

Revision: 06 February, 2025 Version: 1.0

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830
AS AMENDED BY UK REACH REGULATIONS SI 2019/758

ALUMINIUM**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

1.1	Product identifier Product name Trade Name EC No. CAS No. REACH Registration No.	Aluminium Aluminium / Aluminium metal 231-072-3 7429-90-5 01-7360010310-2-XXXX
1.2	Relevant identified uses of the substance or mixture and uses advised against Identified Use(s) Uses advised against	Casting/molten metal handling. Recycling Processing into semifabricated articles Machinery, equipment, vehicles, electrical and electronic equipment, target Building and constructions products Thermal spraying Surface treatment Packaging: Non-food and pharmaceutical Packaging: Food and beverages Kitchen Utensils and other general products. This product must not be used for purposes other than those recommended without first seeking the advice of the supplier.
1.3	Details of the supplier of the safety data sheet Company Identification Telephone Fax E-mail (competent person)	Vitol SA Boulevard du Pont d'Arve 28 P.O. Box 384 1211 Geneva 4 Switzerland +31 10 498 7200 +31 10 452 9545 xreach@vitol.com
1.4	Emergency telephone number Emergency Phone No. Languages spoken	+44 (0) 1235 239 670, 24/7 All official European languages.

SECTION 2: HAZARDS IDENTIFICATION

2.1	Classification of the substance or mixture	
2.1.1	The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain	Not classified as hazardous for supply/use.
2.2	Label elements	According to the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain
	Product name	Aluminium
	CAS No.	7429-90-5
	EINECS No.	231-072-3
	Hazard Pictogram(s)	None assigned
	Signal Word(s)	None assigned
	Hazard Statement(s)	None assigned
	Precautionary Statement(s)	None assigned
	Supplemental information	Not applicable
2.3	Other hazards	None known

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ALUMINIUM**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

SUBSTANCE	CAS No.	EC No.	REACH Registration No.	%W/W
Aluminium (Note T)	7429-90-5	231-072-3	01-7360010310-2-XXXX	99 -<100
Iron (Impurity)	7439-89-6	231-096-4	Not yet assigned in the supply chain	< 1

Note T: This substance may be marketed in a form which does not have the physical hazards as indicated by the classification in the entry in Part 3. If the results of the relevant method or methods in accordance with Part 2 of Annex I of this Regulation show that the specific form of substance marketed does not exhibit this physical property or these physical hazards, the substance shall be classified in accordance with the result or results of this test or these tests. Relevant information, including reference to the relevant test method(s) shall be included in the safety data sheet.

3.2 Mixtures

Not applicable

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

Self-protection of the first aider

Inhalation

Skin contact

Eye contact

Ingestion

4.2 Most important symptoms and effects, both acute and delayed**4.3 Indication of any immediate medical attention and special treatment needed**

No action should be taken involving personal risk. Use personal protective equipment as required. Ensure adequate ventilation. Avoid all contact. Contaminated clothing should be laundered before reuse.

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if irritation persists. Consult an ophthalmologist.

IF SWALLOWED: Rinse mouth. Get medical advice/attention if you feel unwell.

None anticipated

Unlikely to be required but if necessary treat symptomatically.

Heated product may cause burns. In case of burns immediately cool affected skin as long as possible with cold water.

For dust exposure: If irritation or other pulmonary symptoms persist, seek medical attention.

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable extinguishing media
Unsuitable extinguishing media

Extinguish with dry sand or special powder for metal fire .

Do not use water jet. Direct water jet may spread the fire. Do not use halogenated agents.

5.2 Special hazards arising from the substance or mixture

No fire hazard. Small chips, dust and fines may be ignitable. Buffing and polishing generate finer material than grinding, sawing and cutting. Molten aluminium may explode on contact with water or moisture, and may react violently with rust, certain metal oxides and nitrates (thermite reaction).

5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

Aluminium may lose structural strength when subject to fire and will melt to a hazardous liquid at temperatures in the range of 480 – 660 degrees Celsius.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure suitable personal protection during removal of spillages. Eliminate sources of ignition. Ensure adequate ventilation. Avoid all contact.

6.2 Environmental precautions

Avoid release to the environment. Recover or recycle if possible.

