
1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Aluminum metal scrap

PRODUCT NUMBER: 000108 (P5651)

SUPPLIER:

Rio Tinto Alcan RTA (CAN)	Rio Tinto Alcan RTA (USA)
Primary Metal	Primary Metal
1188, Sherbrooke West	6060, Parkland Drive
Montréal, Québec	Mayfield Heights, Ohio
Canada H3A 3G2	44124-3185
Emergency phone : 1-800-567-7455 *	Emergency phone : 1-800-567-7455 *
Phone : 514-848-8000	Phone : 440-423-6600
Fax : 514-848-8115/8116	Fax : 440-423-6663

* Please call collect for outside calls of North America.

SYNONYMS: Pit cleanings, pot pads, saw fines, saw chips and metal scrap.

APPEARANCE AND ODOUR: Grey to silver solid; odorless.

USES: Process by-product to be recycled.

2. COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS #	LD ₅₀	LC ₅₀	CONC.
Aluminum	7429-90-5	Unknown	Unknown	> 85.2%
Silicon	7440-21-3	3160 mg/kg (oral-rat)	Unknown	0.08 - 13.0%
Zinc	7440-66-6	Unknown	Unknown	0.05 - 6.0%
Magnesium	7439-95-4	Unknown	Unknown	0 - 5%
Copper	7440-50-8	Unknown	Unknown	0.02 - 3%
Iron	7439-89-6	30 g/kg(oral-rat)	Unknown	0.01 - 2%
Manganese	7439-96-5	9000 mg/kg (oral-rat)	Unknown	0.01 - 1.8%
Chromium	7440-47-3	Unknown	Unknown	0 - 0.35%

For more detailed chemical composition, refer to the certificate of analysis.

3. HAZARDS IDENTIFICATION

If moisture is not removed by heating before remelting, high risk of violent reaction.

4. FIRST AID MEASURES

INHALATION: In case of discomfort, remove to a ventilated area. If discomfort persists, consult a physician.

SKIN CONTACT: In case of burns with hot metal, rinse with plenty of cold water. If burn is severe, consult a physician.

EYE CONTACT: Flush eyes thoroughly with water, taking care to rinse under eyelids. If irritation persists, continue flushing for 15 minutes, rinsing from time to time under eyelids. If discomfort continues, consult a physician.

INGESTION: Not applicable.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Not a fire hazard unless in particle form. Suspensions of aluminum dust in air may pose a severe explosion hazard. A potential for explosion exists for a mixture of fine and coarse particles if at least 15% to 20% of the material is finer than 44 microns (325 mesh). Buffing and polishing generate finer material than grinding, sawing and cutting. In case of aluminum fires, use a class D dry-powder extinguisher (Lith-X). Do not use water or halogenated extinguishing media.

HAZARDOUS COMBUSTION PRODUCTS: Not applicable

6. ACCIDENTAL RELEASE MEASURES

Recycle if possible.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS: Because of the risk of explosion, aluminum ingots and metal scrap should be thoroughly dried prior to remelting. Use standard techniques to check metal temperature before handling. Hot aluminum does not present any warning color change. Exercise great caution, since the metal may be hot. For more information on the handling and storage of aluminum, consult the following documents published by Aluminum Association, 900 19th St., N.W., Washington D.C., 20006 :

- Guidelines for handling molten aluminum
- Recommendation for storage and handling of aluminum powders and paste
- Guidelines for handling Aluminum Fines generated during various aluminum fabricating operations

STORAGE CONDITIONS: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Special ventilation should be used to convey finely divided metallic dust generated by grinding, sawing etc., in order to eliminate explosion hazards. Maintain dust concentration in ventilation ducts below the lower explosive limit of 40 g/m³ (0.04 oz/ft³). See "National Fire Protection Association Codes": Code 65 "Processing and Finishing of Aluminum", Code 651 "Standard for the manufacture of aluminum and magnesium powder" and Code 77 "Static electricity".

Use an approved respirator designed for the hazard, where concentrations exceed exposure limits. The use of both primary and secondary protective equipment is necessary when handling molten metal. Refer to "Aluminum Association" guidelines.

EXPOSURE LIMITS:

	ACGIH (TLV)		OSHA (PEL)	
	TWA	STEL	TWA	CEILING
Aluminum (total dust)	10 mg/m ³	None	15 mg/m ³	None
- Respirable dust	None	None	5 mg/m ³	None
Silicon (total dust)	10 mg/m ³	None	15 mg/m ³	None
-(respirable dust)	None	None	5 mg/m ³	None
Zinc, oxide- (fume)	None	None	5 mg/m ³	None
- total dust	None	None	15 mg/m ³	None
- respirable dust	2 mg/m ³	10 mg/m ³	5 mg/m ³	None
Magnesium oxide (Total dust)	10 mg/m ³	None	15 mg/m ³	None
Copper (fume)	0.2 mg/m ³	None	0.1 mg/m ³	None
- dust	1.0 mg/m ³	None	1.0 mg/m ³	None
Ferric oxide – (fume, dust)	5 mg/m ³	None	10 mg/m ³	None
Manganese (as Mn and compounds)	0.2 mg/m ³	None	None	None
- Fume	None	None	None	5 mg/m ³
Chrome (métal)	0.5 mg/m ³	Aucune	1.0 mg/m ³	Aucune

(ACGIH = American Conference of Governmental Industrial Hygienists; TLV = Threshold Limit Value; OSHA = Occupational Safety and Health Administration [USA]; PEL = Permissible Exposure Limit; TWA = Time-Weighted Average; STEL = Short Term Exposure Limit; C = Ceiling value)

