

SAFETY DATA SHEET

ACTIVE ACID

Infosafe No.: 5GEJ3
ISSUED Date : 16/08/2019
ISSUED by: Australian Chemical Services

1. Identification

GHS Product Identifier

ACTIVE ACID

Product Code

ACID

Company name

JAW Ltd

Address

25B Paramount Drive
Henderson Auckland
0622 New Zealand

Telephone/Fax Number

Tel: 09 2159743

Fax: 09 4887000

Emergency phone number

09 2159743 (office hours)

Emergency Contact Name

Manager

Recommended use of the chemical and restrictions on use

Aluminium Deoxidiser and Brightener, Metal Deruster

2. Hazard Identification

GHS classification of the substance/mixture

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Corrosive to Metals: Category 1

Eye Damage/Irritation: Category 1

Skin Corrosion/Irritation: Category 1B

STOT Single Exposure: Category 1

STOT Repeated Exposure: Category 1

Acute Toxicity - Dermal: Category 3

Acute Toxicity - Oral: Category 3

Acute Toxicity - Inhalation: Category 3

Signal Word (s)

DANGER

Hazard Statement (s)

May be corrosive to metals.

Toxic if swallowed.

Toxic in contact with skin.

Causes severe skin burns and eye damage.

Causes serious eye damage.

Toxic if inhaled.

Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statement – General

Keep out of reach of children.

Pictogram (s)

Corrosion, Health hazard, Skull and crossbones



Precautionary statement – Prevention

Keep only in original container.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash contaminated skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF exposed: Call a POISON CENTER or doctor/physician.
Get medical advice/attention if you feel unwell.
Remove/Take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.

Precautionary statement – Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Store in corrosive resistant/approved container with a resistant inner liner.

Precautionary statement – Disposal

Dispose of contents/container to an approved waste facility..

3. Composition/information on ingredients

Ingredients

Name	CAS	Proportion
Sulphuric acid	7664-93-9	10-<30 %
Orthophosphoric acid	7664-38-2	0-<10 %
Hydrofluoric Acid	7664-39-3	0-<7 %
Other ingredients classified as non hazardous at the concentrations used according to the criteria of Safework Australia		-

4. First-aid measures

First Aid Measures

It is important that any person who has been contaminated by hydrofluoric acid should have immediate first aid, then see a medical practitioner as soon as possible. Even with minor accidents, the full extent of the injuries may not be obvious for several hours. For advice, contact a Poisons Information Centre (Phone e.g. Australia 131 126; New Zealand 0 800 764766) or a doctor.

Inhalation

Rescuer should wear appropriate personal protection to avoid skin contamination and breathing hydrogen fluoride fumes. Move patient from area, resuscitate if necessary.

Specific Treatments for Hydrofluoric Acid Poisoning: Administer nebulised gluconate (4ml of 2.5% calcium gluconate solution [made by mixing 1 part 10% calcium gluconate with 3 parts N saline solution] with oxygen). Give six (6) effervescent calcium gluconate tablets in water by mouth and repeat at 2 hourly intervals until admitted to hospital. Seek medical attention as potentially fatal systemic effects are likely. Transfer promptly to a hospital for possible intensive care.

Ingestion

Do not give anything by mouth if victim is losing consciousness or is unconscious or convulsing. Rinse mouth of victim thoroughly with water and spit out rinse water. DO NOT INDUCE VOMITING.

Specific Treatment for Hydrofluoric Acid Poisoning: If the patient is alert and able to swallow, immediately administer 120 to 240 mL of milk or water (not to exceed 120 mL in a child). Attempt immediate administration of a fluoride binding substance: chewable calcium carbonate tablets (e.g., Tums™) or 120 to 240 mL of milk of magnesia or a liquid antacid (e.g., Maalox™). Avoid large amounts of liquid, as this may induce vomiting. If the victim vomits, clean up and isolate vomited material using paper towels and plastic bags. Use extreme caution, as vomited material may contain hydrofluoric acid. Obtain medical attention immediately.

Skin

First aid personnel should avoid contact with this chemical. Wear impervious gloves when assisting patient. Immediately flush contaminated skin area with gently running water for at least 20 minutes.

Specific Treatment for Hydrofluoric Acid Poisoning: While washing with water remove contaminated clothing, footwear and leather goods (e.g. watchbands, belts). Wearing protective gloves the first aid person should gently apply the 2.5% calcium gluconate gel to the affected area and leave on the skin until 15 minutes after the pain has subsided. If gel not readily available, immersion of the burned body part into an iced, aqueous solution of a quaternary ammonium compound (e.g., 0.13% benzalkonium chloride) is recommended. For burns on the skin affecting more than 65 cm² (approximately the area of the palm of the hand), give six tablets of effervescent calcium gluconate in water by mouth every two hours until admitted to hospital. Obtain medical attention immediately.

Eye contact

SPEED IS ESSENTIAL. Immediately flush the contaminated eye(s) with gently flowing water for 15 minutes, by the clock, holding the eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye.

Specific Treatment for Hydrofluoric Acid Poisoning: Continue irrigation with normal saline solution or water until the severe pain of the burn is relieved. Instill several drops of sterile calcium gluconate (1% solution). Obtain medical attention immediately. NOTE: do not use any of the skin treatment preparation for burns of the eye.

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).

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.

5. Fire-fighting measures

Fire Fighting Measures

Use dry agents if hydrofluoric acid in a fire. If water used there may be a danger of hydrofluoric acid splashing. Hydrofluoric acid is not flammable, but if stored in metal containers flammable hydrogen gas may be produced. Firefighters should wear full self-contained breathing apparatus and full body protective clothing.

Use water spray to cool containers. Wear self-contained breathing apparatus and full protective clothing. Wash acid away from metal surfaces.

Suitable Extinguishing Media

Use alcohol-resistant foam, dry chemical or carbon dioxide if hydrofluoric acid in a fire. If water used there may be a danger of hydrofluoric acid splashing.

Hazards from Combustion Products

If heated acid will produce choking fumes of hydrogen fluoride, sulphuric acid fume and sulphur dioxide. Although not flammable, hydrogen gases may be evolved in contact with metals. Potential sources of ignition should be excluded from these areas.

Special Protective Equipment for fire fighters

Fire fighters to wear full body protective clothing with breathing apparatus. Deluge with water to cool containers. Evacuate area move upwind of fire.

Specific Hazards Arising From The Chemical

Material is stable under normal conditions of temperature and pressure. Avoid contact with bases (e.g. caustic soda) - can react violently. Concentrated Hydrofluoric Acid will dissolve glass, ceramics, metals containing silica, natural gum rubber and leather. Fluorine gas reacts vigorously with this material, and may burst into flames. Reaction with arsenic trioxide can be extremely hot. Hazardous polymerisation has not been reported. Hydrofluoric Acid does not burn but will produce toxic and or corrosive fumes of anhydrous hydrogen fluoride fumes upon heating. Runoff may pollute waterways, drains or sewers.

Hazchem Code

2X

6. Accidental release measures

Spills & Disposal

DO NOT contaminate the surrounding materials. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind and keep out of low areas. Isolate for 100m in all directions if tank, rail car or tanker is involved in fire. Shut off ignition sources, no flares, smoking or flames in hazard area as this product may react with metals and release flammable gas. Stop leak if you can do it without risk. Water spray may reduce vapour, but may not prevent ignition in closed spaces. Wear full protective clothing.

Personal Protection

Use PPE as indicated in Section 8 of this SDS

Clean-up Methods - Small Spillages

For small spills - Neutralise with lime if possible. Take up with sand, dirt or vermiculite. Place into labelled (non metallic) drum(s) for later disposal.

Clean-up Methods - Large Spillages

For large spills - notify Emergency Services (Police or Fire Brigade) if the situation cannot be controlled. Tell them location, nature and any information that would be helpful. Contain spill & neutralise with lime if possible. Avoid contact with spill. Trained personnel should wear personal protective gear as highlighted in this SDS. Blanket spill with dry sand or dry chemical powder. Consult an expert regarding disposal of this product. For large spill or tank rupture consider further evacuation to 200 m in all directions. If available consider using water spray to disperse vapours.

Environmental Precautions

Review local regulations before release to the environment.

Other Information

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.

7. Handling and storage

Handling and storage

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

Precautions for Safe Handling

Use extreme caution in all procedures involving HF. Open containers of HF should not be left unattended. When splash or inhalation exposure is possible, appropriate protective clothing must be worn.

Conditions for safe storage, including any incompatibilities

Keep containers closed at all times - check regularly for leaks. Protect storage containers from heat or direct sunlight. The storage area should have adequate, independent, ventilation and have no sources of heat.

Avoid contact with incompatible materials such as strong alkalis, nitrates and oxidising agents. Avoid heat conditions.

Additional information on precautions for use

This material is a Scheduled 7 Poison (S7) and must be stored, maintained and used in accordance with the relevant regulations.

8. Exposure controls/personal protection

Occupational exposure limit values

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
Sulphuric acid		TWA	1	mg/m ³	
Sulphuric acid		STEL	3	mg/m ³	
Orthophosphoric acid		TWA	1	mg/m ³	
Orthophosphoric acid		STEL	3	mg/m ³	

Other Exposure Information

Workplace Exposure Limits:

For the constituent Hydrogen fluoride (as F), Safe Work Australia recommends: TWA 3ppm (2.6 mg/m³) Peak limitation. HF acid as liquid or vapour is extremely corrosive and toxic. Concentrations in excess of 10ppm are intolerable to breathe. Concentrations of 25ppm may be fatal.

Phosphoric Acid: TWA = 1mg/m³. STEL 3mg/m³ (Safe Work Australia)

Sulphuric Acid: TWA = 1mg/m³. STEL 3mg/m³ (Safe Work Australia)

These 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 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.

Appropriate engineering controls

Corrosive liquid. Maintain adequate ventilation at all times. Sampling of the atmosphere if there is a risk that TWA or STEL levels may be exceeded, with all appropriate procedures being implemented and including any protective equipment.

Personal Protective Equipment

Skin protection - Wear any type of apron or splash suit as recommended by the suit manufacturer for exposure to hydrofluoric acid.

Handle with gloves that are resistant to hydrofluoric acid. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good practices.

Wash and dry hands. All gloves should be tested from pin-holes by immersion in water, inflating with air and checking for bubbles.

Eye protection - Wear chemical goggles or faceshield to protect eyes.

Respiratory protection - Avoid breathing of gases. If engineering controls are inadequate a full face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridge is recommended. If entering spaces where the airborne concentration of a contaminant is unknown then the use of a self-contained breathing apparatus with positive air supply complying with AS/NZS 1715-1716 is recommended.

9. Physical and chemical properties

Properties	Description	Properties	Description
Form	Liquid	Appearance	Clear/cloudy liquid
Boiling Point	ca. 100°C	Solubility in Water	Soluble
Specific Gravity	1.4	pH	<1.0
Vapour Density (Air=1)	2.95 (HF Acid)	Volatile Component	85 - 90%

10. Stability and reactivity

Chemical Stability

Stable under normal conditions of use.

Conditions to Avoid

Keep out of direct sun and away from sources of heat. Keep away from strong alkalis, nitrates, chlorinated products and oxidising agents. Protect containers from mechanical damage.

Incompatible materials

Concentrated Hydrofluoric Acid is corrosive to glass and other siliceous materials. Concentrated Hydrofluoric Acid reacts with most metals generating flammable hydrogen gas. Reacts with chlorinated products, nitrites, nitrates and sulphites to produce toxic gas.

Hazardous Decomposition Products

Hydrogen fluoride.

Other Information

Store in a cool, dry place. Use only as directed. Store in accordance with directions given in Section 7 (Handling and storage) of this SDS.

11. Toxicological Information

Toxicology Information

Toxicology is not determined for this particular product.

For constituent, hydrofluoric acid:

Lowest Lethal Dose, Human LCLo: 50 ppm/30 min.

Inhalation, Rat LC50: 1278 ppm/1hr.

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

Ingestion

Toxic if swallowed. Will cause burns to the mouth, mucous membranes, throat, oesophagus and stomach with effects including spontaneous vomiting with diarrhoea and possible bloody stools. Ingestion of small quantities of Hydrofluoric Acid may cause death.

Inhalation

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 burns to the lips, mouth, throat and lungs. Inhalation of vapour may cause ulcers of the upper respiratory tract, pulmonary inflammation and congestion. Effects may be delayed for 24 hours.

Skin

Toxic and corrosive by skin contact. May cause burns with effects including redness, blistering, localised pain and dermatitis. Effects may be delayed for 24 hours.

Eye

Serious eye damage. Hydrogen fluoride vapours and solutions 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 may cause severe burns and exposure may result in permanent or prolonged visual defects or total destruction of the eyes.

Mutagenicity

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.

Carcinogenicity

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

Reproductive Toxicity

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

Chronic Effects

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

Ecotoxicity

None determined for this particular product. For constituent, hydrofluoric acid: Environmental pollutant. Expected to be harmful to the environment.

Other Information

Insufficient data are available to evaluate or predict the short-term effects of hydrogen fluoride to aquatic life, plants, birds, or land animals. Hydrogen fluoride is highly soluble in water. Concentrations of 1000 milligrams and more will mix with a litre of water. Small quantities of hydrogen fluoride will be neutralised by the alkalinity in aquatic systems, but larger quantities can lower the pH for extended periods of time. The concentration of fluoride in edible tissues of most aquatic species that are consumed by humans will probably be about the same as the average concentration that was present in the water from which the fish were taken. This substance may cause long-term adverse effects in the environment due to fluoride pollution and due to acid pH effects.

13. Disposal considerations

Disposal considerations

Dispose of material through a licensed waste contractor. 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

Transport Information

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail. Refer to relevant regulations for storage and transport requirements.

U.N. Number

2922

UN proper shipping name

CORROSIVE LIQUID, TOXIC, N.O.S.contains Hydrofluoric Acid, Sulphuric Acid and Phosphoric Acid

Transport hazard class(es)

8

Sub.Risk

6.1

Packing Group

II

Hazchem Code

2X

IERG Number

37

15. Regulatory information

Poisons Schedule

S7

HSNO Approval Number

HSR002526

Australia (AICS)

All ingredients listed

Other Information

NZ Classification: Cleaning Products (Corrosive) Group Standard 2017. Acute Toxicity 6.1c(ALL), Skin corrosion 8.2B, Serious eye damage 8.3A, Respiratory tract irritant 6.9(ALL)

16. Other Information

References

Preparation of safety data sheets for hazardous chemicals, Code of Practice.

Standard for the uniform scheduling of medicines and poisons.

Australian code for the transport of dangerous goods by road & rail.

Workplace exposure standards, Safe Work Australia.

Hazardous substances/ chemicals information system, Safe Work Australia.

Globally harmonized system of classification and labelling of chemicals.

Raw materials suppliers SDS.

Other Information

Issue: August 2019 (#6)

Reason for revision: Formulation change.

DO NOT MIX WITH OTHER CHEMICALS WITHOUT PRIOR CONSULTATION WITH THE MANUFACTURER. Always use product as directed. Never return any unused material to original drum.

Every endeavour 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. The company 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.

END OF SDS

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