



COATED ALUMINUM FOIL

MSDS No.:00021.0001

MSDS Reviewed Date: February 5, 2009

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MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name : **COATED ALUMINUM FOIL**
Product Use : Decorative or protective wrapping materials
Chemical Family : Metal
Supplier's name and address:
Rosco Laboratories Inc.
 52 Harbor View Avenue
 Stamford, CT, United States
 06902
24 Hr. Emergency Tel # : (800) 424-9300
HMIS Rating : *- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: 1 *Flammability:* 0 *Reactivity:* 0

WHMIS Classes:



TOXIC

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>% (weight)</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
			<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Copper	7440-50-8	0.10 - 4.70	0.2 mg/m ³ (fume); 1 mg/m ³ (dust and mist, as Cu)	N/Av	0.1 mg/m ³ (fume); 1 mg/m ³ (dust and mist)	N/Av
Silicon	7440-21-3	1.00 - 13.50	N/Av	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable fraction)	N/Av
Magnesium	7439-95-4	1.00 - 5.00	N/Av	N/Av	N/Av	N/Av
Iron	7439-89-6	0.10 - 1.30	N/Av	N/Av	N/Av	N/Av
Aluminum	7429-90-5	81.00 - 99.00	1 mg/m ³ (respirable fraction)	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable fraction)	N/Av
Nickel	7440-02-0	1.00 - 5.00	1.5 mg/m ³ (inhalable fraction)	N/Av	1 mg/m ³	N/Av
Manganese	7439-96-5	1.00 - 2.00	0.2 mg/m ³	N/Av	N/Av	N/Av
Coating	N/Av	0.00 - 3.00	N/Av	N/Av	N/Av	N/Av

Concentrations may not fall within WHMIS ranges, but reflect actual composition of product.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW



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Silvery gray, metallic solid. No odor. In solid form, this material is not hazardous. Dust and fumes are hazardous materials. Exposure to dust or fumes can cause eye, skin and respiratory tract irritation. Contains a material which may cause nervous system effects. Contains material that may cause an allergic skin and/or respiratory reaction. Contains material which may cause cancer.

*****POTENTIAL HEALTH EFFECTS*****

Target organs : Eyes, skin, central nervous system
Routes of exposure : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES

Potential acute health effects :

- Eyes:* Contact with dust can cause irritation, reddening or conjunctivitis.
- Skin:* Material is not expected to be absorbed through the skin. Contact with dust may cause mild irritation, consisting of redness and/or swelling.
- Inhalation:* Harmful if inhaled. Inhalation of high concentrations of powder, dust or fume may cause respiratory and nasal irritation, coughing and difficulty breathing. Inhalation of high concentrations of metallic copper dusts or fumes may cause nasal irritation and/or nausea, vomiting and stomach pain.
- Ingestion:* Not an expected route of entry. Ingestion of large amounts of dust may cause nausea, vomiting, constipation, cramps and/or stomach pain.

Potential chronic health effects

- : Prolonged or repeated skin contact with dust may cause more severe irritation or dermatitis. Prolonged or repeated inhalation of dust or fume may cause more severe irritation and, possibly, lung damage. Repeated exposure may cause an allergic skin reaction, consisting of itching, redness, swelling and rash or urticaria (hives) in sensitized individuals. Chronic exposure to very high concentrations of manganese dust has caused nervous system effects, including muscle weakness, tremors, and behavioral changes. Epidemiological studies in humans have shown an association between lung and nasal cancers and prolonged occupational exposures to high concentrations of nickel. Aluminum has been suspected of causing neurological damage.

Medical conditions aggravated by overexposure

- : Exposure to dust or fume may aggravate an existing dermatitis or neurological condition; asthma; emphysema; or other respiratory diseases.

Additional health hazards

- : If product is heated, inhalation of fumes released from product may cause 'polymer fume fever', a flu-like illness.

Potential environmental effects

- : None reported by the manufacturer.

SECTION 4 - FIRST AID MEASURES

- Inhalation** : Inhalation problems are not anticipated. Remove exposed person to fresh air if adverse effects, such as breathing difficulty arise. If irritation persists, seek prompt medical attention.
- Skin contact** : If exposed to dust or fumes, wash skin with plenty of water. Remove and wash contaminated clothing before re-use. If skin rash or irritation develops and persists, or reoccurs, get medical attention.
- Eye contact** : If in eyes, rinse with water for 15 minutes. Lift upper and lower lids during flushing to ensure complete removal of chemical. If irritation persists, seek prompt medical attention.
- Ingestion** : Not a likely route of exposure for the finished metal alloy. If large amounts swallowed, get medical attention. If large amounts of dust are ingested, immediately drink water to dilute. Consult a physical if symptoms develop.
- Notes For Physician** : There is no specific antidote or treatment for the ingredients in this product. Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

- : Not flammable under normal conditions of handling.