6.3 Methods and material for containment and cleaning up

Do not attempt to arrest the flow of molten aluminium with shovels, hand tools or footwear. Contain spillages with sand. Allow product to cool/solidify and pick up

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as a solid. Transfer to a container for disposal. Wash the spillage area with water. Recover or recycle if possible. See Section: 8, 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling**

Use personal protective equipment as required. Ensure adequate ventilation. Avoid all contact. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities
storage temperature
Incompatible materials

Take care with items that are sharp or heavy. Because of the risk of explosion, aluminum ingots and metal scrap should be thoroughly dried before remelting. Use standard techniques to check metal temperature before handling. Hot aluminum does not present any warning color change. Keep container tightly closed. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Ambient temperatures. Stable under normal conditions. In the form of particles, may explode when mixed with halogenated acids, halogenated solvents, bromates, iodates or ammonium nitrate. Avoid contact 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 (thermite reaction).

7.3 Specific end use(s)

See Section: 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters****8.1.1 Occupational exposure limits**

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Aluminium metal						
- inhalable dust	7429-90-5	-	10	-	-	-
- respirable dust		-	4	-	-	

Source: WEL: Workplace Exposure Limit (UK HSE EH40)

8.1.2 Biological limit value

Not established

8.1.3 PNECs and DNELs

Not applicable

8.2 Exposure controls**8.2.1 Appropriate engineering controls**

Use personal protective equipment as required. Ensure adequate ventilation. Use explosion-proof equipment. Keep away from fire, sparks and heated surfaces. Guarantee that the eye flushing systems and safety showers are located close to the working place.

8.2.2 Individual protection measures, such as personal protective equipment

Keep good industrial hygiene. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Remove contaminated clothing and wash it before reuse. Do not eat, drink or smoke at the work place.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Eye/ face protection



Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: When molten: Full face shield

Skin protection



Wear appropriate personal protective equipment. Recommended: When molten: If splashing is likely, full head and face protection (protective shield and/or safety goggles) should be used. Wear protective clothing for operations with hot material: heat resistant coveralls (with trousers legs over boots and sleeves over cuffs of gloves), heat resistant heavy duty antiskid boots (e. g. leather).

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Respiratory protection



In case of inadequate ventilation wear respiratory protection.

Thermal hazards

None anticipated

8.2.3 Environmental exposure controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Appearance	Solid- Silver/Grey Metal
Odour	Odourless
Odour threshold	Not applicable
pH	Not applicable - Solid
Melting point/freezing point	660°C
Initial boiling point and boiling range	Not applicable
Flash point	Not applicable - Solid
Evaporation rate	Not applicable - Solid
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	Not applicable - Solid
Vapour pressure	Not applicable - Solid
Vapour density	Not applicable - Solid
Relative density	Not applicable - Solid
Solubility(ies)	Insoluble (in water)
Partition coefficient: n-octanol/water	Not applicable - Solid
Auto-ignition temperature	Not applicable
Decomposition temperature	Not established
Viscosity	Not applicable - Solid
Explosive properties	Not explosive
Oxidising properties	Not oxidising

9.2 Other information

None known

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Stable under normal conditions
10.2 Chemical stability	Stable under normal conditions
10.3 Possibility of hazardous reactions	Combustible Dust. Dust can form an explosive mixture with air.
10.4 Conditions to avoid	Stable under normal conditions
10.5 Incompatible materials	Stable under normal conditions In the form of particles, may explode when mixed with halogenated acids, halogenated solvents, bromates, iodates or ammonium nitrate. Avoid contact 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 (thermite reaction).
10.6 Hazardous decomposition products	None known

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Acute toxicity - Ingestion	Based upon the available data, the classification criteria are not met. Result: LD50 (oral) mg/kg: > 2000 (OECD 401) Source: ECHA registration dossier
Acute toxicity - Inhalation	Based upon the available data, the classification criteria are not met. Result: No mortality observed. No effects observed at highest dose. Source: ECHA registration dossier
Acute toxicity - Skin contact	Based upon the available data, the classification criteria are not met. No data available
Skin corrosion/irritation	Based upon the available data, the classification criteria are not met. Result: Not irritating to skin (Albino rabbit; OECD 404) Source: ECHA registration dossier
Serious eye damage/irritation	Based upon the available data, the classification criteria are not met.

