

Trade name: Aluminium metal alloy

Version: 05
Revision date: 06.06.2013

This generic Safety Data Sheet has been provided for information purposes only, since according to present legislation the producer is under no obligation to provide any SDS for this material.

1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Aluminium metal alloy

Additional trade names: aluminium ingots, aluminium billets, aluminium slabs, aluminium halfball, aluminium pyramids, aluminium wire, offset

Article code: Aluminium metal alloy 1XXX, 2XXX, 3XXX, 4XXX, 5XXX, 6XXX, 7XXX, 8XXX, remelt alloy **Not applicable for alloys, containing > 0,1% Ni or Co; or > 1% Li**

REACH Registration No.: exempted from registration as expressed in art. 2.7 d) of EC Regulation n. 1907/2006

1.2 Use of the substance/ the preparation

Industrial use

Metal processing and fabrication

1.3 Manufacturer / Supplier:

1.3.1 Company: Raffineria Metalli Cusiana S.p.A.
Street: Via 42 Martiri, 239/B
Postal Code/Location: 28924/ Verbania
phone: 0039 0323 496321
fax: 0039 0323 496474

1.4 Information in case of emergency

Call national emergency number

2. Hazards Identification

2.1 Classification

Not classified

2.2 Information concerning particular hazards for human and environment:

Does not pose any health hazard under normal conditions of use and as delivered.

Fines particles from processing (grinding, cutting, polishing and welding) may be readily ignitable, and needs to be controlled

Fine particles in contact with water or humidity in air may release flammable gases in hazardous quantities, and may in some cases set off termite reactions in contact with iron oxide and certain other metal oxides.

For liquid aluminium there is a risk of explosions if in contact with water, and reacts violently in contact with rust, oxides of some other metals or nitrate.

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3. Composition/information on ingredients

3.1 Chemical characterisation:

Aluminium with Al content of > 75 weight by weight %

CAS #	EC #	Component	Concentration %	Classification	R- phrase
7429-90-5	231-072-3	Aluminium, metal	> 75	none	none
7440-21-3	231-130-8	Silicon	<21,5	none	none
7439-89-6	231-096-4	Iron	<5,4	none	none
734-95-4	231-104-6	Magnesium	<6,2	none	none
7440-50-8	231-159-6	Copper	<6,8	none	none
7440-66-6	231-175-3	Zinc	<12,0	none	none
7439-96-5	231-105-1	Manganese	<1,8	none	none
7440-32-6	231-142-3	Titanium	<0,35	none	none
7440-47-3	231-157-5	Chromium	<0,40	none	none
7440-36-0	231-146-5	Antimony	<0,2	none	none
7439-92-1	231-100-4	Lead	<2,0	none	none
7440-67-7	231-176-9	Zirconium	0,5	none	none
7440-24-6	231-133-4	Strontium		none	none
7440-31-5	231-141-8	Tin	<2,0	none	none
7440-62-2	231-171-1	Vanadium	<0,8	none	none
7440-69-9	231-177-4	Bismuth	<2,0	none	none
7440-22-4	231-131-3	Silver	<0,7	none	none
7440-20-2	231-129-2	Scandium	<0,6	none	none
7440-48-4	231-158-0	Cobalt	<0,1	none	none
7440-02-0	231-111-4	Nickel	<0,1	none	none
7439-93-2	231-102-5	Lithium	<0,1	none	none
7440-42-8	231-151-2	Boron	<0,1	None	none

3.3 Additional information:

Main impurities Fe and Si

4. First-aid measures

4.1 General information:

First aide personnel: pay attention to self- protection!

- **After inhalation:** In case of dust generation during some work operations and inhalation remove to ventilated area and keep calm. In case of ongoing discomfort consult a physician.
- **After skin contact:** In case of burns from hot/liquid metal, rinse with plenty of water and contact physician. In case of liquid metal splashes, remove affected clothing.
- **After eye contact:** If particles comes into contact with eyes treatment for mechanical irritation or injury may be required; in case of ongoing discomfort consult a physician
- **After swallowing:** not applicable here

4.2 Notes to physician:

None

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5. Fire-fighting measures

This product does not present fire or explosion hazards as shipped. Small chips, dust and fines may be ignitable.

5.1 Suitable extinguishing agents:

Use class D extinguishing agents on dust, fines or molten metal

5.2 For safety reasons unsuitable extinguishing agents:

Water, foam, halogenated extinguishing agents. Do not use water with liquid aluminium.

