



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material Name	COATED COIL AND SHEET
MSDS Number	1073
Chemical Formula	Mixture
Product use	Various fabricated aluminum parts and products
Synonym(s)	Aluminum alloys: * 0359, 0437, 1100, 3003, 3004, 3005, 3105, 5005, 5042, 5050, 5052, 5182, 5352, 5754, 8006
Manufacturer information	Alcoa Inc. 201 Isabella Street Pittsburgh, PA 15212-5858 US Health and Safety: +1-412-553-4649 Alumax Mill Products 1480 Manheim Pike Lancaster, PA 17604 +1-717-393-9641, +1-800-233-0481
Emergency Information	USA: Chemtrec: +1-703-527-3887 +1-800-424-9300 ALCOA: +1-412-553-4001
Website	For a current MSDS, refer to Alcoa websites: www.alcoa.com or Internally at my.alcoa.com EHS Community

2. Hazards Identification

Emergency overview	Solid. Coated coil or sheet. Various colors. Odorless. Non-combustible as supplied. Small chips, fine turnings and dust from processing may be readily ignitable. Explosion/fire hazards may be present when (See Sections 5, 7 and 10 for additional information): <ul style="list-style-type: none">• Dust or fines are dispersed in air.• Chips, fines or dust are in contact with water.• Dust and fines are in contact with certain metal oxides (e.g., rust, copper oxide).• Molten metal in contact with water/moisture or certain metal oxides (e.g., rust, copper oxide). Dust and fumes from processing: Can cause irritation of the eyes, skin and upper respiratory tract. Combustion of the coatings can generate toxic and irritating gases.
---------------------------	---

Potential health effects

The following statements summarize the health effects generally expected in cases of overexposures. User specific situations should be assessed by a qualified individual. Additional health information can be found in Section 11.

The health effects listed below are not likely to occur unless processing of this product generates dusts or fumes.

Eyes Dust and fumes from processing: Can cause irritation.

Skin Dust and fumes from processing: Can cause irritation.

Inhalation Dust and fumes from processing: Can cause irritation of the upper respiratory tract. Chronic overexposures: Can cause scarring of the lungs (pulmonary fibrosis), central nervous system damage, secondary Parkinson's disease, reproductive harm in males and lung cancer.

Additional health effects from elevated temperature processing (e.g., melting): Dust and fumes: Can cause severe irritation of the respiratory tract. Acute overexposures: Can cause the accumulation of fluid in the lungs (pulmonary edema).

Carcinogenicity and Reproductive Hazard Product as shipped: Does not present any cancer or reproductive hazards. Dust and fumes from processing: Can present a cancer hazard (Strontium chromate). Can present a reproductive hazard (Manganese).

Medical conditions aggravated by exposure to product Dust and fumes from processing: Asthma, chronic lung disease, Secondary Parkinson's disease and skin rashes.

3. Composition / Information on Ingredients

Composition comments Complete composition is provided below and may include some components classified as non-hazardous.

Components	CAS #	Percent
Aluminum	7429-90-5	>94
Magnesium	7439-95-4	<5
Silicon	7440-21-3	<2
Iron	7439-89-6	<2
Manganese	7439-96-5	<1.5
Chromium	7440-47-3	<0.35
Coatings [†]	Not Applicable	<10
Strontium chromate [‡]	7789-06-2	0 - 0.05

Additional Information † Coatings include: vinyl, epoxy, polyester, siliconized polyester, acrylic, fluorocarbons, polyurethane, petrolatum, chromium conversion and titanium conversion.
‡ - Backers 1BHL5626, 1BHY5137, 45D43C and 45Y58 only
Additional compounds which may be formed during processing are listed in Section 8.

4. First Aid Measures

First aid procedures

- Eye contact** Dust and fume from processing: Rinse eyes with plenty of water or saline for at least 15 minutes. Consult a physician.
- Skin contact** Dust and fume from processing: Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.
- Inhalation** Dust and fume from processing: Remove to fresh air. Check for clear airway, breathing, and presence of pulse. Provide cardiopulmonary resuscitation for persons without pulse or respirations. Consult a physician.

5. Fire Fighting Measures

Flammable/Combustible Properties

This product does not present fire or explosion hazards as shipped. Small chips, fine turnings, and dust from processing may be readily ignitable.

