

1. IDENTIFICATION

Product Name	Sodium Silicofluoride
Other Names	Disodium hexafluorosilicate; Silicate(2-), hexafluoro-, disodium; Sodium fluorosilicate; Sodium hexafluorosilicate
Uses	Formulation of preparations; Opalising agent; Brazing, soldering flux for aluminium; Manufacture of rubber products; Textile industries; Tiles and ceramics; Water fluoridation.
Chemical Family	No Data Available
Chemical Formula	Na ₂ SiF ₆
Chemical Name	Alkali fluorosilicates(Na)
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Schedule 6

Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories Acute Toxicity (Oral) - Category 3
Acute Toxicity (Dermal) - Category 3
Acute Toxicity (Inhalation) - Category 3
Serious Eye Damage/Irritation - Category 2B

Pictograms

Signal Word Danger

Hazard Statements **H301 + H311 + H331** Toxic if swallowed, in contact with skin or if inhaled.
H320 Causes eye irritation.

Precautionary Statements	Prevention	P270	Do not eat, drink or smoke when using this product.
		P271	Use only outdoors or in a well-ventilated area.
		P280	Wear protective gloves/protective clothing.
		P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
	Response	P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
		P311	For advice, Call a POISON CENTER or a doctor (at once).
		P337 + P313	If eye irritation persists: Get medical attention.
		P330	Rinse mouth.
		P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	Storage	P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
		P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
Disposal	P405	Store locked up.	
	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.	

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.1C	Substances that are acutely toxic- Toxic
		6.4A	Substances that are irritating to the eye

3. COMPOSITION/INFORMATION ON INGREDIENTS*Ingredients*

Chemical Entity	Formula	CAS Number	Proportion
Alkali fluorosilicates(Na)	Na ₂ SiF ₆	16893-85-9	<=100 %

4. FIRST AID MEASURES*Description of necessary measures according to routes of exposure*

Swallowed	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a Poisons Information Centre or a doctor for emergency medical advice.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately flush skin and hair with running water for at least 15 minutes; Wash with plenty of soap and water. For advice, Call a Poisons Information Centre or a doctor (at once). Wash contaminated clothing and shoes before reuse. *For minor skin contact, avoid spreading material on unaffected skin.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. For advice, Call a Poisons Information Centre or a doctor (at once). Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.
Advice to Doctor	Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. A calcic depletion may happen. A supervision of the acid-basic balance and the calcium rate in the serum of the blood is necessary. *Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Move containers from fire area if you can do it without risk. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers.
Flammability Conditions	Non-combustible; substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction.
Fire and Explosion Hazard	In the presence of water, contact with metals can produces hydrogen which may form flammable mixtures with air.
Hazardous Products of Combustion	Fire may produce irritating, corrosive and/or toxic gases, including Hydrofluoric acid.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may be corrosive and/or toxic and cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing - It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available

Auto Ignition Temperature	No Data Available
Hazchem Code	2X

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Sweep or shovel spills into appropriate container for disposal (see SECTION 13). *Do NOT get water inside containers!
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses. Notify authorities if product enters sewers or public waters.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. *Keep public away from danger area.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). *Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use, as far as possible, in a closed system. Monitor the atmosphere at regular intervals. Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Avoid heating.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from moisture. Keep away from heat and sources of ignition - No smoking. Keep away from food, drink and animal feeding stuffs. Keep away from incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original container. *Packagings, even those that have been emptied, will retain product residue. Always obey safety warnings and handle empty packagings as if they were full.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For Fluorides (as F): - Safe Work Australia Exposure Standard: TWA = 2.5 mg/m ³ . - New Zealand Workplace Exposure Standard [Next review 2023]: TWA = 2.5 mg/m ³ ; Exposure can also be estimated by biological monitoring (bio). - International: TWA = 2.5 mg/m ³ (USA, Canada, Norway, Switzerland, China, UK and the EU).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. *Local exhaust and general ventilation must be adequate to meet exposure standards. - Respiratory protection: Wear respiratory protection if airborne particles are generated when handling this material.