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Respiratory or skin sensitisation	Result: Not irritating to eyes (Albino rabbit) Source: ECHA registration dossier Based upon the available data, the classification criteria are not met. Skin sensitisation: Result: Not sensitising. (Guinea pig; OECD 406) Respiratory sensitization: Result: Not sensitising. (Mouse) Source: ECHA registration dossier
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met. Source: ECHA Registration Endpoint summary
Carcinogenicity	Based upon the available data, the classification criteria are not met. Source: ECHA Registration Endpoint summary
Reproductive toxicity	Based upon the available data, the classification criteria are not met. Result: Non-toxic. (Rat; OECD 422) Source: ECHA Registration Endpoint summary
STOT - single exposure	Based upon the available data, the classification criteria are not met. Source: ECHA Registration Endpoint summary
STOT - repeated exposure	Based upon the available data, the classification criteria are not met. NOAEL: 30 mg/kg bw/day (Rat; oral) LOAEC: 50 mg/m ³ (Rat; inhalation) Source: ECHA Registration Endpoint summary
Aspiration hazard	Based upon the available data, the classification criteria are not met. The product is: Solid
11.2 Other information	None known

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Based upon the available data, the classification criteria are not met. By analogy with similar materials: LC50 (Fathead minnow) mg/l: 35 (96h) NOEC (Danio rerio (zebrafish)) mg/l: 0.5483 (33 d) Source: ECHA registration dossier
12.2 Persistence and degradability	Testing can be waived because the substance is an inorganic compound
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	Not mobile under normal environmental conditions. May be leached from the ground at low pH (<5.5) or high pH (>8.5)
12.5 Results of PBT and vPvB assessment	Not classified as PBT or vPvB. None of the substances in this product fulfil the criteria for being regarded as a PBT or vPvB substance.
12.6 Other adverse effects	None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Disposal should be in accordance with local, state or national legislation. Recover or recycle if possible.
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SECTION 14: TRANSPORT INFORMATION

Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	Not assigned	Not assigned	Not assigned
14.2 UN proper shipping name	Not assigned	Not assigned	Not assigned
14.3 Transport hazard class(es)	Not assigned	Not assigned	Not assigned
14.4 Packing group	Not assigned	Not assigned	Not assigned
14.5 Environmental hazards	Not classified as Environmentally hazardous substance	Not classified as a Marine Pollutant	Not classified as Environmentally hazardous substance
14.6 Special precautions for user	See Section: 2		
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	No information available.	No information available.	No information available.
	None known		

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
15.1.1 EU regulations	

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<p>EU - REACH (1907/2006) - 17. Annex XVII (Restrictions)</p> <p>EU - Explosives precursors Regulation (EU) 2019/1148 - 01.</p> <p>15.1.2 National regulations</p> <p>UK-REACH: Annex XVII (Restrictions)</p> <p>UK - Poisons Act</p> <p>15.2 Chemical Safety Assessment</p>	<p>Entry 40: Restricted in aerosol dispensers intended for supply to the general public for entertainment and decorative purposes.</p> <p>Annex II; Notes- Aluminium, powders. With a particle size less than 200 µm. As a substance or in mixtures containing 70% w/w or more of aluminium.</p> <p>Entry 40: Restricted in aerosol dispensers intended for supply to the general public for entertainment and decorative purposes.</p> <p>Schedule 1A, Part 3 - Powders with a particle size less than 200 µm, as a substance or in mixtures containing 70% or more, by weight, of aluminium.</p> <p>A chemical safety assessment is not required under REACH.</p>
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SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Not applicable - V1.0

References:

Existing ECHA registration(s) for Aluminium (CAS No. 7429-90-5).

Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830. Compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Legend

ADR	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived no effect level
IATA	IATA: International Air Transport Association
ICAO	ICAO: International Civil Aviation Organization
IMDG	IMDG: International Maritime Dangerous Goods
LD50	Lethal dose at which 50% of the population is killed
LC50	Lethal concentration at which 50% of the population is killed
LTEL	Long term exposure limit
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development
PBT	PBT: Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	RID: Regulations concerning the international railway transport of dangerous goods
STEL	Short term exposure limit
vPvB	vPvB: very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

For more information on the handling and storing of aluminum, consult the following documents published by the Aluminum Association, 1525 Wilson Blvd, Suite 600, Arlington, VA 22209 (www.aluminium.org):

- Guidelines for handling molten aluminum.
- Recommendations for storage and handling of aluminum powders and pastes.
- Guidelines for handling aluminum fines generated during various aluminum fabricating operations.

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Annex to the extended Safety Data Sheet (eSDS)

Exposure scenarios for substances in this preparation are not available.