Fire / Explosion Hazards

May be a potential hazard under the following conditions:

- Dust clouds may be explosive. Even a minor dust cloud can explode violently.
- Chips, fines and dust in contact with water can generate flammable/explosive hydrogen gas. These gases could present an explosion hazard in confined or poorly ventilated spaces.
- Dust and fines in contact with certain metal oxides (e.g., rust, copper oxide). A thermite reaction, with considerable heat generation, can be initiated by a weak ignition source.
- Molten metal in contact with water/moisture or certain metal oxides (e.g., rust, copper oxide). Moisture entrapped by molten metal can be explosive. Contact of molten aluminum with certain metal oxides can initiate a thermite reaction. Finely divided metals (e.g., powders or wire) may have enough surface oxide to produce thermite reactions/explosions.

Extinguishing media

- Suitable extinguishing media** Use Class D extinguishing agents on fines, dust or molten metal. Use coarse water spray on chips and turnings.
- Unsuitable extinguishing media** DO NOT use halogenated extinguishing agents on small chips/fines. DO NOT USE water in fighting fires around molten metal. These fire extinguishing agents will react with the burning material.

Protection of firefighters

- Protective equipment for firefighters** Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

6. Accidental Release Measures

Spill or leak procedure If molten: Contain the flow using dry sand or salt flux as a dam. All tooling (e.g., shovels or hand tools) and containers which come in contact with molten metal must be preheated or specially coated and rust free. Allow the spill to cool before remelting as scrap.

7. Handling and Storage

Handling Avoid generating dust. Avoid contact with sharp edges or heated metal. Hot and cold aluminum are not visually different. Hot aluminum does not necessarily glow red.

Storage Keep material dry.

Requirements for Processes Which Generate Dusts or Fines If processing of this product generates dust or if extremely fine particulate is generated, obtain and follow the safety procedures and equipment guides contained in Aluminum Association Bulletin F-1 and National Fire Protection Association (NFPA) brochures listed in Section 16.

Use non-sparking handling equipment, tools and natural bristle brush. Cover and reseal partially empty containers. Provide grounding and bonding where necessary to prevent accumulation of static charges during metal dust handling and transfer operations (See Section 15).

Local ventilation and vacuum systems must be designed to handle explosive dusts. Dry vacuums and electrostatic precipitators must not be used, unless specifically approved for use with flammable/explosive dusts. Dust collection systems must be dedicated to aluminum dust only and should be clearly labeled as such. Do not co-mingle fines of aluminum with fines of iron, iron oxide (rust) or other metal oxides.

Do not allow chips, fines or dust to contact water, particularly in enclosed areas.

Avoid all ignition sources. Good housekeeping practices must be maintained. Do not use compressed air to remove settled material from floors, beams or equipment.

Requirements for Remelting of Scrap Material or Ingot Molten metal and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off the water. Water and other forms of contamination on or contained in scrap or remelt ingot are known to have caused explosions in melting operations. While the products may have minimal surface roughness and internal voids, there remains the possibility of moisture contamination or entrapment. If confined, even a few drops of water can lead to violent explosions.

All tooling and containers which come in contact with molten metal must be preheated or specially coated and rust free. Molds and ladles must be preheated or oiled prior to casting. Any surfaces that may contact molten metal (i.e., concrete) should be specially coated.

Drops of molten metal in water (e.g. from plasma arc cutting), while not normally an explosion hazard, can generate enough flammable hydrogen gas to present an explosion hazard. Vigorous circulation of the water and removal of the particles minimize the hazards.

During melting operations, the following minimum guidelines should be observed:

- Inspect all materials prior to furnace charging and completely remove surface contamination such as water, ice, snow, deposits of grease and oil or other surface contamination resulting from weather exposure, shipment, or storage.
- Store materials in dry, heated areas with any cracks or cavities pointed downwards.
- Preheat and dry large items adequately before charging into a furnace containing molten metal. This is typically done by use of a drying oven or homogenizing furnace. The drying cycle should bring the metal temperature of the coldest item of the batch to 400°F (200°C) and then hold at that temperature for 6 hours.

Thermite explosions have been reported when aluminum alloys were melted in furnaces used for alloying with lead, bismuth or other metals with low melting temperatures. These metals, when added as high purity ingots, can seep through cracks in furnace liners and become oxidized. During subsequent melts in the furnace, molten aluminum can contact these metal oxides resulting in a thermite explosion.

8. Exposure Controls / Personal Protection

Engineering controls Dust and fume from processing: Use with adequate ventilation to meet the limits listed in Section 8.

