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Revision Number 7

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier**Product Name** Aluminum Wire**Other means of identification****Product Code(s)** ALUMINUM WIRE**Synonyms** Magnet Wire**Recommended use of the chemical and restrictions on use****Recommended Use** Electrical Conductor.**Uses advised against** No information available**Details of the supplier of the safety data sheet****Supplier Address**

Essex Furukawa Magnet Wire USA LLC.

1601 Wall Street

Fort Wayne, Indiana 46802

Telephone 260.461.4000

Emergency telephone number**Emergency Telephone** Chemtrec: 1-800-424-9300 for US/ 001 703-527-3887 outside US

2. HAZARDS IDENTIFICATION

Classification**OSHA Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements**Emergency Overview**

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance Varies**Physical state** solid**Odor** None**Hazards not otherwise classified (HNOC)**

Not Applicable

Other Information

Not applicable

Unknown acute toxicity 100 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not Applicable

Mixture**Synonyms** Magnet Wire.

Chemical name	CAS No	Weight-%	Trade secret
Aluminum	7429-90-5	90 - 100%	*

4. FIRST AID MEASURES

Description of first aid measures

General advice	This product is an article as sold. When the material is soldered, welded or hot staked it may release vapors or fumes from the degradation of the coating. All first aid measures assume welding or hot staking has occurred.
Eye contact	Exposure to fumes, vapors or smoke from thermally degraded product can cause irritation to eyes. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Consult a physician if necessary.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion	Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Consult a physician.

Most important symptoms and effects, both acute and delayed**Symptoms****Indication of any immediate medical attention and special treatment needed**

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use water spray, fog, Carbon dioxide (CO₂), foam or dry chemical.

Unsuitable extinguishing media Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Incompatible with strong acids and bases. Acetylene gas and magnesium.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Aluminum 7429-90-5	TWA: 1 mg/m ³ respirable particulate matter	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust

		(vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ Al Aluminum	TWA: 5 mg/m ³ Al
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Appropriate engineering controls

Engineering controls Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tightly fitting safety goggles Avoid contact with eyes
Skin and body protection	No special protective equipment required.
Respiratory protection	No protective equipment is needed under normal use conditions. Exposure to fumes, vapors or smoke from thermally degraded product can cause respiratory system irritation. Some of these component chemicals include low concentrations of phenol, cresols, and xylene, as well as burnt resinous material. At extremely high temperatures toluene di-isocyanate (TDI) may be emitted from certain coated wire. TDI is considered a sensitizer and may be a carcinogen. Use only with adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	solid	Odor	None
Appearance	Varies	Odor threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	No information available
Melting point / freezing point	660 °C / 1220 °F	
Boiling point / boiling range	2327 °C / 4478 °F	
Flash point	No information available	(based on .?)
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	5	
Relative density	No information available	
Water solubility	Practically insoluble (~0.4 ug/mL)	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	
VOC Content (%)	No information available
Liquid Density	2.70 g/cm
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Incompatible with strong acids and bases. Acetylene gas and magnesium.

Hazardous decomposition products

Carbon dioxide (CO₂). Thermal decomposition can lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Harmful by inhalation At extremely high temperatures toluene di-isocyanate (TDI) may be emitted from certain polyurethane coated wire. TDI is considered a sensitizer and may be a carcinogen.
Inhalation	There is no data available for this product.
Eye contact	There is no data available for this product.
Skin contact	There is no data available for this product.
Ingestion	There is no data available for this product.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

Specific target organ toxicity (single exposure) No information available.

STOT - repeated exposure No information available.

Chronic toxicity Prolonged exposure to fumes from welding or hot staking may cause chronic effects.

Target organ effects Eyes, Lungs.

Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

5 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Dispose of in accordance with local regulations. Recyclable material. Please send to local recycling center.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOTIATA Not regulatedIMDG Not regulated**15. REGULATORY INFORMATION**International Inventories

TSCA Complies
 DSL/NDSL Complies
 EINECS/ELINCS Complies
 ENCS Complies
 IECSC Complies
 KECL Complies
 PICCS Complies
 AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 Canadian Inventory Legend

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal RegulationsSARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Aluminum	7429-90-5	>90	1.0

SARA 311/312 Hazard Categories

Acute health hazard No
 Chronic Health Hazard No
 Fire hazard No
 Sudden release of pressure hazard No
 Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

US State RegulationsCalifornia Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Aluminum 7429-90-5	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<u>NFPA</u>	Health hazards 1	Flammability 0	Instability 0	Physical and chemical properties -
<u>HMIS</u>	Health hazards 1	Flammability 0	Physical hazards 0	Personal precautions X

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Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet