



SAFETY DATA SHEET

Revision date: 22-Jun-2026

Revision Number 9

Section 1: Identification

Product identifier

Product Name HYDROFLUOROSILICIC ACID

Product Code(s) 000000015539

Other means of identification

Synonyms Hydrofluoro silicic acid; Hydrofluosilicic acid; Hydrosilicofluoric acid; Silicate (2-), hexafluoro-, dihydrogen; Fluorosilicic acid; HFA.

Recommended use of the chemical and restrictions on use

Recommended use Fluoridation of water.

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier

IXOM Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226
Street Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700
Facsimile: +64 9 368 2710

Emergency telephone number

Emergency Telephone 0 800 734 607 (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.

Section 2: Hazard identification

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS Classification

Corrosive to metals	Category 1
Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1

Label elements

**Signal word**

Danger

Hazard statements

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

Precautionary Statements - Prevention

Keep out of reach of children.

Keep only in original container.

Do not breathe dusts or mists.

Wash face, hands and any exposed 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/clothing and eye/face protection.

Precautionary Statements - Response

IF exposed: Call a POISON CENTER or doctor.

Specific treatment (see First aid on this SDS).

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 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.

Wash contaminated clothing before reuse.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Absorb spillage to prevent material damage.

Precautionary Statements - Storage

Store locked up.

Store in corrosive resistant container with a resistant inner liner.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

Other hazards which do not result in classification

No information available.

Section 3: Composition/information on ingredients

Chemical name	CAS No.	Weight-%
Fluorosilicic acid	16961-83-4	21.0-23.0%
Hydrofluoric acid	7664-39-3	0.1-<1.0%
Non hazardous component(s)	-	to 100%

Section 4: First-aid measures

Description of first aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	If breathing is difficult, (trained personnel should) give oxygen. If breathing is irregular or stopped, administer artificial respiration. Seek immediate medical attention/advice. Remove to fresh air and keep at rest in a position comfortable for breathing.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Immediate medical attention is required.
Skin contact	Then apply calcium gluconate gel. Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Get immediate medical attention.
Ingestion	Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms	May cause redness and tearing of the eyes. Erythema (skin redness). Burning. Irritation/Corrosion.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Can cause corneal burns. Delayed pulmonary edema may occur. Delayed health effects.
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Section 5: Fire-fighting measures

Hazchem code	2X
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Suitable Extinguishing Media

Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
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Unsuitable extinguishing media	No information available.
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Specific hazards arising from the chemical

Specific hazards arising from the	Corrosive hazard. Wear protective gloves/clothing and eye/face protection.
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chemical Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Attention! Corrosive material. Avoid contact with skin and eyes. Do not breathe vapor or mist. Ensure adequate ventilation. Evacuate personnel to safe areas. Do not touch or walk through spilled material. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

For emergency responders Clear area of all unprotected personnel. Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of spill to collect runoff water. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Soak up with inert absorbent material. Use personal protective equipment as required. Pick up and transfer to properly labeled containers.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Do not breathe vapor or mist. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protection equipment. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Always add the acid to water, never the reverse. Keep out of reach of children. Not to be available except to authorised or licensed persons.

General hygiene considerations Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a cool, well-ventilated place. Store locked up. Keep

container closed when not in use. Store away from foodstuffs. Store away from incompatible materials described in Section 10.

Incompatible materials

Alkalis. Organic compounds. Metals. Ammonia.