Flammability classification (OSHA 29 CFR 1910.1200)

- : Not flammable.

Flash point

- : Not applicable.

Flash point Method

- : Not applicable.

Auto-ignition temperature : Not applicable.



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Lower flammable limit (% by vol.)

: Not applicable.

Upper flammable limit (% by vol.)

: Not applicable.

Suitable extinguishing media

: Dust may cause an ignitable and/or explosive atmosphere. For localized powder fires, smother with dry sand, dry dolomite, sodium chloride (salt) or soda ash. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact or static discharge.

Special fire-fighting procedures/equipment

: None reported by the manufacturer.

Hazardous combustion products

: Oxides of carbon.

Oxidizing properties

: None known or reported by the manufacturer.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions

: Wear suitable protective clothing (see Section 8).

Environmental precautions

: No special environmental precautions required.

Spill response/cleanup

: For all transportation accidents, call CHEMTREC at 1-800-424-9300. For spilled solid, pick up foil for reuse or recycling. In dust form, this product may be an explosion hazard. Remove all sources of ignition. Dust or fumes may be suppressed by the use of a local exhaust system. Recover free liquid or cover with inert absorbent material and place into appropriate container for disposal.

Containment

: No special containment required.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures

: Do not ingest. Avoid dust cloud formation. Do not shake clothing, rags or other items to remove dust. Dust should be removed by washing or HEPA vacuuming.

Storage requirements

: Store in a cool, dry, well-ventilated area. Do not store near any incompatible materials (see Section 10).

Incompatible materials

: Strong acids, alkalis, and oxidizers.

Special packaging materials

: No special packaging required.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering measures

: Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust ventilation.

Respiratory protection

: None required under normal conditions. If dusting occurs or fumes are generated above the PEL/TLV, use a NIOSH-approved half-face or full-face respirator equipped with high efficiency particulate (HEPA) filter cartridges.

Skin protection

: None required under normal conditions. If handler is sensitive to metals such as nickel, impermeable gloves such as rubber, nitrile or neoprene are recommended.

Eye / face protection

: None required under normal conditions. In dusty conditions, wear safety glasses or goggles.

Other protective equipment

: None required when used as intended.

General hygiene considerations

: Do not eat, drink or smoke when using the product in dust form.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state

: Solid

Appearance

: Silvery gray, metallic solid.

Odor

: Odorless.

Odor threshold

: Not applicable.

pH

: Not applicable.



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- Boiling point** : Not applicable.
- Melting/Freezing point** : 482-642 °C (900-1200 °F)
- Vapor pressure (mmHg @ 20° C / 68° F)** : Not applicable.
- Vapor density (Air = 1)** : Not applicable.
- Volatile organic Compounds (VOC's) (lbs/gal;g/l)** : Not applicable.
- Viscosity** : Not applicable.
- Special Remarks On Fire Hazards** : Not flammable under normal conditions of use.
- Specific gravity** : Greater than 3
- Coefficient of water/oil distribution** : Not applicable.
- Solubility in water** :
- Evaporation rate (n-Butyl acetate = 1)** : Not applicable.
- Volatiles (% by weight)** : Not applicable.

SECTION 10 - REACTIVITY AND STABILITY DATA

- Stability and reactivity** : Stable under normal conditions.
- Hazardous polymerization** : Will not occur.
- Conditions to avoid** : Avoid contact with carbon monoxide, particularly at temperatures between 50 °C and 300 °C, to prevent formation of nickel carbonyl, a toxic and carcinogenic chemical.
- Materials To Avoid And Incompatibility** : For finely divided aluminum: Strong oxidizers cause violent reaction with heat generation. Acids and alkalis react to generate hydrogen gas. Water and aluminum dust mixture may be hazardous in confined spaces or containers, due to generation of hydrogen gas. Halogenated hydrocarbons such as chloroform can react violently with finely divided aluminum.
- Hazardous decomposition products** : When heated to decomposition, may produce oxides of metals such as aluminum, copper and iron. Inhalation of fumes, may result in metal fume fever, a flu-like illness.

