

Section 1 Identification

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INNOVATING SCIENCE® by Aldon
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**CHEMTREC 24 Hour Emergency
 Phone Number (800) 424-9300**
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product	ALUMINUM METAL
Synonyms	Aluminum ; Aluminum Metal Strips

Section 2 Hazards identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known.

GHS Classification: Not classified
GHS Label information: Hazard statement(s): Not classified
Precautionary statement(s): Not classified

Supplementary information:

SHARP EDGES! USE CARE WHEN HANDLING.
 Do not inhale dust or fumes. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Combustible dust
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Aluminum strips	7429-90-5	>99.5%	231-072-3

Section 4 First aid measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Sand, dry chemical, or CO2 should be used on surrounding fire. Do NOT use water on fire where molten metal is present.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Molten metals produce fume, vapor and/or dust that may be toxic and/or a respiratory irritant. Metal reacts with oxidizing agents. Reacts with some acids and caustic solutions to produce hydrogen. Molten aluminum may explode on contact with water. It may also react violently with rust, certain metal oxides (e.g. oxides of copper, iron and lead) and nitrates (e.g. ammonium nitrate and fertilizers containing ammonium nitrate).

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale fumes. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Aluminum, metal and insoluble compounds	TWA: 1 mg/m ³ (A4) Respirable fraction	TWA: 5 mg/m ³ Respirable fraction	TWA: 5 mg/m ³ Respirable fraction

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Solid. Silver-grey metallic strips. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 660°C (1220°F) Boiling point: Data not available Flash point: Not applicable	Evaporation rate (= 1): Not applicable Flammability (solid/gas): Not applicable Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): 0.95 - 0.113 lb/in ³ Relative density (Specific gravity): Data not available Solubility(ies): Insoluble	Partition coefficient: Data not available Auto-ignition temperature: Not applicable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Al Molecular weight: 26.98
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Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures and heat.

Incompatibilities with other materials: Strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons, and water.

Hazardous decomposition products: Reacts with water (in molten form), acids or alkalis to generate hydrogen gas.

Section 11 Toxicological information

Acute toxicity: Data not available
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
 NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
 IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
 OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
 Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
 Inhalation: Inhalation of dust or fumes may irritate respiratory system.
 Ingestion: May be harmful if swallowed.
 Skin: Sheets have sharp edges and may cause cuts or scratches. May cause irritation.
 Eyes: Contact with eyes may cause irritation.
Signs and symptoms of exposure: It has been reported that chronic exposure has been suspected of causing lung injury. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: BD0330000

Section 12 Ecological information

Toxicity to fish: Salmo trutta (Fish, Fresh water, marine) NOEC: >100 mg/l/96 hours
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea) NOEC: >100 mg/l/48 hours
Toxicity to algae: Selenastrum capricornutum (Algae) NOEC: >100 mg/l/72 hours
Persistence and degradability: No data available **Bioaccumulative potential:** No data available
Mobility in soil: No data available **PBT and vPvB assessment:** No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable **Shipping name:** Not Regulated
Hazard class: Not applicable **Packing group:** Not applicable **Reportable Quantity:** No **Marine pollutant:** No
Exceptions: Not applicable **2020 ERG Guide #** Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Aluminum	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

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**CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300**
For laboratory and industrial use only.
Not for drug, food or household use.

Product	COPPER METAL
Synonyms	Copper Metal Strips / Copper Strip

Section 2 Hazards identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: Liver, Kidneys

GHS Classification: Not classified
GHS Label information: Hazard statement(s): Not classified
Precautionary statement(s): Not classified

Supplemental information:

SHARP EDGES! ABRASIVE TO SKIN. USE CARE WHEN HANDLING.
Do not breathe dust or fume. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Copper metal	7440-50-8	100%	231-159-6

Section 4 First aid measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED AS FUME. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use triclass, dry chemical fire extinguisher. Do NOT use water on fire where molten metal is present.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Molten metals produce fume, vapor and/or dust that may be toxic and/or a respiratory irritant. Metal reacts with oxidizing agents.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale fumes from molten metals. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Copper, dusts and mists, as Cu	TWA: 1 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Solid. Red-brown, lustrous metal. Turns green on exposure to moist air.

Odor: No odor.

Odor threshold: Data not available.

pH: Data not available.

Melting / Freezing point: 1083°C (1981°F)

Boiling point: 2595°C (4703°F)

Flash point: Not applicable

Evaporation rate (= 1): Not applicable

Flammability (solid/gas): Not applicable

Explosion limits: Lower / Upper: Not applicable

Vapor pressure (mm Hg): 1 mm @ 1628°C

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): 8.92 @ 20°C

Solubility(ies): Insoluble

Partition coefficient: Data not available

Auto-ignition temperature: Not applicable

Decomposition temperature: Data not available.

Viscosity: Data not available.

Molecular formula: Cu

Molecular weight: 63.55

Section 10 Stability and reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures and heat.

Incompatibilities with other materials: Strong oxidizers may cause a violent reaction.

Hazardous decomposition products: At temperatures above melting point, toxic fumes or vapors may be emitted.

Section 11 Toxicological information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of dust or fumes may irritate respiratory system. Symptoms include cough, headache, sore throat, shortness of breath.

Ingestion: May be harmful if swallowed. Symptoms include abdominal pain, nausea, vomiting.

Skin: May cause irritation and redness.

Eyes: Contact with eyes may cause redness and pain.

Signs and symptoms of exposure: Over-heating of alloy can produce metal fumes and oxides. Fumes of copper may cause metal fume fever with flu-like symptoms and skin and hair discolorization. Copper dust and fume cause irritation of the upper respiratory tract, metallic taste in the mouth, and nausea. Chronic poisoning results in Wilson's disease characterized by a hepatic cirrhosis, brain damage, demyelination, renal disease and copper deposition in the cornea.

Additional information: RTECS #: GL5325000

Section 12 Ecological information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide #: Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Copper	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

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