Section 8: Exposure controls/personal protection

Control parameters**Exposure Limits**

No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituents and decomposition product(s):

Chemical name	New Zealand	Australia	ACGIH TLV	United Kingdom
Fluorosilicic acid 16961-83-4	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ STEL: 7.5 mg/m ³
Hydrofluoric acid 7664-39-3	TWA: 2.5 mg/m ³ Ceiling: 3 ppm Ceiling: 2.6 mg/m ³	TWA: 2.5 mg/m ³ Peak: 3 ppm Peak: 2.6 mg/m ³	TWA: 0.5 ppm F Sk* Ceiling: 2 ppm F	TWA: 1.8 ppm TWA: 1.5 mg/m ³ STEL: 3 ppm STEL: 2.5 mg/m ³

Biological occupational exposure limits

Chemical name	New Zealand	ACGIH
Fluorosilicic acid 16961-83-4	2 mg/L urine prior to shift Fluoride 3 mg/L urine end of shift Fluoride	2 mg/L 3 mg/L
Hydrofluoric acid 7664-39-3	2 mg/L urine prior to shift Fluoride 3 mg/L urine end of shift Fluoride	2 mg/L 3 mg/L

Fluorides, as F: WES-TWA 1 mg/m³, bio

Hydrogen fluoride, as F: WES-TWA 1 ppm, 0.8 mg/m³; WES-STEL 2 ppm, 1.6 mg/m³, bio

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

The Biological Exposure Indices (bio) are not applicable to non-metal fluorides and organic fluoride-containing compounds.

WES - Ceiling (Workplace Exposure Standard - Ceiling). A concentration that should not be exceeded during any part of the working day.

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.

Appropriate engineering controls**Engineering controls**

Ensure that eyewash stations and safety showers are close to the workstation location.
Apply technical measures to comply with the occupational exposure limits.

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 Personal Protective Equipment (PPE) (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

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, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.



Eye/face protection

Tight sealing safety goggles. If splashes are likely to occur: Face protection shield.

Hand protection

Elbow-length impervious gloves.

Skin and body protection

Overalls. Splash apron or equivalent chemical impervious outer garment. Boots.

Respiratory protection

If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Environmental exposure controls

No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Pale Yellow
Odor	Characteristic , Pungent , Acidic
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	-15°C to -21°C	None known
Boiling point / boiling range	>100°C	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapor pressure	18 mm Hg @20°C	None known
Vapor density	No data available	None known
Relative density	1.20-1.23	None known
Water solubility	Miscible	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	Not applicable	None known
Decomposition temperature	105°C	None known
Kinematic viscosity	No data available	None known

Dynamic viscosity	No data available	None known
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Other information

Particle characteristics

Section 10: Stability and reactivityReactivity

Reactivity	Reacts with alkalis. Corrosive to metals.
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Chemical stability

Stability	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
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Explosion data

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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Possibility of hazardous reactions

Possibility of hazardous reactions	Contact with metals may evolve flammable hydrogen gas. Hydrofluorosilicic acid can react with strong acids (such as sulfuric acid) to release fumes of toxic hydrogen fluoride. Hydrofluorosilicic acid attacks glass and materials containing silica.
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Conditions to avoid

Conditions to avoid	Do not contaminate food or feed stuffs. Contact with foodstuffs.
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Incompatible materials

Incompatible materials	Alkalis. Organic compounds. Metals. Ammonia.
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Hazardous decomposition products

Hazardous decomposition products	Hydrogen fluoride. Oxides of silicon. Fluorides.
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Section 11: Toxicological informationAcute toxicityInformation on likely routes of exposure

Product Information	No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:
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Inhalation	May cause irritation. Delayed (up to 48hours) fluid build up in the lungs may occur. Harmful by inhalation.
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Eye contact	Corrosive to the eyes and may cause severe damage including blindness.
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Skin contact	Causes burns. Harmful in contact with skin.
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Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Can burn mouth, throat, and stomach. Harmful if swallowed.

Symptoms

Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Burning.

Acute toxicity

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Numerical measures of toxicity

No information available

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Fluorosilicic acid	= 430 mg/kg (Rat)	-	= 1.11 mg/L (Rat) 1 h
Hydrofluoric acid	-	-	= 0.79 mg/L (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Causes burns. Classification is based on mixture calculation methods based on component data.

Serious eye damage/eye irritation

Causes serious eye damage. Classification is based on mixture calculation methods based on component data.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Fluoride ion has been classified by the International Agency for Research on Cancer (IARC) as a Group 3 agent. Group 3 - The agent is not classifiable as to its carcinogenicity to humans. Data available is insufficient for an assessment to be made.

