

SAFETY DATA SHEET

1. Product and Company Identification

Company Name: Sierra Aust Pty Ltd
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Product Name: **Aluminium Cleaner**
Product Code: 7131 1lt, 7130 5lt, 7132 20lt, 7134 200lt
Intended Use: Alloy and Steel Cleaner
Chemical Nature: Acidic Liquid

2. Hazards Identification

Hazardous Chemical according to classification by Safe Work Australia
Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail

Acute Toxicity: Oral, Category 1
Skin Irritation: Category 1
Serious Eye Damage/Irritation: Category 1



GHS Signal Word: **Danger,**
GHS Hazard Phrases: H302 Harmful if swallowed.
 H350 May cause cancer.
 H318 Causes serious eye damage
 H370 Causes damage to organs by skin contact.
 H290 May be corrosive to metal.
 H314 Causes severe skin burns and eye damage.
 H433 Harmful to terrestrial vertebrates.
 May cause long lasting harmful effects to aquatic life.

Precautionary Statements:

Prevention: P102 Keep out of reach of children.
 P103 Read label before use.
 P201 Obtain special instructions before use.
 P264 Wash hands thoroughly after handling.
 P202 Do not handle until all safety precautions have been read and understood.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P260 Do not breathe fumes/mist/vapours/spray.
 P234 Keep only in original container.
 P270 Do not eat, drink or smoke when using this product.
 P273 Avoid release to the environment.

Response: P301+P312 IF SWALLOWED: Immediately Call POISONS INFORMATION CENTRE or a doctor.
 P330 Rinse mouth do not induce vomiting.
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P308 If exposed or concerned: seek medical advice.
 P332+P313 If skin irritation occurs: Get medical attention.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P391 Collect Spillage.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 If eye irritation persists: Get medical attention.
 P304+340: If inhaled: Remove person to fresh air and keep comfortable for breathing.

Storage: P405 Keep locked up.

Disposal: Dispose through licensed disposal contractor and in accordance with local/state regulations.

3. Composition / Information on Ingredients

Substance / Mixture: Mixture
Product Description: Alloy and Steel Cleaner

Chemical Name	Cas Number	% In Product
Hydrogen Flouride	7664-39-3	<1%
Ammonium Bifluoride	1314-49-7	<10%
Sulphuric Acid	7664-93-9	<30%
Other ingredients not classified as hazardous		

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if applicable are listed in section 8.

4. First aid Measures

Description of necessary first aid measures

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

Inhalation: If inhaled remove to fresh air at once. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical help.

Skin Contact: Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.

Ingestion: Immediately rinse mouth with water. If swallowed do not induce vomiting. Give water to drink. Seek immediate medical attention.

Advice to Doctor Urine fluoride levels of greater than 4mg/litre are considered unacceptable. Levels below this are not considered to cause chronic bone defects such as fluoridosis. Increases in bone density due to fluoride deposition can be detected by x-ray. Hydrofluoric acid penetrates rapidly and deeply below fat layers binding and depleting tissue calcium. Failure to commence the correct medical treatment promptly may be fatal. There is a major risk of systemic toxicity following inhalation, ingestion and skin burns. A skin burn involving more than 5% of body area with any concentration of this product may be associated with systemic effects. Treatment with IV Calcium Gluconate should commence.

First Aid Facilities Safety shower and eyewash stations conforming to ANSI Z3581, immediately accessible to the workplace where HF is being used.
 Calcium gluconate tablets each containing 400mg calcium gluconate/20mg ascorbic acid.
 Calcium gluconate gel 2.5% by wt
 Calcium gluconate sterile solutions (10% w/w).
 Nebuliser.
 Eyedroppers.
 Polycarbonate tumblers, 150 or 200 ml capacity.
 Measuring cylinders and stock bottles.
 Protective gloves for use by first aid personnel.
 Positive pressure self-contained breathing apparatus for use by first aid personnel.
 Isotonic saline and/or sterile water supply.

