SAFETY DATA SHEET

morleys
Stairnosings, Flooring Adhesives & Accessories

Section 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Name of the substance	Aluminium Alloy 6000-series
Trade name of the substance	ALUMINIUM ALLOY 6000-SERIES
Identification No.	7429-90-5
Registration number	N/A
Synonyms	Aluminium Alloy 6000-series
SDS number	162005
Date of first issue	24-January-2009
Version number	05
Revision date	01-October-2013
Supersedes date	09-April-2011

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Manufacturing of various parts and products. Manufacture of basic metals, including alloys.
Uses advised against	-

Details of the supplier of the safety data sheet

Supplier

Company name	Morleys (2013) Ltd
Address	Unit 20, Higher Walton Mill Higher Walton, Preston PR5 4DJ
Telephone number	01772 626700
e-mail	sales@morleys2013.co.uk
Contact person	sales@morleys2013.co.uk

Section 2: Hazards identification

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

This substance does not meet the criteria for classification according to Directive 67/548/EEC as amended.

Classification according to Regulation (EC) No 1272/2008 as amended

This substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.
Environmental hazards	Not classified for hazards to the environment.
Specific hazards	Solid aluminium does not present an inhalation hazard. Elevated temperatures or mechanical action may form dust and fumes which may be irritating to the eye, mucous membranes and respiratory tract. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. The effects might be delayed. Molten material will produce thermal burns. Mechanical processing may generate dust. Suspensions of aluminium dust in air may pose a severe explosion hazard, especially in confined atmosphere.
Main symptoms	Irritation of nose and throat. Irritation of eyes and mucous membranes.

Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	Aluminium Alloy 6000-Series
Identification No.	7429-90-5
Hazard statements	The substance does not meet the criteria for classification.

Precautionary statements

Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.

Supplemental label information None.

Other hazards Not a PBT or vPvB substance or mixture.

Section 3: Composition/information on ingredients

Substance

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Aluminium Alloy 6000-Series	100	7429-90-5 231-072-3	N/A	-	

Classification: **DSD:** -

CLP: -

Constituents

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Aluminium	95 - 99	7429-90-5 231-072-3	01-2119529243-45-0024	-	-
Silicon	< 2	7440-21-3 231-130-8	01-2119480401-47-0062	-	-
Iron	< 3	7439-89-6 231-096-4	01-2119462838-24-0132	-	-
Manganese	< 0.7	7439-96-5 231-105-1	01-2119449803-34-0017	-	-
Copper	< 0.3	7440-50-8 231-159-6	01-2119480154-42-0006	-	-

Composition comments This product is covered by the registration requirement under the REACH Regulation 1907/2006 of its constituents: aluminium, silicon, iron, manganese, copper. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. The alloy contains additional alloying elements at concentrations below disclosure requirements. At temperatures above the melting point the alloys may liberate fumes containing oxides of alloying elements. For more detailed chemical composition, refer to the certificate of analysis.

Section 4: First aid measures

General information Get medical attention if any discomfort continues. Seek medical attention for all burns, regardless how minor they may seem. Show this safety data sheet to the doctor in attendance.

Description of first aid measures

Inhalation	In case of exposure to fumes or particulates: Move to fresh air. Get medical attention if discomfort persists.
Skin contact	Contact with dust: Wash with soap and water. Get medical attention if irritation develops or persists. In case of contact with molten product, cool rapidly with water and seek immediate medical attention. Do not attempt to remove molten product from skin because skin will tear easily. Cuts or abrasions should be treated promptly with thorough cleansing of the affected area.
Eye contact	Do not rub eyes. Remove any contact lenses. 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	Rinse mouth thoroughly if dust is ingested. Do not induce vomiting. Get medical attention if any discomfort continues.

Most important symptoms and effects, both acute and delayed Irritation of eyes and mucous membranes. Irritation of nose and throat.

Indication of any immediate medical attention and special treatment needed Treat symptomatically. The effects might be delayed.

Section 5: Firefighting measures

General fire hazards

Not a fire hazard unless in particle form. Suspensions of aluminium 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. Do not use water on molten metal: Explosion hazard could result.