Personal Protection Equipment	Recommended: Approved dust respirator, e.g. type FFP3 (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Wear safety glasses with side-shields. - Hand protection: Wear protective gloves. Recommended: Use gloves resistant to chemical products. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Protective clothing (with elasticated cuffs and closed neck).
Special Hazards Precautions	Avoid release to the environment.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Remove contaminated clothing and shoes. Wash clothing before re-using.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder
Odour	Odourless
Colour	White
pH	No Data Available
Vapour Pressure	Negligible (@ No Data Available)
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	620 °C (1,013 hPa)
Freezing Point	No Data Available
Solubility	6.96 g/l in water 22°C
Specific Gravity	2.7
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	620 °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.

Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, corrosive and/or toxic gases, including Hydrofluoric acid.
Release of Invisible Flammable Vapours and Gases	In the presence of water, contact with metals can produces hydrogen which may form flammable mixtures with air.

10. STABILITY AND REACTIVITY

General Information	In the presence of water, contact with metals can produces hydrogen which may form flammable mixtures with air.
Chemical Stability	The product is stable at normal handling and storage conditions.
Conditions to Avoid	Avoid heating. Protect from moisture.
Materials to Avoid	Incompatible/reactive with acids, cyanides, aluminium, magnesium.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, corrosive and/or toxic gases, including Hydrofluoric acid.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"> - Acute toxicity: Toxic if swallowed, in contact with skin and if inhaled. - Skin corrosion/irritation: Not classified. Based on available data, the classification criteria are not met (Rabbit) [OECD 404]. - Eye damage/irritation: Causes eye irritation. - Respiratory/skin sensitisation: Not classified. No data are available. - Germ cell mutagenicity: Not considered to be genotoxic. Not classified. Based on available data, the classification criteria are not met [OECD 471; OECD 474]. - Carcinogenicity: Not considered to be carcinogenic. Not classified (Lack of data). No evidence of carcinogenicity in laboratory animals. - Reproductive toxicity: Not expected to show specific reproductive o developmental toxicity. Not classified. Based on available data, the classification criteria are not met. - STOT (single exposure): Not classified. - STOT (repeated exposure): Not classified. May cause toxic effects following repeated oral exposure (Sodium fluoride). - Aspiration toxicity: Not classified.
Acute	
Ingestion	Acute toxicity (Oral): <ul style="list-style-type: none"> - LD50, Rats: 125 mg/kg bw. [NICNAS]. - LD50, Rat (female): 70 (25 - 2,000) mg/kg bw. [OECD Guideline 401; Supplier's SDS].
Other	Acute toxicity (Dermal): <ul style="list-style-type: none"> - LDLo, Rats: 70 mg/kg bw. [NICNAS].
Inhalation	Acute toxicity (Inhalation): <ul style="list-style-type: none"> - LC50, Rats: 1.8 mg/m3 aerosol (4 h) [NICNAS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Acute aquatic toxicity: - LC50, Fish (Danio rerio): 37.5 mg/L (96 h) [OECD 203]. - EC50, Daphnia (Daphnia magna): 35.4 mg/L (48 h) [OECD 202]. - ErC50, Algae (Pseudokirchnerella subcapitata): 18 mg/L (72 h) [OECD 201]. Chronic toxicity: - NOEC, Fish (Oncorhynchus mykiss): 4 mg/L (21 d). - NOEC, Activated sludge: 510 mg/L (3 h); 7.1 - 226 mg/L (16 - 72 h).
Persistence/Degradability	Not relevant (inorganic substance).
Mobility	No information available.
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	Low bioaccumulation potential.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container as hazardous waste in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Contaminated packaging: Empty packaging can have residues or dusts and are subject to proper waste disposal, as above.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	SODIUM FLUOROSILICATE
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	2674
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	SODIUM FLUOROSILICATE
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	2674
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	SODIUM FLUOROSILICATE
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	2674
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	SODIUM FLUOROSILICATE
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
ERG	154 Substances - Toxic and/or Corrosive (Non-Combustible)
UN Number	2674
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	SODIUM FLUOROSILICATE
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
UN Number	2674
Hazchem	2X
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-A
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	SODIUM FLUOROSILICATE
Class	6.1 Toxic and Infectious Substances - Toxic Substances
Subsidiary Risk(s)	No Data Available
UN Number	2674
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification

Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION**General Information**

SILICOFLUORIDES

Poisons Schedule (Aust)

Schedule 6

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code

HSR002508
HSR006941 (Revoked)

National/Regional Inventories**Australia (AIC)**

Listed

Canada (DSL)

Not Determined

Canada (NDSL)

Not Determined

China (IECSC)