Exposure data

Components

U.S. - OSHA - Specifically Regulated Chemicals

Strontium chromate \ddagger (7789-06-2)

2.5 $\mu\text{g}/\text{m}^3$ Action Level; 5 $\mu\text{g}/\text{m}^3$ TWA (Cancer hazard - see 29 CFR 1910.1026)

Compounds Formed During Processing

ACGIH - Threshold Limit Values - Skin Notations

Hydrogen fluoride (7664-39-3)

Skin - potential significant contribution to overall exposure by the cutaneous route

Occupational exposure limits

U.S. - OSHA

Components

Components	Type	Value	Form
Aluminum (7429-90-5)	TWA	5 mg/m ³	(respirable fraction)
	TWA (total dust)	15 mg/m ³	(total dust)
Chromium (7440-47-3)	TWA	1 mg/m ³	
Manganese (7439-96-5)	Ceiling	5 mg/m ³	(fume)
Silicon (7440-21-3)	TWA	5 mg/m ³	(respirable fraction)
	TWA (total dust)	15 mg/m ³	(total dust)
Strontium chromate \ddagger (7789-06-2)	TWA	5 $\mu\text{g}/\text{m}^3$	(as Cr)

Compounds Formed During Processing

Components	Type	Value	Form
Aluminum oxide (non-fibrous) (1344-28-1)	TWA	5 mg/m ³	(respirable fraction)
	TWA (total dust)	15 mg/m ³	(total dust)
Hydrogen chloride (7647-01-0)	Ceiling	5 ppm	
		7 mg/m ³	
Hydrogen fluoride (7664-39-3)	TWA	3 ppm	
Magnesium oxide (1309-48-4)	TWA	15 mg/m ³	(fume, total particulate)

Alcoa

Components

Components	Type	Value	Form
Aluminum (7429-90-5)	TWA	10 mg/m ³	(8 Hour)
		3 mg/m ³	(respirable fraction)
Manganese (7439-96-5)	TWA	0.02 mg/m ³	(respirable fraction, as Mn)
		0.05 mg/m ³	(total dust)
Strontium chromate \ddagger (7789-06-2)	TWA	0.25 $\mu\text{g}/\text{m}^3$	(as Cr)

Compounds Formed During Processing

Components	Type	Value	Form
Aluminum oxide (non-fibrous) (1344-28-1)	TWA	3 mg/m ³	(respirable fraction)
		10 mg/m ³	(8 Hour)
Hydrogen fluoride (7664-39-3)	STEL	4.9 mg/m ³	(as F)
	TWA	0.5 mg/m ³	(8 Hour)

ACGIH

Components

Components	Type	Value	Form
Aluminum (7429-90-5)	TWA	1 mg/m ³	(respirable fraction)
Chromium (7440-47-3)	TWA	0.5 mg/m ³	
Manganese (7439-96-5)	TWA	0.2 mg/m ³	
Strontium chromate \ddagger (7789-06-2)	TWA	0.0005 mg/m ³	(as Cr)

Compounds Formed During Processing

Components	Type	Value	Form
Aluminum oxide (non-fibrous) (1344-28-1)	TWA	1 mg/m ³	(respirable fraction, as Al)
Hydrogen chloride (7647-01-0)	Ceiling	2 ppm	
Hydrogen fluoride (7664-39-3)	Ceiling	2 ppm	(as F)
	TWA	0.5 ppm	(as F)
Magnesium oxide (1309-48-4)	TWA	10 mg/m ³	(inhalable fraction)

Personal protective equipment

Eye / face protection

Wear safety glasses with side shields.

Skin protection

Wear appropriate gloves to avoid any skin injury.

Respiratory protection

Dust and fume from processing: Use NIOSH-approved respiratory protection as specified by an Industrial Hygienist or other qualified professional if concentrations exceed the limits listed in Section 8. Suggested respiratory protection: N95, Acid gas cartridge for Hydrogen fluoride gas and Hydrogen chloride.

General

Personnel who handle and work with molten metal should utilize primary protective clothing like polycarbonate face shields, fire resistant tapper's jackets, neck shades (snoods), leggings, spats and similar equipment to prevent burn injuries. In addition to primary protection, secondary or day-to-day work clothing that is fire resistant and sheds metal splash is recommended for use with molten metal. Synthetic materials should never be worn even as secondary clothing (undergarments).