Extinguishing media

Suitable extinguishing media

Not a fire hazard unless in particle form (small chips, fine turnings, dusts). In case of aluminium fires, use a class D dry-powder extinguisher (Lith-X). Dry sand.

Unsuitable extinguishing media

Do not use water or halogenated extinguishing media.

Special hazards arising from the substance or mixture

Fire or high temperatures create: Metal oxides.

Advice for firefighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special firefighting procedures

Move container from fire area if it can be done without risk.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Aluminium in the form of particles may be reactive. Its hazardous characteristics, including fire and explosion, should be considered prior to handling. Ensure adequate ventilation. Avoid inhalation of dust and contact with skin and eyes. Wear protective clothing as described in section 8 of this safety data sheet.

For emergency responders

Use personal protection as recommended in Section 8 of the SDS.

Environmental precautions

Avoid release to the environment.

Methods and material for containment and cleaning up

Allow spilled material to solidify and scrape up with shovels into a suitable container for recycle or disposal. Collect dust or particulates using a vacuum cleaner with a HEPA filter.

Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

Section 7: Handling and storage

Precautions for safe handling

Welding, burning, sawing, brazing, grinding or machining operations may generate fumes and dusts of metal oxides. Provide adequate ventilation. Use appropriate tools. Avoid generation and spreading of dust. Avoid contact with sharp edges and hot surfaces. Avoid inhalation of dust and contact with skin and eyes. Wear appropriate personal protective equipment.

Because of the risk of explosion, aluminium ingots, sows and T-bars should be thoroughly dried prior to remelting. Use standard techniques to check metal temperature before handling. Hot aluminium 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 aluminium, 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; and Guidelines for handling Aluminum Fines generated during various aluminum fabricating operations. The movement of molten aluminium should be carried out using suitable and approved refractory lined containers. Recently cast products may still be hot, avoid touching metal in casting areas. Be careful to use only preheated or specially coated and rust free tools in contact with molten aluminium. Handling of molten metal: the use of protective clothing (flame retardant–EN certified for molten metal handling), gloves, and safety glasses or face shields to prevent skin and eye contact is required. Contact lenses should not be worn where industrial exposures to this material are likely. No synthetics fabrics even as undergarments. Safety showers must be available in areas handling molten metal for use in case of burns.

Conditions for safe storage, including any incompatibilities

Keep dry. Store away from incompatible materials. Suitable storage areas should be clearly marked. Store metal in cool, dry, well ventilated area. Ingots intended for remelting must be stored in dry area, carefully inspected and preheated before charging into molten metal.

Specific end use(s)

For detailed information, see section 15. Recommendations given in the exposure scenario for the uses are distributed and annexed as separate documents to this eSDS.

Section 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Constituents	Type	Value	Form
Aluminium (7429-90-5)	TWA	10 mg/m3	Inhalable dust.
		4 mg/m3	Respirable dust.
Copper (7440-50-8)	STEL	2 mg/m3	Inhalable dusts and mists.

UK. EH40 Workplace Exposure Limits (WELs)

Constituents	Type	Value	Form
	TWA	0.2 mg/m3	Fume.
		1 mg/m3	Inhalable dusts and mists.
Manganese (7439-96-5)	TWA	0.5 mg/m3	
Silicon (7440-21-3)	TWA	10 mg/m3	Inhalable dust.
		4 mg/m3	Respirable dust.

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

DNEL Not available.

PNEC Not available.

Exposure controls

Appropriate engineering controls 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). Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear dust-resistant safety goggles where there is danger of eye contact. In addition to safety glasses or goggles, a welding helmet with appropriate shaded shield is required during welding, burning, or brazing. A face shield is recommended, in addition to safety glasses or goggles, during sawing, grinding, or machining.

Skin protection

- Hand protection Wear suitable protective gloves to prevent cuts and abrasions. When material is heated, wear gloves to protect against thermal burns. Suitable gloves can be recommended by the glove supplier.

- Other Wear suitable protective clothing.

Respiratory protection 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. Seek advice from local supervisor.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Wash hands after handling. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practices. Follow up on any medical surveillance requirements.

Environmental exposure controls Contain spills and prevent releases and observe national regulations on emissions.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance Massive, solid metal.

