HM Wire International, Inc.

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Material Safety Data Sheet
According to 91 / 155 / EC
Product: Enamelled Copper Wire P155

1. Product Identification

Product Details:	Class F Polyurethane Enamelled Copper Wire
Trade Name:	Polysol 155
Article Number:	01-01-XX
Manufacturer:	Elektrisola Inc. USA 126 High Street Boscawen, New Hampshire 03303
Emergency Number:	603-796-2114 / 603-496-8632

Further Technical Information can be obtained from Elektrisola Product Research & Development Division.
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2. Composition / Data on Components

Hazardous Components

Chemical Name	Formula	Case No.	Composition (wt%)
Copper	CU	7440-50-8	90.60 - 96.69
Polyurethane Resin	(NHCOO)n	9009-54-5	3.31 - 9.40

3. Hazardous Identification

Hazardous Description:	Material is non-hazardous as shipped.
Route of Entry:	Inhalation, ingestion.
Information Concerning to Man & Environment:	When soldering, welding, hot staking, burning, wire brushing or melting. Potentially toxic fumes or dusts may be generated. Asthmatic disorders may be aggravated by exposure to excessive fumes.
Classification Systems:	The classification was made according to the latest editions of International substances lists, and expanded upon from company data and literature. NFPA / HMIS rating (scale 0-4) Health=2, Fire=1, Reactivity=0.

4. First Aid Measures

General Information:	For irregular breathing or respiratory arrest, provide artificial respiration.
After Inhalation:	For unconsciousness, place patient stably in side position for transportation.
After Skin Contact:	Generally does not cause skin irritation. Wash with soap & water if necessary.
After Eye Contact:	Rinse opened eyes for several minutes under running water.
After Swallowing:	Induce vomiting if conscious. Seek medical attention in all cases.

5. Fire Fighting Measures

Suitable Extinguishing Agents:	Dry powder, alcohol resistant foam, carbon dioxide.
For safety reasons unsuitable extinguishing agents:	Do not use water jet for copper powder fires.
Protective Equipment:	In case of brief exposure or low pollution, use respiratory filter device. In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.
Hazchem Code:	Not applicable.

6. Accidental Release Method

Person-related Safety Precautions:	Not required.
Measure for Environment Protection:	No possibility of leakage and spillage.

Measure for Cleaning / Collection:	Not applicable.
7. Handling and Storage	
Information for Safe Handling:	Particular attention should be paid to the eventual bonding and the soldering processes. Some exhaust of fumes is expected under each processes.
	When re-reeling from the spool, care should be taken such that the loose end from the spool does not fly out and cause laceration.
	Onsite job safety assessment should be carried out to determine the safe way to handle reels or packages containing wire.
Storage	
Requirements to be met by storerooms and receptacles:	No special requirements.
Information about storage in one common storage facility:	Store in cool, dry, well-vented area. Stay away from storage area under direct sunlight.
Further information about storage conditions:	None.
Storage Class	
Class according to regulation on flammable liquids:	Not applicable.
8. Exposure Controls and Personal Protection Gear	
Additional information about design of technical facilities:	No further data.
Personal Protective Equipment	
General Hygienic Measures:	Keep away from food stuff and beverages. Wash hands at the end of work.
Respiratory Protection:	Not normally needed at ambient temperature. Use NIOSH / OSHA certified respirator in confined spaces or if fumes, mist or dust develop from heating.
Protection of hands:	Protective gloves recommended.
Eye Protection:	Safety glasses recommended.
9. Physical and Chemical Properties	
Form:	Solid.
Color:	According to product specification.
Odor:	No odor.
Melting Point:	Cu 1083*C
Boiling Point:	Cu 2324*C
Cut-through Temperature:	>200*C (according to IEC 851.6.4 and NEMA MW 1000, 3.50.1.1)
Ignition Danger:	Not self-igniting, and no explosion hazard.
Specific Gravity (H2O = 1):	8.21 - 8.81
Solubility in Water:	0 % (20*C)
Solubility in reagents:	Copper is soluble in HNO3, not H2SO4, and slightly soluble in HCl, NH4Cl.
10. Stability and Reactivity:	
Stability and Reactivity:	Stable.
Hazardous Polymerization:	No dangerous polymerization known.
Thermal Decomposition:	No decomposition if used according to product specifications.
Hazardous Decomposition Products:	CO, CO2 and isocyanine fractions.
Conditions to Avoid:	High temperature. At elevated temperature, enamel might burn and emit potentially toxic fumes.
Materials to Avoid:	Concentrated acids and bases. Bare wire (copper) should not be in contact with acetylene gas. Copper contact with acetylene gas may produce copper acetylide which is shock sensitive. Finely divided copper in contact with finely divided bromates, chlorates, or iodates of barium, calcium, magnesium, potassium, sodium, or zinc will explode under heat, percussion and sometimes light friction. Copper reacts violently with chlorine, chlorine trifluoride, ethylene oxide, fluorine, hydrogen peroxide, hydrazine, munonitrate, hydrogen sulfide, and lead zinc.
11. Toxicological Information	

Permissible exposure limits	OSHA PEEL	ACID TV
Copper (dust and mist)	8 hr., 1 mg / m3	8 hr., 1 mg / m3
Copper (fumes)	8 hr., 0.1 mg / m3	8 hr., 0.2 mg / m3

Primary Irritant Effect	
On the Skin:	No irritating effect.
On the Eye:	No irritating effect.
Sensitization:	Isocyanine fume is a respiratory sensitizer. TWA 0.02 mg / m3, STEEL 0.07 mg / m3.
Additional Toxicological Information:	When used and handled according to specifications, this product does not have any harmful effects to our experience and information provided to us.

12. Ecological Information

General Notes:	This product contains the below chemical substance subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986: Copper CASS No. 7440-50-8 90.60 -96.69 wt. %

13. Disposal Considerations

Product Details:	
Recommendation:	Dispose of in accordance with all applicable federal, state, and local regulations. Recycle copper wire, or send to suitable landfill.
Disposal Euro code CAR:	17.04.08 Enamelled copper or aluminum wire from demolition or scraps.
	16.02.08 Enamelled copper or aluminum wire from demolition or scraps.
	17.04.01 Copper bare wire from demolition or scraps.
Uncleaned Packaging	
Recommendation:	Dispose of in accordance with all applicable federal, state, and local regulations.
Disposal Euro code CER:	15.01.01 Paper, millboard.
	15.01.02 Plastic.
	15.01.03 Wood.
	15.01.04 Metal.
	15.01.05 Compound Materials.
	15.01.06 Various added Material.

14. Transport Information

Land transport ADR / RID (cross-border)	
ADR / RID Class	Not applicable.
Maritime Transport IMDG	
IMDG Class:	Not applicable.
Marine Pollutant:	No.
Air Transport ICAO-TI and IATA-DRG	
ICA / IATA Class:	Not applicable.

15. Regulations

Labeling according to guidelines

This product contains the below chemical substance subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986:

Copper	CAS No. 7440-50-8	90.60 - 96.69 wt %

16. Other Information

This information is presented in good faith and is based on the present knowledge of Elektrisola. However, Elektrisola makes no express or implied warranty to the accurancy of such information, and assumes no liability resulting from the use of or reliance upon such information.

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