9. Physical & Chemical Properties

Form	Solid. Coated coil or sheet.
Color	Various colors.
Boiling point	Not applicable
Melting point	900 - 1200 °F (482.2 - 648.9 °C)
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Flammability limits in air, lower, % by volume	Not applicable
Flammability limits in air, upper, % by volume	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Solubility (water)	Insoluble
Density	2.63 - 3.12 g/cm ³ (0.095 - 0.113 lb/in ³)
pH	Not applicable
Odor	Odorless.
Partition coefficient (n-octanol/water)	Not applicable

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal conditions of use, storage, and transportation.
Conditions to avoid	<p>Chips, fines, dust and molten metal are considerably more reactive with the following:</p> <ul style="list-style-type: none">• Water: Slowly generates flammable/explosive hydrogen gas and heat. Generation rate is greatly increased with smaller particles (e.g., fines and dusts). Molten metal can react violently/explosively with water or moisture, particularly when the water is entrapped.• Heat: Oxidizes at a rate dependent upon temperature and particle size.• Strong oxidizers: Violent reaction with considerable heat generation. Can react explosively with nitrates (e.g., ammonium nitrate and fertilizers containing nitrate) when heated or molten.• Acids and alkalis: Reacts to generate flammable/explosive hydrogen gas. Generation rate is greatly increased with smaller particles (e.g., fines and dusts).• Halogenated compounds: Many halogenated hydrocarbons, including halogenated fire extinguishing agents, can react violently with finely divided or molten aluminum.• Iron oxide (rust) and other metal oxides (e.g., copper and lead oxides): A violent thermite reaction generating considerable heat can occur. Reaction with aluminum fines and dusts requires only very weak ignition sources for initiation. Molten aluminum can react violently with iron oxide without external ignition source.• Iron powder and water: Explosive reaction forming hydrogen gas when heated above 1470°F (800°C).

11. Toxicological Information

Health effects associated with ingredients

Aluminum dust/fines and fumes: Low health risk by inhalation. Generally considered to be biologically inert (milling, cutting, grinding).

Manganese dust or fumes: Chronic overexposures: Can cause inflammation of the lung tissues, scarring of the lungs (pulmonary fibrosis), central nervous system damage, Secondary Parkinson's Disease and reproductive harm in males.

Silicon (inert dusts): Chronic overexposures: Can cause chronic bronchitis and narrowing of airways.

Chromium dust and fumes: Can cause irritation of eye, skin and respiratory tract. Metallic chromium and trivalent chromium: Not classifiable as to their carcinogenicity to humans by IARC.

Strontium chromate [Chromium (VI) compounds]: Can cause irritation of eye, skin and respiratory tract. Skin contact: Can cause irritant dermatitis, allergic reactions and skin ulcers. Chronic overexposures: Can cause perforation of the nasal septum, respiratory sensitization, asthma, fluid in the lungs (pulmonary edema), lung damage, kidney damage, lung cancer, nasal cancer and cancer of the gastrointestinal tract. IARC/NTP: Listed as "known to be a human carcinogen" by the NTP. Listed as carcinogenic to humans by IARC (Group 1).

Health effects associated with compounds formed during processing

The following could be expected if welded, remelted or otherwise processed at elevated temperatures:

Alumina (aluminum oxide): Low health risk by inhalation. Generally considered to be biologically inert.

Magnesium oxide fumes: Can cause irritation of the eyes and respiratory tract. Acute overexposures: Can cause metal fume fever (nausea, fever, chills, shortness of breath and malaise).

Combustion of the coatings can generate Hydrogen chloride and Hydrogen fluoride.

Hydrogen chloride gas: Can cause severe irritation and corrosive burns of eyes, skin and upper respiratory tract. Acute overexposures: Can cause the accumulation of fluid in the lungs (pulmonary edema).

Hydrogen fluoride: Can cause severe irritation of the eyes, mucous membranes, skin and respiratory tract. Acute overexposures: Can cause cough, shock, the accumulation of fluid in the lungs (pulmonary edema) and death. Effects can be delayed up to 24 hours.

Component analysis - LD50 No data available for this product.