5. Fire Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Use dry chemical powder, foam, polymer foam, water spray or fog type extinguishers.
Unsuitable Extinguishing Media: None known.
Specific Hazards arising from the Chemical: This product is not a combustible liquid.

Precautions for Fire Fighters: Alert Fire Brigade and advise location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. Use water delivered as a fine spray to control the fire and cool adjacent area. Fire fighters to wear self contained

breathing apparatus if risk of exposure to vapour or products of combustion as well as structural fire fighters uniform.

6. Accidental Release Measures

Emergency Precautions:

Personnel involved in the clean should wear full protective clothing. Evacuate all unnecessary personnel. Increase ventilation. Avoid walking through spilled product as it may be slippery. Stop leak if safe to do so. Do not let product reach drain or waterways; advise the Environmental Protection Authority or your local Waste Management. Use clean, non-sparking tools and equipment.

Methods and Materials for Containment and Clean Up:

Soak up spilled product using absorbent non-combustible material such as sand or soil. Avoid using sawdust or cellulose. When saturated, collect material into suitable, labelled, dry, sealable containers and hold for safe disposal. Once pick-up is complete, flush spill site with plenty of water to eliminate any residue. Hold contaminated water for treatment/disposal.

7. Handling and Storage

Use with great caution in mixing with water due to heat evolution that causes violent spattering. Always add the acid to water, NEVER ADD WATER TO THE ACID.

Handling:

Wash thoroughly after handling. Use only in a well ventilated area. Avoid contact with eyes, skin and clothing. Empty containers retain product and residue, (liquid or vapour), and can be dangerous. Keep container tightly closed. Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Do not dispose of material to sewers or waterways.

Storage:

Store in a tightly closed container. Keep from contact with oxidizing materials. Store in cool, dry, well-ventilated area away from incompatible substances. Keep containers closed at all times, check regularly for leak.

8. Exposure Controls and Personal Protection

National Exposure Standards	Name	mg/m3 (STEL)	ppm (STEL)	mg/m3 (TWA)	ppm (TWA)	TWA Footnote
	Water	-	-	-	-	
	Ingredients determined not to be hazardous	-	-	-	-	
	Sulphuric acid	3		1		
	Hydrogen fluoride (Hydrofluoric acid) (as F)			2.6	3	Peak limitation
Personal Protective Equipment	Wear PVC gloves, chemical goggles and/or a face shield, an acid resistant apron and enclosed footwear. Wear an acid resistant respirator to AS 1716 if spray mists are produced during use. It is recommended that a shirt with long sleeves and long trousers be worn. Always wash skin, clothing and protective equipment after using this product.					
Eng. Controls	Ensure that the ventilation is adequate to maintain air concentrations below exposure standards.					

9. Physical and Chemical Properties

Physical State:	Liquid	Specific Gravity:	1.03 @ 25°C
Colour:	Colourless	Vapour Pressure:	no data
Odour:	Odourless	Volatiles:	94%
pH:	1 +/- 0.5	Vapour Density:	no data
Boiling Point:	100°C	Solubility:	100%
Flash Point:	n/a	Evaporation Rate:	<=Water

10. Stability and Reactivity

Chemical Stability:	The product is stable, under normal storage conditions.
Conditions to avoid:	Keep out of direct sunlight and away from sources of heat. Keep away from strong alkalis and oxidizing agents
Incompatible Materials:	Incompatible with oxidizing agents and alkalies. Highly corrosive to glass and other siliceous materials. Reacts with most materials producing flammable hydrogen gas. Reacts with acids, bases and many organic materials.
Conditions to Avoid:	Avoid excessive heat, moisture and high temperature. Store away from direct sunlight.
Hazardous decomposition:	Hydrogen fluoride, hydrogen in contact with metals.

11. Toxicological Information

Oral LD50 (RAT):	Not determined.
Dermal LD50 (RABBIT)	Not determined.
TLV:	2ppm.
Odour Threshold:	Not determined.
Inhalation LC50:	50ppm/30min (man) 4970 ppm, as HF (rat, 5 min) = 1310 ppm, as HF (rat, 1 hr) = 1774 ppm, as HF (monkey, 1 hr)

HF acid as liquid or vapour is extremely corrosive and toxic Concentrations in excess of 10ppm are intolerable to breath. Concentrations of 25ppm may be fatal.

