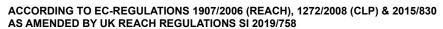
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ALUMINIUM

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

1.1 Product identifier

Product name Aluminium

Trade Name Aluminium / Aluminium metal

EC No. 231-072-3 CAS No. 7429-90-5

REACH Registration No. 01-7360010310-2-XXXX

1.2 Relevant identified uses of the substance or mixture

and uses advised against

Identified Use(s) 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

Pakaging: 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 Vitol SA

Boulevard du Pont d'Arve 28

P.O. Box 384 1211 Geneva 4 Switzerland +31 10 498 7200

 Telephone
 +31 10 498 7200

 Fax
 +31 10 452 9545

 E-mail (competent person)
 xreach@vitol.com

1.4 Emergency telephone number

Uses advised against

Emergency Phone No. +44 (0) 1235 239 670, 24/7
Languages spoken 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 Not classified 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)

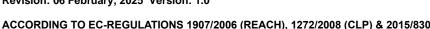
None assigned

Supplemental information Not applicable

2.3 Other hazards None known

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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

5.2 Special hazards arising from the substance or mixture

5.3 Advice for firefighters

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.

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).

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

6.2 Environmental precautions

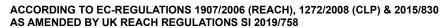
6.3 Methods and material for containment and cleaning up

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

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

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.

6.4 Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

incompatibilities

storage temperature

Incompatible materials

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.

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

Conditions for safe storage, including any

8.1 Control parameters

7.2

8.1.1 Occupational exposure limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
Aluminium metal - inhalable dust	7429-90-5	_	10	_	_	-
- respirable dust	7425 50 5	-	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



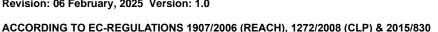
Wear appropriate personal protective equipment.

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

Thermal hazards

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 рΗ Not applicable - Solid

660°C Melting point/freezing point

Initial boiling point and boiling range Not applicable

Flash point Not applicable - Solid Not applicable - Solid Evaporation rate Not flammable Flammability (solid, gas) Not applicable - Solid Upper/lower flammability or explosive limits Not applicable - Solid Vapour pressure Vapour density Not applicable - Solid

Relative density Not applicable - Solid Insoluble (in water) Solubility(ies) Partition coefficient: n-octanol/water Not applicable - Solid Not applicable Auto-ignition temperature Decomposition temperature Not established Not applicable - Solid Viscosity Explosive properties Not explosive

Not oxidising Oxidising properties

9.2 Other information None known

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity Stable under normal conditions Chemical stability 10.2 Stable under normal conditions

Possibility of hazardous reactions Combustible Dust. Dust can form an explosive mixture with air. 10.3

10.4 Conditions to avoid Stable under normal conditions Incompatible materials Stable under normal conditions 10.5

In the form of particles, may explode when mixed with halogenated acids, halogenated solvents, bromates, iodates or ammonium nitrate. Avoid contact of

In case of inadequate ventilation wear respiratory protection.

None anticipated

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

Based upon the available data, the classification criteria are not met. Acute toxicity - Ingestion

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

Based upon the available data, the classification criteria are not met. Skin corrosion/irritation

Result: Not irritating to skin (Albino rabbit; OECD 404)

Source: ECHA registration dossier

Based upon the available data, the classification criteria are not met. Serious eye damage/irritation

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IATA/ICAO

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Result: Not irritating to eyes (Albino rabbit) Source: ECHA registration dossier

Respiratory or skin sensitisation 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/m3 (Rat; inhalation)

Source: ECHA Registration Endpoint summary

Based upon the available data, the classification criteria are not met.

The product is: Solid

None known

SECTION 12: ECOLOGICAL INFORMATION

Aspiration hazard

Other information

11.2

12.6

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

Bioaccumulative potential No data available 12.3

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.

IMDG

None known

SECTION 13: DISPOSAL CONSIDERATIONS

Other adverse effects

13.1 Waste treatment methods Disposal should be in accordance with local, state or national legislation. Recover

or recycle if possible.

SECTION 14: TRANSPORT INFORMATION

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

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	Not classified as a	Not classified as
		Environmentally	Marine Pollutant	Environmentally
		hazardous substance		hazardous substance

Special precautions for user 14.6

See Section: 2 Transport in bulk according to Annex II of Marpol 14.7 No information available. No information available. No information available.

and the IBC Code

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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EU - REACH (1907/2006) - 17. Annex XVII (Restrictions) Entry 40: Restricted in aerosol dispensers intended for supply to the general public

for entertainment and decorative purposes.

EU - Explosives precursors Regulation (EU) 2019/1148 -

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.

15.1.2 **National regulations**

UK-REACH: Annex XVII (Restrictions)

Entry 40: Restricted in aerosol dispensers intended for supply to the general public for entertainment and decorative purposes.

UK - Poisons Act

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.

15.2 **Chemical Safety Assessment** A chemical safety assessment is not required under REACH.

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

Long term exposure limit LTEL

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.