5.3 Special hazards caused by the substance, its products of combustion or resulting gases:

None; fine particles in contact with water may generate flammable gases, dust explosions may also occur.

5.4 Protective equipment:

Fire fighters should wear approved, positive pressure; self-contained breathing apparatus and full heat protective clothing when appropriate

5.5 Additional hints:

The product as such is not flammable. Use fire fighting extinguishing methods suitable to surrounding conditions
Fine dispersed aluminium (dust, powder) may form explosive mixtures in contact with air. In case of fine particles in contact with water, flammable gases in hazardous quantities may be released.
Molten aluminium may explode on contact with water or moisture, and may react violently with rust, certain metal oxides and nitrates.

6. Accidental release measures

6.1 Person-related safety precautions:

See protection measures listed in section 8.

6.2 Environmental protection measures:

Collect scrap for recycling

6.3 Measures for cleaning:

Pick up mechanically. In liquid form let solidify and cool down to ambient air temperature.

6.4 Additional hints:

See section 13

7. Handling and storage

7.1 Handling:

Ensure good ventilation / local exhaust at the workplace in the case of operations generating dust, like cutting, grinding, polishing
Fine dispersed aluminium (dust, powder) may form explosive mixtures in contact with air and in contact with water may release highly flammable gases in hazardous quantities. Remelt ingots needs to be kept dry and preheated before charging into liquid metal

7.2 Storage

Requirements to be met by storerooms and receptacles:

None

Information about storage in one common storage facility:

None

Further information about storage conditions:

Product should be kept dry. Pay attention to stack stability.

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Additional hints:

None

8. Exposure controls/personal protection

8.1 Exposure limits

Occupational exposure limits (air):

CAS #	EC #	Component	Total part mg/m ³	Respirable part Mg/m ³³	Comments
7429-90-5	231-072-3	Aluminium, metal	10	4	Nuisance dust
7440-21-3	231-130-8	Silicon	10	4	Nuisance dust
7439-89-6	231-096-4	Iron	10	4	Nuisance dust
734-95-4	231-104-6	Magnesium	10	4	Nuisance dust
7440-50-8	231-159-6	Copper	1,0	0,1	Several EU MS
7440-66-6	231-158-0	Zinc	5		Zinc oxide fume
7439-96-5	231-105-1	Manganese	0,2	0,02	Inhalable Germany
7440-32-6	231-142-3	Titanium	10	4	Nuisance dust
7440-47-3	231-157-5	Chromium	2		EU
7440-36-0	231-146-5	Antimony	0,5		Several EU MS
7439-92-1	231-100-4	Lead	0,15		EU Inhalable
7440-67-7	231-176-9	Zirconium		1,0	Resp Germany
7440-24-6	231-133-4	Strontium			Nuisance dust
7440-31-5	231-141-8	Tin	2		Inhalable Several MS
7440-62-2	231-171-1	Vanadium	0,5		Inhalable Austria
7440-69-9	231-177-4	Bismuth			Nuisance dust
7440-22-4	231-131-3	Silver	0,1		EU
7440-20-2	231-129-2	Scandium			Nuisance dust
7440-48-4	231-158-0	Cobalt	0,02		EU
7440-02-0	231-111-4	Nickel	0,1		Proposed EU
7439-93-2	231-102-5	Lithium			
7440-42-8	231-151-2	Boron	10	4	Nuisance dust

8.2 Exposure controls:

Special ventilation should be used to convey finely divided metallic dust generated by grinding, sawing or polishing operations, in order to eliminate explosion hazards.

8.3 Personal protective equipment:

Respiratory equipment: not required under recommended conditions of use. In case dust or fumes are released personal protective equipment required if exposure limits are exceeded.

Use appropriate PPE when handling ingots and hot metal (CEN standards). Fire resistant clothing when handling liquid metal

8.4 Environmental exposure control:

No special exposure controls necessary.

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9. Physical and chemical properties

9.1 General information:

Physical state:	solid at 1013 mbar / 20 °C
Colour:	silvery or silver grey (also when hot)
Odour:	odourless
pH- value:	not relevant
Melting point/Melting range:	approx. 660°C
Boiling Point/Boiling range:	approx. 2467°C
Flash point:	not relevant
Flammability:	not relevant
Explosive properties:	not relevant
Density at 20°C:	2,7 g/cm ³
Solubility in water (20 °C):	almost insoluble
Other physical-chemical properties:	not relevant

9.2 Important information on health and safety and environmental protection:

None

10. Stability and reactivity

Stable under normal conditions of use, storage, and transport

10.1 Conditions to be avoided:

Massive metal is stable and none reactive under normal conditions of use, storage and transport. Molten aluminium may react violently in contact with certain metal oxides and nitrates (rust etc.). Avoid melting wet or cold materials as molten metal may cause explosions in contact with water or wet surfaces. In areas with very high dust concentrations, aluminium dust may form an explosive atmosphere.

