



Infosafe No™	1CHCU	Issue Date : December 2016	RE-ISSUED by CHEMSUPP
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Product Name : **ALUMINIUM Sheet**

Not classified as hazardous

1. Identification

GHS Product Identifier ALUMINIUM Sheet

Company Name CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

Address 38 - 50 Bedford Street GILLMAN
SA 5013 Australia

Telephone/Fax Number Tel: (08) 8440-2000
Fax: (08) 8440-2001

Recommended use of the chemical and restrictions on use Laboratory reagent.

Other Names

Name	Product Code
ALUMINIUM Sheet LR	AL041

Other Information EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture Not classified as hazardous according to the Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004) 3rd Edition, Safe Work Australia].
Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

3. Composition/information on ingredients

Chemical Characterization Solid

Ingredients	Name	CAS	Proportion	Hazard Symbol	Risk Phrase
	Aluminium (This	7429-90-5	100 %		

4. First-aid measures

Inhalation No specific measures

Ingestion No specific measures
Give a glass of water to drink. If a large object has been swallowed, seek medical assistance.

Skin Wash with plenty of soap and water.

Eye contact Irrigate with copious quantity of water for 15 minutes. Seek medical assistance if symptoms persist.

First Aid Facilities Maintain eyewash fountain and safety shower in work area.

Advice to Doctor Treat symptomatically.

Other Information For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products Not expected to form combustion products in present form, however metal dust may form aluminium oxides.

Specific Methods Use extinguishing media most appropriate for the surrounding fire. No limitations to the type of extinguishing media.

Precautions in connection with Fire Wear SCBA and structural firefighter's uniform.



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6. Accidental release measures**Personal Protection** Wear protective clothing specified for normal operations (see Section 8)**Clean-up Methods - Small Spillages** Sweep up and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.**7. Handling and storage****Precautions for Safe Handling** No specific measures**Handling****Conditions for safe storage, including any incompatibilities** Store in tightly closed containers, in a cool, dry, well-ventilated area away from incompatible substances. Keep away from acid fumes or ammonia fumes, acids, alkalis, halogenated compounds, oxidizers, combustible materials. Keep away from heat and flame. Keep well closed and protected from direct sunlight and moisture. Air and moisture sensitive. Should be periodically inspected and monitored.**Corrosiveness** Aluminium is highly resistant to corrosion, since it develops a thin film of aluminium oxide when exposed to air.

In a study of the reaction of aluminium powder with water at 100-110 °C in the presence of various salts, it was found that pH values above 9.5 increased the rate of hydrogen evolution.

Not corrosive to metals. Aluminium is strongly electropositive so that it corrodes rapidly in contact with other metals.

Storage**Temperatures**

Store at room temperature (15 to 25 °C recommended).

8. Exposure controls/personal protection**Other Exposure Information** A time weighted average (TWA) has been established for Aluminium (metal dust) (Safe Work Australia) of 10 mg/m³, and for Aluminium (welding fumes) (as Al) (Safe Work Australia) of 5 mg/m³. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.**Appropriate engineering controls** In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.**Respiratory Protection** Not normally required.**Eye Protection**

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Hand Protection

Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Impervious PVC or rubber gloves should be worn to avoid prolonged skin contact.

Personal Protective Equipment Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.**Hygiene Measures** Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.**9. Physical and chemical properties****Form** Solid**Appearance** Silvery-white, malleable, ductile granules, sheet or turnings.**Melting Point** 660 °C**Boiling Point** 2460 °C**Solubility in Water** Insoluble.**Solubility in Organic Solvents** Insoluble in most organic solvents. Soluble in alkalis, sulfuric acid and hydrochloric acid (forms soluble salts). Insoluble in hot acetic acid and concentrated nitric acid.**Specific Gravity** 2.7 at 25 °C**Vapour Pressure** Extremely low at 25 °C; 0.133 kPa (1 mm Hg) at 1284 °C.**Volatile Component** 0 %vol @ 21 °C**Surface Tension** 860 mN/m (860 dynes/cm) at 700-750 °C (molten aluminium).**Flammability**Non combustible material.
This material is flammable in powder form only.



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Auto-Ignition Temperature	760 °C
Explosion Properties	Halogen acids and sodium hydroxide in contact with aluminium may generate explosive mixtures of hydrogen. Finely divided aluminium such as small chips and fines, and dusts, at sufficient concentrations, can form explosive mixtures in air. It will also form explosive mixtures in air in the presence of bromates, iodates, or ammonium nitrate.
Molecular Weight	26.98
Dynamic Viscosity	1-1.2 mPa.s (1-1.2 centipoises) at 700-750 °C (molten aluminium).
Other Information	Electrical Resistivity: 2.42 x 10(-8) ohms.m at 0 °C; 2.65 x 10(-8) ohms.m at 20 °C.