SECTION 11 - TOXICOLOGICAL INFORMATION

<u>Ingredients</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>oral</u>	<u>dermal</u>
Copper	N/Av	N/Av	N/Av
Silicon	N/Av	3160 mg/kg	N/Av
Magnesium	N/Av	230 mg/kg	N/Av
Iron	N/Av	984 mg/kg	N/Av
Aluminum	N/Av	N/Av	N/Av
Nickel	N/Av	>9000 mg/kg	N/Av
Manganese	N/Av	9 g/kg	N/Av
Coating	N/Av	N/Av	N/Av

- Toxicological data** : Low order of toxicity for normal industrial handling. The finished alloy metal is not hazardous.
- Carcinogenic status** : In laboratory animal studies, chronic exposure to high concentrations of nickel has caused an increase in lung and nasal tumors. IARC has classified nickel as possibly carcinogenic to humans, Group 2B. The NTP classifies nickel as a known human carcinogen.



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- Reproductive effects** : This product is not known or reported to cause reproductive or developmental effects. Exposure of male rats to high concentrations of nickel caused testicular degeneration. However, symptoms of systemic toxicity, including severe weight loss, were also observed that the same concentrations, indicating that the testicular effects were secondary to the general toxicity.
- Teratogenicity** : Not expected to be a teratogen.
- Mutagenicity** : Not expected to be mutagenic in humans.
- Reproductive Effects** : This product is not known or reported to cause reproductive or developmental effects. Exposure of male rats to high concentrations of nickel caused testicular degeneration. However, symptoms of systemic toxicity, including severe weight loss, were also observed that the same concentrations, indicating that the testicular effects were secondary to the general toxicity.
- Irritancy** : Direct contact causes severe irritation and possibly eye injury Possible inhalation irritant. Irritating to skin.
- Sensitization to material** : Exposure to nickel is known to cause skin and respiratory sensitization.
- Synergistic materials** : None reported by the manufacturer.

Neurological effects: This product is not known or reported to cause neurological effects. Chronic exposure to very high concentrations for manganese dust has caused nervous system effects, including muscle weakness, tremors and behavioral changes in humans. Chronic exposure to aluminum has been suspected as a possible cause of neurological damage.

SECTION 12 - ECOLOGICAL INFORMATION

- Environmental effects** : None expected in current form. However, it is recommended not to allow the material to enter the environment.

Important environmental characteristics

- : None known or reported by the manufacturer.

Ecotoxicological

- : Copper: The toxicity of copper to aquatic organisms varies significantly, not only with the species, but also with the physical and chemical characteristics of the water, such as its temperature, hardness, turbidity and carbon dioxide content. Copper concentrations varying from 0.1 to 1.0 mg/L have been found by various investigators to be not toxic for most fish. However, concentrations of 0.016 to 3.0 mg/L have been reported as toxic, particularly in soft water, to many kinds of fish, crustaceans, mollusks, insects and plankton.
 Nickel:LC50 (96 hr) rainbow trout: 31.7 mg/L; LC50 (96 hr) fathead minnow: 3.1 mg/L;
 EC50 (72 hr) freshwater algae (4 species): 0.1 mg/L; LC50/96h/daphnia = 0.51 mg/L.

SECTION 13 - DISPOSAL CONSIDERATIONS

- Handling for Disposal** : See Section 7 (Handling and Storage) section for further details.
- Methods of Disposal** : Care must be taken to prevent environmental contamination from the use of this material. The user of this material has the responsibility to dispose of unused material, residues and containers, in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and non-hazardous wastes. This product may be a candidate for metal reclamation.

SECTION 14 - TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	Not regulated.	Not regulated	-None-	
TDG Additional information	None.				
49CFR/DOT	None	Not regulated.	Not regulated	-None-	



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49CFR/DOT Additional information	None.				
ICAO/IATA	None	Not regulated.	Not regulated	-None-	
ICAO/IATA Additional information	None.				
IMDG	None	Not regulated.	Not regulated	-None-	
IMDG Additional information	None.				

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SARA 313: Copper, manganese, aluminum (fume or dust), Nickel.

CERCLA: Copper, RQ = 5000 lbs.; Nickel, RQ = 100 lbs. (No reporting is required if diameter of the pieces of metal is equal to or exceeds 100 micrometers (0.004 inches).)

US State Right to Know Laws:

This product contains nickel, a chemical know to the State of California to cause cancer.

Canadian Regulations:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian WHMIS Classification: D2B - Other Toxic Effects - Toxic

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16 - OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- IARC: International Agency for Research on Cancer
- N/Ap: Not Applicable
- N/Av: Not Available
- NIOSH: National Institute of Occupational Safety and Health
- NTP : National Toxicology Program
- OSHA: Occupational Safety and Health Administration

References

- : Information obtained from sources including original supplier's Material Safety Data Sheet, and references including RTECS and CCOHS Cheminfo.



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