10.2 Materials to be avoided:

None

10.3 Dangerous decomposition products:

None

11. Toxicological information

All data are given for aluminium as the main constituent

11.1 Toxicokinetics, metabolism and distribution:

Oral uptake < 0.1%, nearly insoluble in lung fluids. Most absorbed aluminium is rapidly excreted through urine. Main deposit in body is in bone structure.

11.2 Acute effects (acute toxicity, irritation and corrosivity):

No acute effects

11.2.1 Acute toxicity:

LD50 (oral):	> 5000mg/kg bwt (rats)
LD50 (dermal):	No effect
LC50 (inhalative):	> 2,35 mg/l (rats)

11.2.2 Specific symptoms in animal tests:

After swallowing:	None
After skin contact:	None
After inhalation:	None

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11.2.3 Irritation/Corrosive effects:

Irritant effects on skin: No effects
Irritant effect on eyes: No effects. Aluminium particles may produce irritation due to mechanical abrasion

11.3 Sensitisation:

After skin contact: None
After inhalation: None
Remarks:

11.4 Toxicity after repeated intake (sub acute, sub chronic, chronic):

Sub acute oral Toxicity: None – Calculated DNEL 3,95 mg/kg bwt/day
Sub acute inhalative Toxicity: None, see occupational exposure limits. Calculated DNEL 3,7 mg/m³ respirable

Assessment:

11.5 CMR-effects (carcinogenic, mutagenic and reproductive effects)

Carcinogenicity: None
Mutagenicity: None
Reproductive toxicity: None,
Assessment of CMR properties: Not classified for CMR

Product components not listed under IARC/NTP/ACGIH (ingredient carcinogenicity)

11.6 Practical experience:

Observations relevant for classification: none
Other observations: none

12. Ecological Information

12.1 Ecotoxicity:

Product/ingredient name	test	result	Species	Exposure
Aluminium metal shavings	Fish - OECD TG 203	>100 mg/l	Salmo trutta	pH 8
Aluminium metal shavings	Daphnia - OECD TG 202	>100mg/l	Daphnia Magna	pH 8
Aluminium metal shavings	Algae - OECD TG 201	>100mg/l	Selenastrum Capricornutum	pH 8

12.2 Mobility: Not mobile under normal environmental conditions; may be leached from the ground at low pH (< 5.5) or high pH (> 8.5).

12.3 Persistence and degradability:

12.3.1 Persistence: Not relevant for metals

12.3.2 Biological degradability: Not degradable

12.4 Bioaccumulative potential: Not bio accumulative

12.5 Long term ecotoxicity: Not classified for ecotoxicity

12.6 Results of PBT assessment: Not relevant for metals

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12.7 Other adverse effects: No

12.8 Final assessment: No acute or chronic classification s appropriate for AL alloys (massive) based on non toxic results below the Ecotoxicity Reference Value (ERV) of test with aluminium metal and alloying elements.

13. Disposal considerations

13.1 Disposal / Waste (Product):
Metallic residues are secondary raw materials and subject of recycling

13.2 Packaging:
Recycle aluminium packing. Any disposal according to national regulation

14. Transport information

Not regulated

15. Regulatory Information

No knowledge about classification or special regulations. Follow general rules for handling, transport and waste management.
Chemical Safety Assessment carried out

16. Other information

In dealing with chemicals the national laws and regulation must be observed and applied.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship

Recommended limitations of use by manufacturer:
Intended for industrial use

Abbreviations and acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety and Health Administration (US)
ADR:	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID:	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International Transport of Dangerous Goods by Rail)
IMDG:	International Maritime Code for Dangerous Goods
IATA:	International Air Transport Association
IATA-DGR:	Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO:	International Civil Aviation Organization
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals
EINECS:	European Inventory of Existing Commercial Chemical Substances
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
Bwt	bodyweight
PNEC	Potential No Effect Concentration
DNEL	Derived No Effect Level
DOC	Dissolved Organic Compounds