

Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **ALUMINIUM CHLORIDE ANHYDROUS**

Other name(s): Aluminium trichloride; Aluminium chloride; Trichloroaluminium; Chloride of aluminium.

Recommended Use of the Chemical and Restrictions on Use Catalyst in organic synthesis; aluminium compound intermediate.

Supplier: Ixom Operations Pty Ltd
ABN: 51 600 546 512
Street Address: Level 8, 1 Nicholson Street
East Melbourne Victoria 3002
Australia

Telephone Number: +61 3 9906 3000
Emergency Telephone: **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Skin Corrosion - Sub-category 1B
Eye Damage - Category 1

SIGNAL WORD: DANGER



Hazard Statement(s):

H314 Causes severe skin burns and eye damage.

Precautionary Statement(s):

Prevention:

P260 Do not breathe dust / fume / gas / mist / vapours / spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves / protective clothing / eye protection / face protection.

Response:

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before re-use.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.

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**Storage:**

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): None allocated.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Aluminium chloride	7446-70-0	>=99.00%	H314

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:

If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor. For skin burns, cover with a clean, dry dressing until medical help is available.

Eye Contact:

Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport promptly to hospital or medical centre.

Ingestion:

Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:

Treat symptomatically. Can cause corneal burns.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Not combustible, however, if material is involved in a fire use: Dry agent (carbon dioxide, dry chemical powder) - water MUST NOT be allowed to come into contact with substance.

Unsuitable Extinguishing Media:

Water. Foam.

Hazchem or Emergency Action Code: 4W

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**Specific hazards arising from the chemical:**

Corrosive substance. Non-combustible material. Decomposes on heating emitting toxic fumes including those of hydrochloric acid .

Special protective equipment and precautions for fire-fighters:

Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Wear protective equipment to prevent skin and eye contact and breathing in vapours/dust. Do not sweep or flush product into sewers or waterways. Vacuum solid spills instead of sweeping. Collect and seal in properly labelled containers or drums for disposal. DO NOT spray with water.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid skin and eye contact and breathing in dust. Wash hands before breaks and at the end of the work day.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place. Store away from incompatible materials described in Section 10. Keep dry - reacts with water. Protect from moisture. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Aluminium, soluble salts (as Al): 8hr TWA = 2 mg/m³

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

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Appropriate engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Orica Personal Protection Guide information (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.



Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid
Colour:	White to Grey or Yellow
Odour:	Sharp Acidic
Molecular Formula:	AlCl ₃
Specific Gravity:	2.44 @25°C
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	0.13 kPa
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not available
Autoignition Temperature (°C):	Not available
Solubility in water (g/L):	700
Melting Point/Range (°C):	180 (Sublimes)
Sublimation Point (°C):	180
pH:	<7

10. STABILITY AND REACTIVITY

Reactivity:	Hygroscopic: absorbs moisture or water from surrounding air. Reacts with moisture. Reacts with water. Contact with water liberates toxic gas.
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Chemical stability:	Prolonged storage in closed containers has resulted in apparently spontaneous decomposition and occasionally explosion upon opening. This reaction is probably due to slow diffusion of moisture into the container with resulting pressure build-up due to the release of hydrogen chloride. Containers should be carefully vented before being opened.
Possibility of hazardous reactions:	Corrosive to metals in the presence of moisture.
Conditions to avoid:	Avoid dust generation. Avoid exposure to moisture. Avoid contact with water .
Incompatible materials:	Incompatible with oxidising agents , alkali metals , nitrobenzene , nitromethane , water and polymerizable materials .
Hazardous decomposition products:	Hydrogen chloride. Hydrochloric acid.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
Eye contact:	A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
Skin contact:	Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.
Inhalation:	Breathing in dust may result in respiratory irritation. Exposure to dust in high concentrations may cause the development of fluid in the lungs.
Acute toxicity: Oral LD50 (rat): 3450 mg/kg.	
Respiratory or skin sensitisation:	Not a skin sensitiser (guinea pig).
Chronic effects:	Fetotoxic and embryotoxic effects have been observed following ingestion in two animal studies (rats and mice), in the absence of maternal toxicity.
Mutagenicity:	No information available.
Carcinogenicity:	Not listed as carcinogenic according to the International Agency for Research on Cancer (IARC).
Reproductive toxicity:	No information available.
Aspiration hazard:	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways.
Persistence/degradability:	Biodegradation is not an applicable endpoint since the product is an inorganic chemical.

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Bioaccumulative potential: No information available.

Mobility in soil: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.



UN No: 1726
Transport Hazard Class: 8 Corrosive
Packing Group: II
Proper Shipping Name or Technical Name: ALUMINIUM CHLORIDE, ANHYDROUS
Hazchem or Emergency Action Code: 4W

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 1726
Transport Hazard Class: 8 Corrosive
Packing Group: II
Proper Shipping Name or Technical Name: ALUMINIUM CHLORIDE, ANHYDROUS

IMDG EMS Fire: F-A
IMDG EMS Spill: S-B

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 1726
Transport Hazard Class: 8 Corrosive
Packing Group: II
Proper Shipping Name or Technical Name: ALUMINIUM CHLORIDE, ANHYDROUS

15. REGULATORY INFORMATION

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**Classification:**

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Skin Corrosion - Sub-category 1B

Eye Damage - Category 1

Hazard Statement(s):

H314 Causes severe skin burns and eye damage.

Poisons Schedule (SUSMP): None allocated.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

Reason(s) for Issue:

5 Yearly Revised Primary SDS

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.