Components

Toxicology Data - Selected LD50s and LC50s

Iron (7439-89-6)	Oral LD50 Rat: 984 mg/kg
Magnesium (7439-95-4)	Oral LD50 Rat: 230 mg/kg
Manganese (7439-96-5)	Oral LD50 Rat: 9 g/kg
Silicon (7440-21-3)	Oral LD50 Rat: 3160 mg/kg
Strontium chromate \pm (7789-06-2)	Oral LD50 Rat: 3118 mg/kg

Compounds Formed During Processing

Toxicology Data - Selected LD50s and LC50s

Aluminum oxide (non-fibrous) (1344-28-1)	Oral LD50 Rat: >5000 mg/kg
Hydrogen chloride (7647-01-0)	Inhalation LC50 Rat: 3124 ppm/1H; Oral LD50 Rat: 700 mg/kg; Dermal LD50 Rabbit: >5010 mg/kg
Hydrogen fluoride (7664-39-3)	Inhalation LC50 Rat: 850 mg/m ³ /1H; Inhalation LC50 Rat: 1276 ppm/1H

Carcinogenicity No information available for product.

Components

ACGIH - Threshold Limit Values - Carcinogens

Aluminum (7429-90-5)	A4 - Not Classifiable as a Human Carcinogen
Chromium (7440-47-3)	A4 - Not Classifiable as a Human Carcinogen
Strontium chromate \pm (7789-06-2)	A2 - Suspected Human Carcinogen

Components

IARC - Group 1 (Carcinogenic to Humans)

Strontium chromate \pm (7789-06-2) Monograph 49 [1990] (evaluated as a group)

NTP (National Toxicology Program) - Report on Carcinogens - Known Human Carcinogens

Strontium chromate \pm (7789-06-2) Known Human Carcinogen

U.S. - OSHA - Specifically Regulated Carcinogens (1910.1001 to 1910.1096)

Strontium chromate \pm (7789-06-2) Workers exposed to Cr(VI) are at an increased risk of developing lung cancer - see 29 CFR 1910.1026

Compounds Formed During Processing

ACGIH - Threshold Limit Values - Carcinogens

Aluminum oxide (non-fibrous) (1344-28-1) A4 - Not Classifiable as a Human Carcinogen
Hydrogen chloride (7647-01-0) A4 - Not Classifiable as a Human Carcinogen
Magnesium oxide (1309-48-4) A4 - Not Classifiable as a Human Carcinogen

12. Ecological Information

Ecotoxicity

Components

Ecotoxicity - Freshwater Fish Species Data

Iron (7439-89-6) 96 Hr LC50 *Morone saxatilis*: 13.6 mg/L [static]; 96 Hr LC50 *Cyprinus carpio*: 0.56 mg/L [semi-static]

Compounds Formed During Processing

Ecotoxicity - Freshwater Fish Species Data

Hydrogen chloride (7647-01-0) 96 Hr LC50 *Gambusia affinis*: 282 mg/L [static]
Hydrogen fluoride (7664-39-3) 48 Hr LC50 *Leuciscus idus*: 660 mg/L

Ecotoxicity - Water Flea Data

Hydrogen fluoride (7664-39-3) 48 Hr EC50 *Daphnia magna*: 270 mg/L

Environmental Fate No data available for product.

13. Disposal Considerations

Disposal instructions Reuse or recycle material whenever possible. If reuse or recycling is not possible, disposal must be made according to local or governmental regulations.

Waste codes RCRA Status: Not federally regulated in the U.S. if disposed of "as is."
RCRA waste codes other than described here may apply depending on use of the product. Status must be determined at the point of waste generation. Refer to 40 CFR 261 or state equivalent in the U.S. TCLP testing is recommended for Chromium.

14. Transport Information

General Shipping Information

Basic shipping description:

UN number -
Proper shipping name Not regulated
Hazard class -
Packing group -

General Shipping Notes

- When "Not regulated", enter the proper freight classification, MSDS Number and Product Name onto the shipping paperwork.

U.S. Department of Transportation (DOT)

Alternate Basic Shipping Description #1

Basic shipping description:

UN number NA3077
Proper shipping name Hazardous waste, solid, n.o.s
Hazard class 9
Packing group III

Additional description & information:

Reportable quantity RQ

Technical name D007

Notes for Alternate DOT Description

- Classification applies to shipments within the domestic U.S. when declared a waste product and meeting the TCLP criteria for Chromium.
- Delete "RQ" reference when containing less than 10 lb. per packaging.

15. Regulatory Information

US federal regulations

In reference to Title VI of the Clean Air Act of 1990, this material does not contain nor was it manufactured using ozone-depleting chemicals.