10. Stability and reactivity

Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Incompatible materials, exposure to air, moist air or water, generation of dust, heat, sparks, flames or other sources of ignition.
Incompatible Materials	Oxidizing agents (e.g. dinitrogen tetroxide, bromates, chlorates, iodates, sodium peroxide); heating + antimony, phosphorous, arsenic, sulfur, or selenium; heating + metal oxides, oxosalts, or sulfides (e.g. iron, copper or lead oxides, nitrates, sulfates); ammonium nitrate; acids; ammonium persulfate and water; halogenated hydrocarbons; silver chloride; sodium carbonate; fluorochloro-lubricants; halogens; interhalogens; nitro compounds and water; non-metal halides (e.g. phosphorous pentoxide); nitrous oxide; nitrogen tetroxide; nitric oxide; nitrogen peroxide; sulfur dioxide; sulfur dichloride; phosgene; diborane + air; water; strong bases and alcohols; hydrocarbons, with or without oxidizing agents; chromic anhydride; acids; performic acid; other metals; orthodichlorobenzene + ethylene dichloride + propylene dichloride; refined propylene dichloride + heat; potassium perchlorate; liquid oxygen.
Possibility of hazardous reactions	Aluminium powder or dust can react violently or explosively with oxidizing agents (e.g. dinitrogen tetroxide, bromates, chlorates, sodium peroxide). Explosion of the reacted mixture may be triggered by heat, striking, banging or light friction. Powdered aluminium reacts violently on heating with antimony, arsenic, phosphorous, sulfur or selenium. Aluminium powder or metal may undergo violent or explosive reactions ('thermite' reaction) on heating with metal oxides, oxosalts or sulfides (e.g. copper or lead oxides, nitrates, sulfates). An explosion may occur when aluminium powder or dust is mixed with ammonium nitrate, ammonium persulfate and water, halogenated hydrocarbons, silver chloride, sodium carbonate, or fluorochloro-lubricants. Aluminium dust when heated is ignitable and explosive in carbon dioxide atmospheres. Violent explosions may occur with aluminium metal and halogenated hydrocarbons, due to the formation of aluminium chloride, which catalyses further decomposition. Mixtures of aluminium powder with halogens, interhalogens, nitro compounds and water can ignite. Aluminium ignites in non-metal halides (e.g. phosphorous pentoxide) and in the vapours of carbon disulfide, nitrous oxide, nitrogen tetroxide, phosgene or sulfur dioxide. Aluminium and diborane react spontaneously to form complex hydrides which ignite in air. Aluminium powder reacts with water, strong acids, strong bases or alcohols to release flammable hydrogen gas. Finely divided aluminium such as small chips and fines, will form explosive mixtures in air.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Ingestion	May cause irritation of the digestive tract. Acute aluminium toxicity is unlikely.
Inhalation	Not expected to be an inhalation hazard unless it is reacted to form metallic salts, heated to produce fumes upon decomposition, or if aluminium dust is present. If heated or in dust form, it may cause respiratory tract and lung irritation. Inhalation of finely divided powder has been reported as a cause of pulmonary fibrosis.
Skin	May cause mechanical damage (sharp edges may scratch). Dust may cause skin irritation.
Eye	Dust may cause mechanical irritation. Physical damage may occur due to entry of a solid foreign object.
Carcinogenicity	Aluminium production is evaluated in the IARC Monographs (Vol. 34, Suppl. 7; 1987) as Group 1: Carcinogenic to humans.
Chronic Effects	Repeated or prolonged exposure to large amounts of aluminium compounds may cause chronic renal failure (mostly due to the high aluminium content of the water for the dialysate used for dialysis in the 1970's, or chronic ingestion of aluminium-containing phosphate binders or antacids), lung disorders (mostly due to exposure to aluminium fumes or dust in the workplace), phosphate deficiency, Aluminium Related Bone Disease or aluminium-induced Osteomalacia (softening and bending of the bones) with fracturing Osteodystrophy, microcytic anaemia, weakness, fatigue, visual and auditory hallucinations,



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Serious eye damage/irritation	memory loss, speech and language impairment, epileptic seizures, motor disturbance, and dementia, and altered EEG, and may possibly be linked to Alzheimer's disease or other neurological diseases, elevated aluminium levels in the brain, neurological diseases and impaired co-ordination. Contact dermatitis occurs rarely after aluminium exposure. Irritation, which cleared within 7 days, but no corneal cloudiness, was observed in rabbits following application of a compound containing 96.7% atomized aluminium. Slight inflammation and small lens cloudiness (opacities) have been observed in rabbits following implantation of aluminium particles in the eye.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Ecological Information	No ecological problems are to be expected when the product is handled and used with due care and attention.
Ecotoxicity	Quantitative data on the ecological effect of this product are not available. No ecological data available for this product.

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
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14. Transport information**15. Regulatory information**

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule	Not Scheduled

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons No. 15', Commonwealth of Australia, November 2016. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Substances Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.
Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

Empirical Formula & Structural Formula

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