The following exposure standard is recommended by Worksafe Australia:

Hydrogen fluoride (as F): TWA 3 ppm (2.6 mg/m³) Peak limitation

	TWA	STEL
	ppm mg/m ³	ppm mg/m ³
Sulfuric acid	- 1	- 3

Carcinogenicity: No specific data is available. There is no evidence of an association between human cancer and exposure to inorganic fluorides.

Teratogenicity and Embryotoxicity: There is inconclusive data from animal studies suggesting possible reproductive effects. There are no reports of effects on humans.

Toxicological Synergistic Materials: Insufficient information.

Mutagenicity: Insufficient data. There is a potential for fluoride to be stored in the bone, but it may be eliminated over a number of years.

HEALTH EFFECTS

Swallowed:	Very toxic if swallowed. Will cause severe burns to the mouth, mucous membranes, throat, oesophagus and stomach with effects including spontaneous vomiting with diarrhoea and possible bloody stools. Small quantities (approximately 300 - 500 ml) swallowed may cause death.
Eyes:	Hydrogen fluoride vapours can dissolve in the moisture on the surface of the eyes and cause irritation. Splashing into the eyes may cause severe and irreversible damage with possible corneal scarring. Liquid and vapour are severe irritants and exposure may result in permanent or prolonged visual defects or total destruction of the eyes.
Skin:	Very toxic by skin contact. Will cause severe burns with effects including redness, blistering, localised pain, dermatitis and deep burns. Burns from solutions of 10 -100% may not be felt for several hours. Serious skin splashes have caused death.
Inhalation:	Very toxic if inhaled. Weak vapour concentrations of a few mg/L can produce irritation of the nose, throat and respiratory system with effects including dizziness, headache, loss of coordination, chest pains, coughing, respiratory paralysis and or failure. High vapour concentrations can cause severe burns to the lips, mouth, throat and lungs. Fluid accumulation in lungs may occur and can lead to death. Strong irritant Inhalation of vapour may cause ulcers of the upper respiratory tract, pulmonary inflammation and congestion. Effects may be delayed for 24 hours.
Chronic:	The major health hazards of hydrogen fluoride exposure are related to its irritant and corrosive properties during short-term acute exposures. There is less risk associated with its possible long-term exposure effect.

FLUORIDOSIS: fluoride tends to accumulate in the bones and excessive amounts will produce weakening and degeneration of the bone structure (osteosclerosis). There may also be heart, nerve, and intestinal problems. The disease is called fluoridosis. Fluoridosis may be slowly and partially reversible.

POTENTIAL FOR ACCUMULATION: fluoride is stored in the bone, but may be eliminated over a number of years. Fluoridosis, blackening of nails, mottling of teeth.

12. Ecological Information

Persistence/ degradability: The substance is expected to be persistent
Mobility: No data available for this product

Environmental pollutant. Highly corrosive, toxic. Causes very severe burns to skin, eyes and mucus membranes. Corrosive to glass. Attacks most metals evolving hydrogen gas (explosive and flammable).

13 Disposal Considerations

Spills and Disposal: Whatever cannot be saved for recovery or recycling should be handled as hazardous waste by an approved waste agency. The waste must be neutralised with lime in order to immobilise the fluoride as calcium fluoride. Processing, use or contamination of this product may change the waste management options. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

UN No: 2922
 PACKAGING GROUP: II
 CLASS: 8
 HAZCHEM: 2X
 SUB-RISK: 6.1(a)
 POISONS SCHEDULE: S6

Other: Environmental pollutant. Highly corrosive, toxic. Causes very severe burns to skin, eyes and mucus membranes. Corrosive to glass. Attacks most metals evolving hydrogen gas (explosive and flammable).

