Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Protective measures

1. Put on appropriate personal protective equipment (see Section 8).
2. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.
3. Do not get in eyes or on skin or clothing.
4. Do not ingest.
5. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.
6. Empty containers retain product residue and can be hazardous.
7. Do not reuse container.

Advice on general occupational hygiene

1. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
2. Workers should wash hands and face before eating, drinking and smoking.
3. Remove contaminated clothing and protective equipment before entering eating areas.
4. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

1. Store in accordance with local regulations.
2. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.
3. Keep container tightly closed and sealed until ready for use.
4. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
5. Do not store in unlabeled containers.
6. Use appropriate containment to avoid environmental contamination.
7. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations

Not available.

Industrial sector specific solutions

Not available.



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8. Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Tin	Regulation of the Minister of Family, Labor and Social Policy(J of Laws 2017, item 1348). TWA 2 mg/m ³ , (calculated as Sn) 8 hours. Form Inhalable fraction
Copper	Regulation of the Minister of Family, Labor and Social Policy(J of Laws 2017, item 1348). TWA 0.2 mg/m ³ , (calculated as Cu) 8 hours.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Reference should be made to monitoring standards, such as the following European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs Value

Product/ingredient name	Type	Exposure	Value	Limit	Effects
Rosin	DNEL	Long term Oral	10 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	10 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	17 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	35 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	117 mg/m ³	Workers	Systemic

PNECs

No PNECs available.



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8.2 Exposure controls

Appropriate engineering Controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures

1. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
2. Appropriate techniques should be used to remove potentially contaminated clothing.
3. Contaminated work clothing should not be allowed out of the workplace.
4. Wash contaminated clothing before reusing.
5. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

1. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
2. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection safety glasses with side-shields.

Skin protection

Hand protection

1. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
2. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties.
3. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.
4. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

1. Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification.
2. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure Controls

1. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
2. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.



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9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: Color Solid. [Cored Wire]

Odor: Not available.

Odor threshold pH: Not available.

Initial boiling point and boiling range: Not available.

Melting point/freezing point: Not available

Flash point: Not available.

Evaporation rate: Not available.

Flammability (solid, gas): Not available.

Upper/lower flammability or explosive limits: Not available.

Vapor pressure: Not available.

Vapor density: Not available.

Relative density: Not available.

Partition coefficient n-octanol/ water: Not available.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available

Viscosity: Not available.

Explosive properties: Non-explosive in the presence of the following materials or conditions (open flames, sparks and static discharge, heat and shocks and mechanical impacts.)

Oxidizing properties: Not available.

Solubility in water: Not available.

9.2 Other information

No additional information.



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10. Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

No specific data.

10.5 Incompatible materials

No specific data.

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
rosin	LD50 Oral	Rat	7600 mg/kg	-

Conclusion/Summary: Not available.

Acute toxicity estimates: Not available.

Irritation/Corrosion

Conclusion/Summary: Not available.

Sensitization

Conclusion/Summary: Not available.

Mutagenicity

Conclusion/Summary: Not available.

Carcinogenicity

Conclusion/Summary: Not available.

Reproductive toxicity

Conclusion/Summary: Not available.



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Teratogenicity

Conclusion/Summary: Not available

Specific target organ toxicity (single exposure): Not available.

Specific target organ toxicity (repeated exposure): Not available.

Aspiration hazard: Not available.

Information on the likely: Not available.

Routes of exposure: Not available.

Potential acute health effects

Eye contact: No known significant effects or critical hazards.

Inhalation: No known significant effects or critical hazards.

Skin contact: May cause an allergic skin reaction.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.

Inhalation: No specific data.

Skin contact: Adverse symptoms may include the following irritation redness

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: No specific data.

Potential delayed effects: No specific data.

Long term exposure:

Potential immediate effects: No specific data.

Potential delayed effects: Not available.

Potential chronic health effects

Not available.

Conclusion/Summary: Not available.

General

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.



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Developmental effects

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability what-soever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

12. Ecological information

12.1 Toxicity

Conclusion/Summary: Not available.

12.2 Persistence and degradability

Conclusion/Summary: Not available

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
rosin	1.9 to 7.7	-	high

12.4 Mobility in soil

Soil/water partition coefficient (KOC): Not available.

Mobility: Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

No known significant effects or critical hazard



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13. Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal

1. The generation of waste should be avoided or minimized wherever possible.
2. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
3. Dispose of surplus and non- recyclable products via a licensed waste disposal contractor.
4. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
5. Hazardous waste: The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal

1. The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled.
2. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions

1. This material and its container must be disposed of in a safe way.
2. Care should be taken when handling emptied containers that have not been cleaned or rinsed out.
3. Empty containers or liners may retain some product residues.
4. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.



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14. Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional Information	-	-	-	-

14.6 Special precautions for user

Transport within user's premises:

1. Always transport in closed containers that are upright and secure.
2. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

Not available



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15. Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorization Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous sub-stances, mixtures and articles

Not applicable.

Other EU regulations

Europe inventory: Not determined.

Industrial emissions (integrated pollution prevention and control) – Air: Listed

Industrial emissions (integrated pollution prevention and control) – Water: Listed

Ozone depleting substances (1005/2009/EU): Not listed

Prior Informed Consent (PIC) (649/2012/EU): Not listed.

Seveso Directive: This product is not controlled under the Seveso Directive.

International regulations:

Chemical Weapon Convention List Schedules I, II & III Chemicals: Not listed.

Montreal Protocol: Not listed.

Sockholm Convention on Persistent Organic Pollutants: Not listed.

Rotterdam Convention on Prior Informed Consent (PIC): Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals: Not listed.

International lists National inventory

Australia: Not determined.

Canada: Not determined.

China: Not determined.

Japan: Japan inventory (ENCS): Not determined.

Japan: Japan inventory (ISHL): Not determined.

Malaysia: Not determined

New Zealand: Not determined.

Philippines: Not determined.

Republic of Korea: Not determined.

Taiwan: Not determined.

Turkey: Not determined.

United States: All components are listed or exempted.

12.2 Chemical Safety Assessment

This product contains substances for which Chemical Safety Assessments are still required.



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16. Other information

Abbreviations and acronyms

ATE (Acute Toxicity Estimate)

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PBT = Persistent, Bioaccumulative and Toxic

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification: Skin Sens. 1, H317

Justification: Calculation method

Full text of abbreviated H statements

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H371 May cause damage to organs.

H413 May cause long lasting harmful effects to aquatic life.

Full text of classifications [CLP/GHS]

Aquatic Chronic 4, H413: AQUATIC HAZARD (LONG-TERM) -Category 4

Carc. 2, H351: CARCINOGENICITY -Category 2

Skin Sens. 1, H317: SKIN SENSITIZATION -Category 1

STOT SE 2, H371: SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) -Category 2

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.