Chemical name	New Zealand	IARC
Fluorosilicic acid - 16961-83-4	-	Group 3

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

Chronic effects:

Repeated or prolonged exposure may result in bone changes (fluorosis). Fluorosis in humans can result with the repeated ingestion of >6mg of fluorine per day. The fluoride accumulates in bone and can lead to the development of osteosclerosis and other bone changes. Teeth may also be affected.

Data used to identify the health effects

Symptoms of fluorosis may include weight loss, brittle bones, anaemia, weakness and stiffness of joints.
Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

Section 12: Ecological information**Ecotoxicity****Aquatic ecotoxicity**

Keep out of waterways. Avoid contaminating waterways.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Fluorosilicic acid	-	LC50: =65mg/L (96h, <i>Poecilia reticulata</i>) LC50: =28.7mg/L (96h, <i>Pimephales promelas</i>)	-
Hydrofluoric acid	-	-	EC50: =270mg/L (48h, <i>Daphnia</i> species)

Terrestrial ecotoxicity

There is no data for this product.

Persistence and degradability

No information available.

Bioaccumulative potential**Bioaccumulation**

There is no data for this product.

Component Information

Chemical name	Partition coefficient
Hydrofluoric acid	-1.4

Mobility in soil**Mobility**

No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations**Waste treatment methods****Waste from residues/unused products**

Dispose of product in packaging/container in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act, and Hazardous Substances (Amendments and Revocations) Notice 2020.

Treat the chemical using a method that changes the characteristics or composition of the chemical so that the chemical is no longer a hazardous chemical; or export the chemical from New Zealand as waste.

Class 6 and 8 chemicals – may be discharged into the environment if a tolerable exposure limit has been set for the substance (or a component of that chemical); and the discharge

does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the tolerable exposure limit. If there is not tolerable exposure limit for the substance, then it may only be discharged into the environment if the substance is very rapidly converted to substances that are not hazardous substances. Dispose of in accordance with federal, state and local regulations

Contaminated packaging

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if:

- the substance has a physical hazard other than corrosive to metal, and has been treated to remove any residual contents of the hazardous substance;
- or for substances that have a health or environmental hazard, or corrosive to metal, the contents of the residue in the package are below the threshold for the substance to be classified as hazardous in the Hazardous Substances (Hazard Classification) Notice 2020.

Section 14: Transport information

ROAD AND RAIL TRANSPORT

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

UN number or ID number	1778
Proper shipping name	FLUOROSILICIC ACID
Transport hazard class(es)	8
Packing group	II
Hazchem code	2X

IATA

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

UN number	1778
UN proper shipping name	FLUOROSILICIC ACID
Transport hazard class(es)	8
Packing group	II

IMDG

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

UN number	1778
UN proper shipping name	FLUOROSILICIC ACID
Transport hazard class(es)	8
Packing group	II
IMDG EMS Fire	F-A
IMDG EMS Spill	S-B
Marine pollutant	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

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

EPA New Zealand HSNO approval code or group standard HSR002681 - Water Treatment Chemicals (Corrosive) .

National regulations There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information
Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information
Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

NZIoC	All the constituents of this material are listed on the New Zealand Inventory of Chemicals.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AIIC	All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.
TCSI	Contact supplier for inventory compliance status.

Legend:

NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing Chemicals Inventory
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC- Australian Inventory of Industrial Chemicals
TCSI - Taiwan Chemical Substance Inventory

Section 16: Other information

Prepared By This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).
Revision date: 22-Jun-2026

Reason(s) For Issue: Additional Regulatory Information
Change in NZ classification

Revision Note:

***Indicates updated data since last publication.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend**

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
**	Hazard Designation	+	Sensitizers
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

6.1D, 8.1A, 8.2C, 8.3A

Disclaimer

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.

End of Safety Data Sheet