Physical state Solid.

Form Solid forms such as: Ingots Billets Slabs

Colour Grey to silver.

Odour Odourless.

Odour threshold Not applicable.

pH Not applicable.

Melting point/freezing point 660 °C (1220 °F) Approximately.

Boiling point, initial boiling point, and boiling range 2450 °C (4442 °F) Approximately.

Flash point Not applicable.

Auto-ignition temperature Not applicable.

Flammability (solid, gas) Non flammable.

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%) Not applicable.

Oxidising properties	Not oxidizing.
Explosive properties	Not explosive.
Explosive limit	Not applicable.
Vapour pressure	0.0013 hPa (974°C / 1785.2°F)
Vapour density	Not applicable.
Evaporation rate	Not applicable.
Relative density	2.7
Relative density temperature	20 °C (68 °F)
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not applicable.
Decomposition temperature	Not applicable.
Bulk density	Not available.
Viscosity	Not applicable.
Viscosity temperature	Not applicable.
VOC (Weight%)	Not applicable.
Percent volatile	Not applicable.
Other information	No relevant additional information available.

Section 10: Stability and reactivity

Reactivity	The product is non reactive under normal conditions of use, storage and transport.
Chemical stability	The product is stable under normal conditions of use, storage and transport.
Possibility of hazardous reactions	Hazardous polymerisation does not occur. In the form of particles (small chips, fine turnings, dusts), aluminum reacts with water and air humidity, strong basic solutions, strong acidic solutions, halogenated acids (eg.: hydrofluoric acid), producing flammable hydrogen gas.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Molten aluminium may explode in contact with water. In the form of particles, may explode when mixed with halogenated acids, halogenated solvents, bromates, iodates or ammonium nitrate. Aluminium particles in 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	Welding, burning, sawing, brazing, grinding or machining operations may generate dusts and fumes of metal oxides. In the form of particles (small chips, fine turnings, dusts), aluminum reacts with water and air humidity, strong basic solutions, strong acidic solutions, halogenated acids (eg.: hydrofluoric acid), producing flammable hydrogen gas.

Section 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Ingestion	Ingestion may cause irritation and malaise.
Inhalation	Dust may irritate respiratory system.
Skin contact	Dust may irritate skin.
Eye contact	Dust may irritate the eyes.

Symptoms Irritation of eyes and mucous membranes. Irritation of nose and throat.

Information on toxicological effects

Acute toxicity Dust may irritate respiratory system. High concentrations of freshly formed fumes/dusts of metal oxides can produce symptoms of metal fume fever.

Constituents	Test results
Aluminium (7429-90-5)	Acute Inhalation LC50 Rat: > 888 mg/m3 4 Hours
	Acute Oral LD50 Rat: > 2000 mg/kg
Iron (7439-89-6)	Acute Inhalation LC50 Rat: 250 mg/m3 6 Hours (Carbonyl iron)
	Acute Oral LD50 Rat: 7500 mg/kg
Manganese (7439-96-5)	Acute Inhalation LC50 Rat: > 5.14 mg/l 4 Hours
	Acute Oral LD50 Rat: > 2000 mg/kg
Silicon (7440-21-3)	Acute Dermal LD50 Rabbit: > 5000 mg/kg (Silicon dioxide)

Constituents	Test results
	Acute Inhalation LC50 Rat: > 2.08 mg/l 4 Hours (Silicon amorphous, fumed)
	Acute Oral LD50 Rat: > 5000 mg/kg (Silicon dioxide)

Skin corrosion/irritation May cause irritation through mechanical abrasion.

Serious eye damage/eye irritation May cause irritation through mechanical abrasion.

Respiratory sensitisation Not classified.

Skin sensitisation Not a skin sensitiser.

Germ cell mutagenicity Test data conclusive but not sufficient for classification.

Carcinogenicity Test data conclusive but not sufficient for classification.

Reproductive toxicity Test data conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure Test data conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure Test data conclusive but not sufficient for classification.

Aspiration hazard Not classified.

Mixture versus substance information Not available.

Other information Aluminium fumes generated during welding or melting present low health risks. Welding or plasma arc cutting of aluminium 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.