Segregation Dangerous Goods: Not to be loaded with Class 1, 4.3, 5.1, 5.2, 6*, 7, Foodstuff and foodstuff empties (* Where the Class 6 substance is a cyanide and Class 8 substance is an acid). Keep away from metals (steel, copper, aluminium) and glass. Contact with these metals or chemicals such as sulphides, carbonates & cyanides can evolve toxic, flammable or asphyxiating gases. Reaction with alkaline substance will generate great heat.

15. Regulatory Information

Poisons Schedule S6

Hazard Category Harmful,Irritant

AICS (Australia) To the manufacturer's best knowledge, all components of this product are listed on AICS.

HSNO Approval Number HSR002526.

Full HSNO Classification Details:

Group Standard: Cleaning Products (Corrosive) Group Standard 2006.

HSNO Approval Number: HSR002526.

Approved handler requirements:

Substances covered under this Group Standard will not require an approved handler.

Emergency Management Regulations:

Level 1: Labelling required when any amount is present in a workplace

Level 2: MSDS is required when 0.1L is present in a work place. Fire extinguisher is not required.

Level 3: Emergency response plans, secondary containment required when 1,000L is stored.

Toxic signage required when 1,000L present in the workplace.

Corrosive signage required when 250L present in the workplace.

Ecotoxic signage required when 1,000L present in the workplace.

Tracking requirement: Not required

HSNO Classification:

6.1D (Dermal) - Substance that is acutely toxic

6.1D (Inhalation - vapours, dusts or mists) - Substance that is acutely toxic

6.1D (Oral) - Substance that is acutely toxic

6.9A (Repeated exposure) - Substance that is toxic to human target organs or systems

8.1A - Substance that is corrosive to metals

8.2B - Substance that is corrosive to dermal tissue

8.3A - Substance that is corrosive to ocular tissue

9.1D - Substance that is slightly harmful to the aquatic environment or is otherwise designed for biocidal action

9.3B - Substance that is ecotoxic to terrestrial vertebrates

Hazard statement codes:

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H372 Causes damage to organs through prolonged or repeated exposure by inhalation and ingestion

H402 Harmful to aquatic life.

H432 Toxic to terrestrial vertebrates.

Precautionary statement codes - Prevention:

P102 Keep out of reach of children.

P103 Read label before use.

P104 Read Safety Data Sheet before use.

P234 Keep only in original container.

P260 Do not breathe fume/mist/vapours/spray.

P264 Wash exposed skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement codes - Response:

P101 If medical advice is needed, have product container or label at hand.

P310 Immediately call a POISON CENTER or doctor/physician.

P390 Absorb spillage to prevent material damage.

P391 Collect spillage.

INGESTION

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

INHALATION

P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

EYES

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SKIN

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P321 Specific treatment (see reference to first aid instruction on use of calcium gluconate gel for skin in MSDS).

P363 Wash contaminated clothing before reuse.

Precautionary statement codes - Storage:

P405 Store locked up.

P406 Store in corrosive resistant container with a resistant inner liner.

Precautionary statement codes - Disposal:

P501 Dispose of contents/container according to relevant local, state and federal government regulations including 'The Hazardous Substances (Disposal) Regulations 2001.' Refer to section 13 of this Material Safety Data Sheet.

**Other
Information**

Hydrofluoric acid has been investigated by NICNAS as a Priority Existing Chemical - refer PEC19.

16. Other Information

This SDS contains only safety related information.

Every endeavor has been made to ensure that the information contained in this publication is reliable and offered in good faith. It is meant to describe the safety requirements of our products and should not be construed as guaranteeing specific properties. Customers are encouraged to conduct their own tests as end user suitability of the product for particular uses is beyond our control. The information is not intended as an inducement to bargain and no warranty expressed or implied is made as to its accuracy, reliability or completeness. Sierra (Aust) Pty Ltd accepts no liability for loss, injury or damage arising from reliance upon the information contained in this data sheet except in conjunction with the proper use of the product to which it refers. Due care should be taken that the use and disposal of this product is in compliance with appropriate Federal, State and Local Government regulations.