9. PHYSICAL AND CHEMICAL PROPERTIES

PH:	Not applicable	FLASHPOINT:	Not applicable
BOILING POINT:	Not applicable	AUTOIGNITION TEMPERATURE:	Not applicable
MELTING POINT:	482 - 660°C	LOWER FLAMMABLE LIMIT:	Not applicable
VAPOUR PRESSURE:	Not applicable	HIGHER FLAMMABLE LIMIT:	Not applicable
VAPOUR DENSITY (AIR = 1):	Not applicable	EXPLOSIVE PROPERTIES:	Not determined
EVAPORATION RATE:	Not applicable	NFPA FIRE CODE:	0
RELATIVE DENSITY (WATER = 1):	2.5 - 2.9	OXIDIZING PROPERTIES:	Not determined
WATER SOLUBILITY:	Not applicable	PARTITION COEFFICIENT	Not applicable
ODOUR THRESHOLD:	Not applicable	(N-OCTANOL/WATER):	

10. STABILITY AND REACTIVITY

STABLE (YES/NO): Yes

CONDITIONS AND MATERIAL TO AVOID: Molten aluminum may explode on contact with water. In the form of particles, may explode when mixed with halogenated acids, halogenated solvents, bromates, iodates or ammonium nitrate. Aluminum particles on contact with copper, lead, or iron oxides can react vigorously with release of heat if there is a source of ignition or intense heat.

HAZARDOUS DECOMPOSITION PRODUCTS: In the form of particles, aluminum reacts with water, strong basic solutions, strong acidic solutions, halogenated acids (eg.: hydrofluoric acid), producing flammable hydrogen gas.

11. TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE:

INHALATION:	Yes	INGESTION:	No		
EYE CONTACT:	No	SKIN CONTACT:	No	SKIN ABSORPTION:	No

ACUTE EFFECTS:

INHALATION: Solid aluminum does not present an inhalation hazard. Aluminum and silicon dusts generated during use are considered nuisance particulates.

SKIN CONTACT: Skin contact with hot metal can cause burns.

EYE CONTACT: Aluminum dust can irritate the eyes (mechanical abrasion).

INGESTION: Not applicable

CHRONIC EFFECTS:

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE TO THE PRODUCT: Not applicable

CARCINOGENICITY / MUTAGENICITY / REPRODUCTIVE TOXICITY: Chromium and its compounds are listed in the current annual report on carcinogens, prepared by the "National Toxicology Program" (NTP).

(IARC = International Agency for Research on Cancer; NTP = National Toxicology Program [USA]; OSHA = Occupational Safety and Health Administration [USA])

SUPPLEMENTARY INFORMATION:

Aluminum fumes generated during welding or melting present low health risks. Welding or plasma arc cutting of aluminum alloys can generate ozone, nitric oxides and ultraviolet radiation. Ozone overexposure may result in mucous membrane irritation or pulmonary discomfort. UV radiation can cause skin erythema and welders flash. Heavy concentrations or freshly formed fumes of metal oxides (copper, manganese and zinc) can produce symptoms of metal fume fever. High concentrations of manganese dust can affect the central nervous system (apathy, drowsiness, weakness and other symptoms resembling to Parkinson's disease). High concentrations of copper dust can cause irritation of the upper respiratory tract.

12. ECOLOGICAL INFORMATION

Aluminum and its alloys under solid form, such as ingots or manufactured items, do not present any hazard for environment because metals are not biologically available. Aluminum can be recycled.

13. DISPOSAL CONSIDERATIONS

Recycle. Aluminum in the form of particles may be reactive. Its hazardous characteristics, including fire and explosion, should be determined prior to disposal. Dispose of waste in accordance with federal, state, or local regulations.

14. TRANSPORT INFORMATION

TDGR: not regulated CFR 49: not regulated IMO: not regulated ICAO: not regulated IATA: not regulated

[TDGR = Transport of Dangerous Good Regs.(Canada). CFR 49 = Code of Federal Regs.(USA). IMO = International Maritime Organization. ICAO = International Civil Aviation Organization. IATA = International Air Transport Association]

15. REGULATORY INFORMATION

WHMIS CLASSIFICATION (CANADA):	D2B Toxic material causing other toxic effects.
EUROPEAN UNION CLASSIFICATION:	Not classified
WARNING SYMBOL:	None
WARNING WORD:	None
RISK PHRASES:	None
SAFETY PHRASES:	None

USA REGULATIONS :

This product contains trace amounts of lead (Pb) (< 0.1 %). Any process resulting exposure to more than 0.5 mg/m³ of metal dust per day may result in a daily dose of lead of over 0.5 µg/day, the dose above which the "California Safe Drinking Water and Toxic Enforcement Act" of 1986 requires notification. Refer to the appropriate regulation notification wording guidelines. The dose is not considered dangerous for health according to current toxicology studies.

Section 313 Supplier Notification

This product may contain the following toxic chemical(s) subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (Title III of SARA) and of 40 CFR 372. (This information must be included in all SDSs that are copied and distributed for this material).

Chemical Name	CAS number
Copper	7440-50-8
Manganese	7439-96-5
Zinc	7440-66-6
Chromium	7440-47-3

16. OTHER INFORMATION

ABBREVIATIONS:

WHMIS = Working hazardous material information system. CAS number = Chemical Abstracts Service Registry Number.
LD₅₀ = Lethal dose 50%; LC₅₀ = Lethal concentration 50%; LCL₀ = Lowest published lethal concentration. EU = European Union.

*** Although the information in this SDS was obtained from sources which we believe to be reliable, it cannot be guaranteed. In addition, this information may be used in a manner beyond our knowledge or control. The information is therefore provided for advice purposes only, without any representation or warranty express or implied. ***

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