All electrical equipment must be suitable for use in hazardous atmospheres involving aluminum powder in accordance with 29 CFR 1910.307. The National Electrical Code, NFPA 70, contains guidelines for determining the type and design of equipment and installation which will meet this requirement.

Components

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Chromium (7440-47-3)	5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)
Strontium chromate \pm (7789-06-2)	10 lb final RQ; 4.54 kg final RQ

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Aluminum (7429-90-5)	1.0 % de minimis concentration (dust or fume only)
Chromium (7440-47-3)	1.0 % de minimis concentration
Manganese (7439-96-5)	1.0 % de minimis concentration
Strontium chromate \pm (7789-06-2)	0.1 % de minimis concentration (except for chromite ore mined in the Transvaal Region of South Africa and the unreacted ore component of the chromite ore processing residue (COPR), Chemical Category N090)

State regulations

Components

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Aluminum (7429-90-5)	Present
Chromium (7440-47-3)	Present
Iron (7439-89-6)	Present
Magnesium (7439-95-4)	Present
Manganese (7439-96-5)	Present
Strontium chromate \pm (7789-06-2)	Present

U.S. - Massachusetts - Right To Know List

Aluminum (7429-90-5)	Present
Chromium (7440-47-3)	Carcinogen; Extraordinarily hazardous
Magnesium (7439-95-4)	Present
Manganese (7439-96-5)	Present
Silicon (7440-21-3)	Present (dust, exempt when encapsulated or if particulates are not present and cannot be substantially generated through use of the product)
Strontium chromate \pm (7789-06-2)	Carcinogen; Extraordinarily hazardous

U.S. - Minnesota - Hazardous Substance List

Aluminum (7429-90-5)	Present (dust)
Chromium (7440-47-3)	Present
Manganese (7439-96-5)	Present
Silicon (7440-21-3)	Present (dust)
Strontium chromate \pm (7789-06-2)	Carcinogen

U.S. - New Jersey - Right to Know Hazardous Substance List

Aluminum (7429-90-5)	sn 0054
Chromium (7440-47-3)	sn 0432
Magnesium (7439-95-4)	sn 1136
Manganese (7439-96-5)	sn 1155 (dust and fume)
Silicon (7440-21-3)	sn 3125 (powder)
Strontium chromate \pm (7789-06-2)	sn 1742

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

Chromium (7440-47-3)	Present
----------------------	---------

State regulations

Components

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

Strontium chromate \ddagger (7789-06-2) Present

U.S. - Pennsylvania - RTK (Right to Know) List

Aluminum (7429-90-5) Environmental hazard
Chromium (7440-47-3) Environmental hazard; Special hazardous substance
Magnesium (7439-95-4) Present
Manganese (7439-96-5) Environmental hazard
Silicon (7440-21-3) Present
Strontium chromate \ddagger (7789-06-2) Environmental hazard; Special hazardous substance

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes, If particulates/fumes generated during processing
Delayed Hazard - Yes, If particulates/fumes generated during processing
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - Yes, If molten

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no) *
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

MSDS History

Origination date: November 19, 1999
Supersedes: February 14, 2006
Revision date: September 2, 2009

MSDS Status

September 2, 2009: New format.
February 14, 2006: Change(s) in Section: 1, 2, 3, 4, 5, 7, 8, 11, 13, 14 and 15. January 21, 2003: Reviewed on a periodic basis in accordance with Alcoa policy. No significant changes were made.

Prepared By

Hazardous Materials Control Committee
Preparer: Jon N. Peace, 412-553-2293/Robert W. Barr, 412-553-2618