Not Determined

Europe (EINECS)

240-934-8

Europe (REACH)

01-2119519245-43-0002

Japan (ENCS/METI)

Not Determined

Korea (KECI)

Not Determined

Malaysia (EHS Register)

Not Determined

New Zealand (NZIoC)

Listed

Philippines (PICCS)

Not Determined

Switzerland (Giftliste 1)

Not Determined

Switzerland (Inventory of Notified Substances)

Not Determined

Taiwan (NCSR)

Not Determined

USA (TSCA)

Not Determined

16. OTHER INFORMATION**Related Product Codes**

PAKIBH8888, SOSIL10800, SOSIL10900, SOSIL1000, SOSIL1001, SOSIL1002, SOSIL1003, SOSIL1004, SOSIL1005, SOSIL1006, SOSIL1007, SOSIL1008, SOSIL1009, SOSIL1010, SOSIL1011, SOSIL1012, SOSIL1013, SOSIL1014, SOSIL1015, SOSIL1016, SOSIL1017, SOSIL1018, SOSIL1019, SOSIL1020, SOSIL1021, SOSIL1022, SOSIL1023, SOSIL1024, SOSIL1025, SOSIL1026, SOSIL1027, SOSIL1028, SOSIL1029, SOSIL1030, SOSIL1100, SOSIL1101,

SAFETY DATA SHEET SODIUM SILICOFLUORIDE REVISION 5, DATE 13 DEC 22

SOSILI1102, SOSILI1105, SOSILI1200, SOSILI1300, SOSILI1400, SOSILI1450, SOSILI1500, SOSILI1501, SOSILI1600, SOSILI1700, SOSILI1800, SOSILI1801, SOSILI1802, SOSILI1803, SOSILI1804, SOSILI1805, SOSILI1806, SOSILI1807, SOSILI1808, SOSILI1809, SOSILI1810, SOSILI1811, SOSILI1812, SOSILI1813, SOSILI1814, SOSILI2000, SOSILI2001, SOSILI2100, SOSILI2150, SOSILI2155, SOSILI2300, SOSILI2310, SOSILI2325, SOSILI2500, SOSILI3000, SOSILI3100, SOSILI3200, SOSILI3500, SOSILI3600, SOSILI4000, SOSILI4400, SOSILI4401, SOSILI4402, SOSILI4405, SOSILI5000, SOSILI5500, SOSILI5600, SOSILI6000, SOSILI6001, SOSILI6200, SOSILI6500, SOSILI7000, SOSILI7001, SOSILI7002, SOSILI7003, SOSILI7004, SOSILI7005, SOSILI7006, SOSILI7007, SOSILI7008, SOSILI7009, SOSILI7010, SOSILI7011, SOSILI7012, SOSILI7013, SOSILI7014, SOSILI7015, SOSILI7016, SOSILI7017, SOSILI7200, SOSILI7300, SOSILI7301, SOSILI7302, SOSILI7303, SOSILI7304, SOSILI7305, SOSILI7306, SOSILI7307, SOSILI7308, SOSILI7309, SOSILI7310, SOSILI7311, SOSILI7312, SOSILI7313, SOSILI7314, SOSILI7315, SOSILI7316, SOSILI7317, SOSILI7318, SOSILI7319, SOSILI7320, SOSILI7321, SOSILI7322, SOSILI7323, SOSILI7324, SOSILI7325, SOSILI7326, SOSILI7327, SOSILI7328, SOSILI7329, SOSILI7330, SOSILI7331, SOSILI7332, SOSILI7333, SOSILI7334, SOSILI7335, SOSILI7400, SOSILI7500, SOSILI7600, SOSILI8000, SOSILI8200, SOSILI8500, SOSILI9000, SOSILI9500

Revision

5

Revision Date

13 Dec 2022

Key/Legend

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² Square Centimetres

CO₂ Carbon Dioxide

COD Chemical Oxygen Demand

deg C (°C) Degrees Celcius

EPA (New Zealand) Environmental Protection Authority of New Zealand

deg F (°F) Degrees Farenheit

g Grams

g/cm³ Grams per Cubic Centimetre

g/l Grams per Litre

HSNO Hazardous Substance and New Organism

IDLH Immediately Dangerous to Life and Health

immiscible Liquids are insoluable in each other.

inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ Kilograms per Cubic Metre

lb Pound

LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

ltr or L Litre

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight