

ITW Septone Alibrite

ITW Polymers & Fluids

Chemwatch Hazard Alert Code: 4

Chemwatch: 63675

Version No: 13.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: 10/03/2023

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S.GHS.AUS.EN

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

| | |
|-------------------------------|--|
| Product name | ITW Septone Alibrite |
| Chemical Name | Not Applicable |
| Synonyms | Product Code: ATA1; ATA5; ATA20 |
| Proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S. (contains hydrogen fluoride and sulfuric acid) |
| Chemical formula | Not Applicable |
| Other means of identification | Not Available |

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

| | |
|--------------------------|--|
| Relevant identified uses | Aluminium and stainless steel cleaner. |
|--------------------------|--|

Details of the manufacturer or supplier of the safety data sheet

| Registered company name | ITW Polymers & Fluids | ITW Polymers & Fluids NZ |
|-------------------------|--|--|
| Address | 100 Hassall New South Wales 2164 Australia | Unit 2/38 Trugood Drive 2013 New Zealand |
| Telephone | +61 2 9757 8800 | +64 9272 1940 |
| Fax | Not Available | Not Available |
| Website | Not Available | Not Available |
| Email | orders@itwpcf.com.au | info@aamtech.co.nz |

Emergency telephone number

| Association / Organisation | Chemwatch | CHEMWATCH EMERGENCY RESPONSE (24/7) |
|-----------------------------------|-----------------|-------------------------------------|
| Emergency telephone numbers | 1800 951 288 | +61 1800 951 288 |
| Other emergency telephone numbers | +61 2 9186 1132 | +61 3 9573 3188 |

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 Hazards identification

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

| | |
|--------------------|--|
| Poisons Schedule | S6 |
| Classification [1] | Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 3, Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Inhalation) Category 3, Carcinogenicity Category 1A |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |

Label elements

| | |
|---------------------|---|
| Hazard pictogram(s) |  |
| Signal word | Danger |

Hazard statement(s)

| | |
|-------------|--|
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H331 | Toxic if inhaled. |
| H350 | May cause cancer. |

Precautionary statement(s) General

| | |
|-------------|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |
| P103 | Read carefully and follow all instructions. |

Precautionary statement(s) Prevention

| | |
|-------------|---|
| P201 | Obtain special instructions before use. |
| P260 | Do not breathe mist/vapours/spray. |
| P264 | Wash all exposed external body areas thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |

Precautionary statement(s) 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 [or shower]. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313 | IF exposed or concerned: Get medical advice/ attention. |

Precautionary statement(s) Storage

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|------------------|--|
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |

Precautionary statement(s) Disposal

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| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|-------------|--|

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|---------------|-----------|--|
| 7664-93-9 | 1-<5 | <u>sulfuric acid</u> |
| 1341-49-7 | 1-<5 | <u>ammonium bifluoride</u> |
| 7664-39-3 | 0-<1 | <u>hydrogen fluoride</u> |
| Not Available | NotSpec | Ingredients determined not to be hazardous |
| 7732-18-5 | >60 | <u>water</u> |

Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available

SECTION 4 First aid measures

Description of first aid measures

| | |
|---------------------|--|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▶ Quickly remove all contaminated clothing, including footwear. ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. |

| | |
|-------------------|--|
| | <ul style="list-style-type: none"> Transport to hospital, or doctor. |
| Inhalation | <ul style="list-style-type: none"> If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay. <p>For massive exposures:</p> <ul style="list-style-type: none"> If dusts, vapours, aerosols, fumes or combustion products are inhaled, remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. If victim is conscious, give six calcium gluconate or calcium carbonate tablets in water by mouth. Transport to hospital, or doctor, urgently. |
| Ingestion | <ul style="list-style-type: none"> For advice, contact a Poisons Information Centre or a doctor at once. Urgent hospital treatment is likely to be needed. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Transport to hospital or doctor without delay. |

Indication of any immediate medical attention and special treatment needed

Following acute or short term repeated exposure to hydrofluoric acid:

- Subcutaneous injections of Calcium Gluconate may be necessary around the burnt area. Continued application of Calcium Gluconate Gel or subcutaneous Calcium Gluconate should then continue for 3-4 days at a frequency of 4-6 times per day. If a "burning" sensation recurs, apply more frequently.
- Systemic effects of extensive hydrofluoric acid burns include renal damage, hypocalcaemia and consequent cardiac arrhythmias. Monitor haematological, respiratory, renal, cardiac and electrolyte status at least daily. Tests should include FBE, blood gases, chest X-ray, creatinine and electrolytes, urine output, Ca ions, Mg ions and phosphate ions. Continuous ECG monitoring may be required.
- Where serum calcium is low, or clinical, or ECG signs of hypocalcaemia develop, infusions of calcium gluconate, or if less serious, oral Sandocal, should be given. Hydrocortisone 500 mg in a four to six hourly infusion may help.
- Antibiotics should not be given as a routine, but only when indicated.
- Eye contact pain may be excruciating and 2-3 drops of 0.05% pentocaine hydrochloride may be instilled, followed by further irrigation

BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

| Determinant | Index | Sampling Time | Comments |
|----------------------------|---------------------|------------------------|-----------|
| 1. Methaemoglobin in blood | 1.5% of haemoglobin | During or end of shift | B, NS, SQ |

B: Background levels occur in specimens collected from subjects **NOT** exposed.

NS: Non-specific determinant; Also seen after exposure to other materials

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.
Treat symptomatically.

For acute or short term repeated exposures to fluorides:

- Fluoride absorption from gastro-intestinal tract may be retarded by calcium salts, milk or antacids.
- Fluoride particulates or fume may be absorbed through the respiratory tract with 20-30% deposited at alveolar level.
- Peak serum levels are reached 30 mins. post-exposure; 50% appears in the urine within 24 hours.
- For acute poisoning (endotracheal intubation if inadequate tidal volume), monitor breathing and evaluate/monitor blood pressure and pulse frequently since shock may supervene with little warning. Monitor ECG immediately; watch for arrhythmias and evidence of Q-T prolongation or T-wave changes. Maintain monitor. Treat shock vigorously with isotonic saline (in 5% glucose) to restore blood volume and enhance renal excretion.
- Where evidence of hypocalcaemic or normocalcaemic tetany exists, calcium gluconate (10 ml of a 10% solution) is injected to avoid tachycardia.

BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

| Determinant | Index | Sampling Time | Comments |
|--------------------|--------------------|----------------|----------|
| Fluorides in urine | 3 mg/gm creatinine | Prior to shift | B, NS |
| | 10mg/gm creatinine | End of shift | B, NS |

B: Background levels occur in specimens collected from subjects **NOT** exposed

NS: Non-specific determinant; also observed after exposure to other exposures.

SECTION 5 Firefighting measures

Extinguishing media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

Special hazards arising from the substrate or mixture

| | |
|----------------------|-------------|
| Fire Incompatibility | None known. |
|----------------------|-------------|

Advice for firefighters

| | |
|-----------------------|---|
| Fire Fighting | <ul style="list-style-type: none">▸ Alert Fire Brigade and tell them location and nature of hazard.▸ Wear full body protective clothing with breathing apparatus.▸ Prevent, by any means available, spillage from entering drains or water course.▸ Use fire fighting procedures suitable for surrounding area. |
| Fire/Explosion Hazard | <ul style="list-style-type: none">▸ Non combustible.▸ Not considered to be a significant fire risk.▸ Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.▸ Heating may cause expansion or decomposition leading to violent rupture of containers. Decomposition may produce toxic fumes of: hydrogen fluoride |
| HAZCHEM | 2X |

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|--------------|---|
| Minor Spills | <ul style="list-style-type: none">▸ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.▸ Check regularly for spills and leaks.▸ Clean up all spills immediately.▸ Avoid breathing vapours and contact with skin and eyes.▸ Control personal contact with the substance, by using protective equipment.▸ Contain and absorb spill with sand, earth, inert material or vermiculite. |
| Major Spills | <ul style="list-style-type: none">▸ Clear area of personnel and move upwind.▸ Alert Fire Brigade and tell them location and nature of hazard.▸ May be violently or explosively reactive.▸ Wear full body protective clothing with breathing apparatus. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

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|-------------------|--|
| Safe handling | <ul style="list-style-type: none">▸ DO NOT allow clothing wet with material to stay in contact with skin▸ Avoid all personal contact, including inhalation.▸ Wear protective clothing when risk of exposure occurs.▸ Use in a well-ventilated area.▸ WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material. |
| Other information | <ul style="list-style-type: none">▸ Store in original containers.▸ Keep containers securely sealed.▸ Store in a cool, dry, well-ventilated area.▸ Store away from incompatible materials and foodstuff containers. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------|---|
| Suitable container | <ul style="list-style-type: none">▸ DO NOT use aluminium or galvanised containers▸ Check regularly for spills and leaks▸ Lined metal can, lined metal pail/ can. |
|--------------------|---|

| | |
|--------------------------------|--|
| | <ul style="list-style-type: none"> ▸ Plastic pail. ▸ Polyliner drum. ▸ Packing as recommended by manufacturer. <p>For low viscosity materials</p> <ul style="list-style-type: none"> ▸ Drums and jerricans must be of the non-removable head type. ▸ Where a can is to be used as an inner package, the can must have a screwed enclosure. <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> ▸ Removable head packaging; ▸ Cans with friction closures and ▸ low pressure tubes and cartridges <p>may be used.</p> <ul style="list-style-type: none"> ▸ Material is corrosive to most metals, glass and other siliceous materials. ▸ Bottles for storage of HF must have secure caps and lids that can provide a gas-tight seal to prevent escape of hydrogen fluoride gas. ▸ Hydrofluoric acid etches glass, due to the strong bond formed between fluoride anions and the silicon molecules in glass. Hydrofluoric acid will also react with glazes, enamels, pottery, concrete, rubber, leather, many metals (especially cast iron) and many organic compounds. |
| Storage incompatibility | <ul style="list-style-type: none"> ▸ Avoid strong bases. ▸ Avoid reaction with oxidising agents, bases and strong reducing agents. |

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA


| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------|---------------------|--------------------------|---------------|---------------|-------------------|---------------|
| Australia Exposure Standards | sulfuric acid | Sulphuric acid | 1 mg/m3 | 3 mg/m3 | Not Available | Not Available |
| Australia Exposure Standards | ammonium bifluoride | Fluorides (as F) | 2.5 mg/m3 | Not Available | Not Available | Not Available |
| Australia Exposure Standards | hydrogen fluoride | Hydrogen fluoride (as F) | Not Available | Not Available | 3 ppm / 2.6 mg/m3 | Not Available |

Emergency Limits

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---------------------|---------------|---------------|---------------|
| sulfuric acid | Not Available | Not Available | Not Available |
| ammonium bifluoride | 11 mg/m3 | 130 mg/m3 | 750 mg/m3 |
| hydrogen fluoride | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|---------------------|---------------|---------------|
| sulfuric acid | 15 mg/m3 | Not Available |
| ammonium bifluoride | Not Available | Not Available |
| hydrogen fluoride | 30 ppm | Not Available |
| water | Not Available | Not Available |

Exposure controls

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|--|--|
| Appropriate engineering controls | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p> |
| Individual protection measures, such as personal protective equipment |  |
| Eye and face protection | <ul style="list-style-type: none"> ▸ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure. ▸ Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. [AS/NZS 1337.1, EN166 or national equivalent] ▸ Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection. |
| Skin protection | See Hand protection below |

| | |
|------------------------------|---|
| Hands/feet protection | <ul style="list-style-type: none"> ▸ Elbow length PVC gloves ▸ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care.</p> |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▸ Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] ▸ Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent] ▸ Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely. ▸ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. ▸ Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. ▸ Overalls. ▸ PVC Apron. ▸ PVC protective suit may be required if exposure severe. ▸ Eyewash unit. |

Respiratory protection

Type BE-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

| | | | |
|---|---|--|----------------|
| Appearance | Clear pink acidic liquid with sharp acidic odour; mixes with water. | | |
| Physical state | Liquid | Relative density (Water = 1) | 1.035 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Applicable |
| pH (as supplied) | 2.5 | Decomposition temperature (°C) | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | 100 | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | Not Applicable | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | 94 |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Miscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Available |

SECTION 10 Stability and reactivity

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|---------------------------|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur. |

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|---|---------------|
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 Toxicological information

Information on toxicological effects

| | |
|---------------------|--|
| Inhaled | <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects.</p> <p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness.</p> <p>Acute effects of fluoride inhalation include irritation of nose and throat, coughing and chest discomfort. A single acute over-exposure may even cause nose bleed.</p> <p>Acute inhalation of hydrogen fluoride (hydrofluoric acid) vapours causes severe irritation of the eye, nose and throat, delayed fever, bluing of the extremities and water in the lungs, and may cause death. The above irritation occurs even with fairly low concentrations of hydrogen fluoride. Hydrogen fluoride has a strong irritating odour, that can be detected at concentrations of about 0.04 parts per million. Higher levels cause corrosion of the throat, nose and lungs, leading to severe inflammation and water buildup in the lungs (which may occur with 1 hour of exposure).</p> |
| Ingestion | <p>The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p> <p>Severely toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 5 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.</p> |
| Skin Contact | <p>The material can produce severe chemical burns following direct contact with the skin.</p> <p>Skin contact with the material may produce toxic effects; systemic effects may result following absorption.</p> <p>Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.</p> <p>Fluorides are easily absorbed through the skin and cause death of soft tissue and erode bone. Healing is delayed and death of tissue may continue to spread beneath skin.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Contact of the skin with liquid hydrofluoric acid (hydrogen fluoride) may cause severe burns, erythema, and swelling, vesiculation, and serious crusting. With more serious burns, ulceration, blue-gray discoloration, and necrosis may occur.</p> <p>Solutions of hydrofluoric acid, as dilute as 2%, may cause severe skin burns.</p> <p>Dermal burns may not be readily noticed or painful, unlike the warning properties of other acids.</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.</p> <p>Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> |
| Eye | <p>The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.</p> <p>If applied to the eyes, this material causes severe eye damage.</p> <p>Irritation of the eyes may produce a heavy secretion of tears (lachrymation).</p> <p>Animal testing showed that a 20% solution of hydrofluoric acid (hydrogen fluoride) in water caused immediate damage in the form of total clouding of the lens and ischaemia of the conjunctiva. Swelling of the stroma of the cornea occurred within 1 hour, followed by tissue death (necrosis) of structures of the front of the eye.</p> |
| Chronic | <p>Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.</p> <p>There is sufficient evidence to suggest that this material directly causes cancer in humans.</p> <p>Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.</p> <p>Extended exposure to inorganic fluorides causes fluorosis, which includes signs of joint pain and stiffness, tooth discolouration, nausea and vomiting, loss of appetite, diarrhoea or constipation, weight loss, anaemia, weakness and general unwellness. There may also be frequent urination and thirst.</p> <p>Hydrogen fluoride easily penetrates the skin and causes destruction and corrosion of the bone and underlying tissue. Ingestion causes severe pains and burns in the mouth and throat and blood calcium levels are dangerously reduced.</p> |

| | | |
|-----------------------------|--|------------------------------|
| ITW Septone Alibrite | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| sulfuric acid | TOXICITY | IRRITATION |
| | Inhalation(Mouse) LC50; 0.85 mg/l4h ^[1] | Eye (rabbit): 1.38 mg SEVERE |

| | | |
|----------------------------|---|---------------------------------|
| | Oral (Rat) LD50: 2140 mg/kg ^[2] | Eye (rabbit): 5 mg/30sec SEVERE |
| ammonium bifluoride | TOXICITY | IRRITATION |
| | Inhalation(Mouse) LC50; 0.2 mg/L4h ^[2] | Eye (-): corrosive* |
| | Oral (Rat) LD50: ~130 mg/kg ^[2] | Skin (-): corrosive* *[Bayer] |
| hydrogen fluoride | TOXICITY | IRRITATION |
| | Inhalation(Mouse) LC50; 342 ppm4h ^[2] | Eye (human): 50 mg - SEVERE |
| water | TOXICITY | IRRITATION |
| | Oral (Rat) LD50: >90000 mg/kg ^[2] | Not Available |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

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|--|---|
| SULFURIC ACID | Occupational exposures to strong inorganic acid mists of sulfuric acid: WARNING: For inhalation exposure <u>ONLY</u> : This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS |
| AMMONIUM BIFLUORIDE | as fluoride anion For acid mists, aerosols, vapours Test results suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airway from direct exposure to inhaled acidic mists (which also protects the stomach lining from the hydrochloric acid secreted there). The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. |
| HYDROGEN FLUORIDE | Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation. The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. |
| WATER | No significant acute toxicological data identified in literature search. |
| SULFURIC ACID & AMMONIUM BIFLUORIDE & HYDROGEN FLUORIDE | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. |

| | | | |
|--|---|---------------------------------|---|
| Acute Toxicity | ✓ | Carcinogenicity | ✓ |
| Skin Irritation/Corrosion | ✓ | Reproductivity | ✗ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ✗ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✗ |
| Mutagenicity | ✗ | Aspiration Hazard | ✗ |

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

| | | | | | |
|-----------------------------|-----------------|---------------------------|-------------------------------|---------------|---------------|
| ITW Septone Alibrite | Endpoint | Test Duration (hr) | Species | Value | Source |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| sulfuric acid | Endpoint | Test Duration (hr) | Species | Value | Source |
| | EC50 | 72h | Algae or other aquatic plants | >100mg/l | 2 |
| | EC50 | 48h | Crustacea | 42.5mg/l | 1 |

| | | | | | |
|---------------------|--|---------------------------|-------------------------------|---------------|---------------|
| | ErC50 | 72h | Algae or other aquatic plants | >100mg/l | 2 |
| | LC50 | 96h | Fish | 8mg/l | 1 |
| | NOEC(ECx) | 1560h | Fish | 0.025mg/l | 2 |
| ammonium bifluoride | Endpoint | Test Duration (hr) | Species | Value | Source |
| | EC50 | 48h | Crustacea | 97mg/l | 2 |
| | EC50 | 96h | Algae or other aquatic plants | 43mg/l | 2 |
| | LC50 | 96h | Fish | 0.068mg/l | 2 |
| | NOEC(ECx) | 744h | Fish | <0.048mg/L | 2 |
| hydrogen fluoride | Endpoint | Test Duration (hr) | Species | Value | Source |
| | EC50 | 48h | Crustacea | 97mg/l | 2 |
| | EC50 | 96h | Algae or other aquatic plants | 43mg/l | 2 |
| | LC50 | 96h | Fish | 51mg/l | 2 |
| | NOEC(ECx) | 504h | Crustacea | 3.7mg/l | 2 |
| water | Endpoint | Test Duration (hr) | Species | Value | Source |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| Legend: | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data | | | | |

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|-------------------------|------------------|
| water | LOW | LOW |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------|---------------------------------------|
| | No Data available for all ingredients |

Mobility in soil

| Ingredient | Mobility |
|------------|---------------------------------------|
| | No Data available for all ingredients |

SECTION 13 Disposal considerations

Waste treatment methods

| | |
|------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority. ▶ Recycle wherever possible. ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ▶ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with soda-ash or soda-lime |
| | |

followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).

SECTION 14 Transport information

Labels Required

| | | |
|-------------------------|---|---|
| |  |  |
| Marine Pollutant | NO | |
| HAZCHEM | 2X | |

Land transport (ADG)

| | | |
|-------------------------------------|--|-----|
| UN number or ID number | 2922 | |
| UN proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S. (contains hydrogen fluoride and sulfuric acid) | |
| Transport hazard class(es) | Class | 8 |
| | Subsidiary risk | 6.1 |
| Packing group | II | |
| Environmental hazard | Not Applicable | |
| Special precautions for user | Special provisions | 274 |
| | Limited quantity | 1 L |

Air transport (ICAO-IATA / DGR)

| | | |
|-------------------------------------|--|------------|
| UN number | 2922 | |
| UN proper shipping name | Corrosive liquid, toxic, n.o.s. * (contains hydrogen fluoride and sulfuric acid) | |
| Transport hazard class(es) | ICAO/IATA Class | 8 |
| | ICAO / IATA Subrisk | 6.1 |
| | ERG Code | 8P |
| Packing group | II | |
| Environmental hazard | Not Applicable | |
| Special precautions for user | Special provisions | A3 A4 A803 |
| | Cargo Only Packing Instructions | 855 |
| | Cargo Only Maximum Qty / Pack | 30 L |
| | Passenger and Cargo Packing Instructions | 851 |
| | Passenger and Cargo Maximum Qty / Pack | 1 L |
| | Passenger and Cargo Limited Quantity Packing Instructions | Y840 |
| | Passenger and Cargo Limited Maximum Qty / Pack | 0.5 L |

Sea transport (IMDG-Code / GGVSee)

| | | |
|-------------------------------------|--|----------|
| UN number | 2922 | |
| UN proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S. (contains hydrogen fluoride and sulfuric acid) | |
| Transport hazard class(es) | IMDG Class | 8 |
| | IMDG Subrisk | 6.1 |
| Packing group | II | |
| Environmental hazard | Not Applicable | |
| Special precautions for user | EMS Number | F-A, S-B |
| | Special provisions | 274 |
| | Limited Quantities | 1 L |

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|---------------------|---------------|
| sulfuric acid | Not Available |
| ammonium bifluoride | Not Available |
| hydrogen fluoride | Not Available |
| water | Not Available |

Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|---------------------|---------------|
| sulfuric acid | Not Available |
| ammonium bifluoride | Not Available |
| hydrogen fluoride | Not Available |
| water | Not Available |

SECTION 15 Regulatory information

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

sulfuric acid is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

ammonium bifluoride is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7
Australian Inventory of Industrial Chemicals (AIIC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

hydrogen fluoride is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 3
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7
Australian Inventory of Industrial Chemicals (AIIC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

water is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (sulfuric acid; ammonium bifluoride; hydrogen fluoride; water) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | Yes |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | Yes |

| National Inventory | Status |
|--------------------|--|
| Taiwan - TCSI | Yes |
| Mexico - INSQ | Yes |
| Vietnam - NCI | Yes |
| Russia - FBEPH | Yes |
| Legend: | <p>Yes = All CAS declared ingredients are on the inventory</p> <p>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</p> |

SECTION 16 Other information

| | |
|----------------------|------------|
| Revision Date | 10/03/2023 |
| Initial Date | 28/08/2003 |

SDS Version Summary

| Version | Date of Update | Sections Updated |
|---------|----------------|---|
| 12.1 | 26/07/2022 | Composition / information on ingredients - Ingredients |
| 13.1 | 10/03/2023 | Classification change due to full database hazard calculation/update. |

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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