MSDS System Number

152315

Other information

- Aluminum Association's Bulletin F-1, "Guidelines for Handling Aluminum Fines Generated During Various Aluminum Fabricating Operations." The Aluminum Association, 1525 Wilson Boulevard, Suite 600, Arlington, Virginia 22209, www.aluminum.org.
- Aluminum Association, "Guidelines for Handling Molten Aluminum, The Aluminum Association, 1525 Wilson Boulevard, Suite 600, Arlington, Virginia 22209, www.aluminum.org.
- NFPA 65, Standard for Processing and Finishing of Aluminum (NFPA phone: 800-344-3555)
- NFPA 651, Standard for Manufacture of Aluminum and Magnesium Powder
- NFPA 70, Standard for National Electrical Code (Electrical Equipment, Grounding and Bonding)
- NFPA 77, Standard for Static Electricity
- NFPA 65, Standard for Processing and Finishing of Aluminum (NFPA phone: 800-344-3555)
- NFPA 651, Standard for Manufacture of Aluminum and Magnesium Powder
- NFPA 70, Standard for National Electrical Code (Electrical Equipment, Grounding and Bonding)
- NFPA 77, Standard for Static Electricity
- Guide to Occupational Exposure Values 2009, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).
- Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition, 1991, Compiled by the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH).
- NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, February 2004.
- Dangerous Properties of Industrial Materials, Sax, N. Irving, Van Nostrand Reinhold Co., Inc., 1984.
- Patty's Industrial Hygiene and Toxicology: Volume II: Toxicology, 4th ed., 1994, Patty, F. A.; edited by Clayton, G. D. and Clayton, F. E.: New York: John Wiley & Sons, Inc.
- expub, Expert Publishing, LLC., www.expub.com

Key/Legend:

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	Cardio-pulmonary Resuscitation
DOT	Department of Transportation
DSL	Domestic Substances List (Canada)
EC	Effective Concentration
ED	Effective Dose
EINECS	European Inventory of Existing Commercial Chemical Substances
ENCS	Japan - Existing and New Chemical Substances
EWC	European Waste Catalogue
EPA	Environmental Protective Agency
IARC	International Agency for Research on Cancer
LC	Lethal Concentration
LD	Lethal Dose
MAK	Maximum Workplace Concentration (Germany) "maximale Arbeitsplatz-Konzentration"
NDSL	Non-Domestic Substances List (Canada)
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PIN	Product Identification Number
PMCC	Pensky Marten Closed Cup
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SIMDUT	Système d'Information sur les Matières Dangereuses Utilisées au Travail
STEL	Short Term Exposure Limit
TCLP	Toxic Chemicals Leachate Program
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System

m meter, cm centimeter, mm millimeter, in inch,
g gram, kg kilogram, lb pound, µg microgram,
ppm parts per million, ft feet

*** End of MSDS ***

COATED COIL AND SHEET

CAUTION

Non-combustible as supplied. Small chips, fine turnings and dust from processing may be readily ignitable.

Explosion/fire hazards may be present when:

Dust or fines are dispersed in air; Chips, fines or dust are in contact with water; Dust and fines are in contact with certain metal oxides (e.g., rust, copper oxide). Molten metal in contact with water/moisture or certain metal oxides (e.g., rust, copper oxide).

Dust and fumes from processing: Can cause irritation of the eyes, skin and upper respiratory tract. Chronic overexposures: Can cause scarring of the lungs, central nervous system damage, secondary Parkinson's disease, reproductive harm in males and lung cancer. Combustion of the coatings can generate toxic and irritating gases.

FIRST AID

Eye contact	Dust and fume from processing: Rinse eyes with plenty of water or saline for at least 15 minutes. Consult a physician.
Skin contact	Dust and fume from processing: Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.
Inhalation	Dust and fume from processing: Remove to fresh air. Check for clear airway, breathing, and presence of pulse. Provide cardiopulmonary resuscitation for persons without pulse or respirations. Consult a physician.

FIRE FIGHTING

Suitable extinguishing media	Use Class D extinguishing agents on fines, dust or molten metal. Use coarse water spray on chips and turnings.
Extinguishing media which must not be used for safety reasons	DO NOT use halogenated extinguishing agents on small chips/fines. DO NOT USE water in fighting fires around molten metal. These fire extinguishing agents will react with the burning material.

SPILL PROCEDURES

Spill or leak procedure	If molten: Contain the flow using dry sand or salt flux as a dam. All tooling (e.g., shovels or hand tools) and containers which come in contact with molten metal must be preheated or specially coated and rust free. Allow the spill to cool before remelting as scrap.
--------------------------------	--

HANDLING AND STORAGE

Handling	Avoid generating dust. Avoid contact with sharp edges or heated metal. Hot and cold aluminum are not visually different. Hot aluminum does not necessarily glow red.
Storage	Keep material dry.

See Alcoa Material Safety Data Sheet No. 1073 for more information about use and disposal.
Emergency Phone: (412) 553-4001.

Contains:

Aluminum	7429-90-5
Magnesium	7439-95-4
Silicon	7440-21-3
Iron	7439-89-6
Manganese	7439-96-5
Chromium	7440-47-3
Coatings†	Not Applicable
Strontium chromate‡	7789-06-2