Section 12: Ecological information

Toxicity

Constituents	Test results
Aluminium (7429-90-5)	EC50 Pseudokirchneriella subcapitata: 1.05 mg/l 72 Hours (Dissolved Al+)
	LC50 Pimephales promelas: > 218.64 mg/l 96 Hours (Aluminium chloride)
	LC50 Water flea (Ceriodaphnia): 3.69 mg/l 48 Hours (Aluminium chloride)
Manganese (7439-96-5)	EC50 Daphnia magna: > 1.6 mg/l 48 Hours
	EC50 Desmodesmus subspicatus: > 2.8 mg/l 72 Hours
	LC50 Oncorhynchus mykiss: > 3.6 mg/l 96 Hours
Silicon (7440-21-3)	EC50 Freshwater algae: > 100 mg/l 72 Hours
	LC50 Freshwater fish: > 100 mg/l 96 Hours
Copper (7440-50-8)	EC50 Daphnia magna: 33.8 µg/l 48 Hours Dissolved Cu+
	EC50 Pseudokirchneriella subcapitata: 35 µg/l 72 Hours (CuCl2)
	LC50 Pimephales promelas: 38.4 µg/l 96 Hours (CuSO4)

Persistence and degradability The product is not biodegradable.

Bioaccumulative potential The product is not bioaccumulating.

Mobility In general aluminium alloys are not mobile in the environment, unless they come into contact with an aqueous environment with a pH below 5.5 or above 8.5.

Environmental fate - Partition coefficient Not applicable.

Mobility in soil In general aluminium alloys are not mobile in the environment, unless they come into contact with an aqueous environment with a pH below 5.5 or above 8.5.

Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

Other adverse effects Aluminium alloys in massive forms present a limited hazard for the environment. Not expected to be harmful to aquatic organisms. However in case of accidental release of large amounts a hazardous effect cannot be excluded.

Section 13: Disposal considerations

Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Recover and recycle, if practical. Solid metal and alloys in the form of particles may be reactive. Its hazardous characteristics, including fire and explosion, should be determined prior to disposal.
Contaminated packaging	Dispose of in accordance with local regulations.
EU waste code	10 03 99
Disposal methods/information	Dispose in accordance with all applicable regulations.

Section 14: Transport information

ADR

The product is not covered by international regulation on the transport of dangerous goods.

RID

The product is not covered by international regulation on the transport of dangerous goods.

ADN

The product is not covered by international regulation on the transport of dangerous goods.

IATA

The product is not covered by international regulation on the transport of dangerous goods.

IMDG

The product is not covered by international regulation on the transport of dangerous goods.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable. However, this product is a solid. When transported in bulk, it is not covered under Appendix I of the IMSBC Code.

Section 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

Directive 96/61/EC concerning integrated pollution prevention and control (IPPC): Article 15, European Pollution Emission Registery (EPER)

Copper (CAS 7440-50-8)

Regulation (EC) No. 1907/2006, REACH Article 59(1). Candidate List

Not listed.

Other regulations	This product does not meet the criteria for classification according to Regulation (EC) 1272/2008 (CLP Regulation) and Directive 1999/45/EC and their amendments respectively. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.
National regulations	Follow national regulation for work with chemical agents.
Chemical safety assessment	For this substance a chemical safety assessment has been carried out.

Section 16: Other information

List of abbreviations	DNEL: Derived No-Effect Level. PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative. DSD: Directive 67/548/EEC. CLP: Regulation No. 1272/2008. N/A: Not applicable. LD50: Lethal Dose, 50%. LC50: Lethal Concentration, 50%. EC50: Effective concentration, 50%.
References	IUCLID Chemical safety report.

Information on evaluation method leading to the classification of mixture	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.
Full text of any statements or R-phrases and H-phrases under Sections 2 to 15	None.
Training information	Follow training instructions when handling this material.
Disclaimer	This Safety Data Sheet is specifically designed to comply with the requirements of the EU Regulation called REACH - Registration, Evaluation and Authorisation of Chemicals (EC No. 1907/2006 of the European Parliament and of the Council of 18 December 2006) and the corresponding country law, and may not comply with the requirements of any other regulations for safe product handling.
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