



**Be Right™**

# SAFETY DATA SHEET

Issue Date 03-Jan-2018

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Version 2.2

## Section 1: Identification: Product identifier and chemical identity

### Product identifier

**Product Name** Silica Standard Solution, 1.0 mg/l as SiO<sub>2</sub>  
**Product Code(s)** 110649

### Other means of identification

**Safety data sheet number** M00292

### Recommended use of the chemical and restrictions on use

**Recommended Use** Standard solution.

**Uses advised against** No information available

### Details of manufacturer or importer

#### **Manufacturer**

Hach Company P.O. Box 389 Loveland, CO 80539 USA +1(970) 669-3050

#### **Supplier**

HACH Pacific 26 Brindley Street Dandenong South, 3175 AU Tel: 1300 887 735

### Emergency telephone number

13 11 26



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## Section 2: Hazard(s) identification

### GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

### Label elements

### Hazard statements

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

### EU Specific Hazard Statements

Not applicable

### Other hazards

No information available

## Section 3: Composition and information on ingredients, in accordance with Schedule 8

**Chemical Family** Mixture

### Substance

Not applicable

### Mixture

Chemical name	Formula	CAS No.	EC No.	Percent Range
Propanoic acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	79-09-4	201-176-3	<0.1%
Sodium fluoride	NaF	7681-49-4	231-667-8	<0.01%
Hydrofluoric acid	HF	7664-39-3	231-634-8	<0.01%
Silica, amorphous	SiO <sub>2</sub>	7631-86-9	231-545-4	<0.01%
Chemical Name	CAS No		Weight-%	

## Section 4: FIRST AID MEASURES

### Emergency telephone number

Poisons Information Center, Australia: 13 11 26  
Poisons Information Center, New Zealand: 0800 764 766

### Description of necessary first aid measures

<b>General advice</b>	No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air.
<b>Skin contact</b>	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

### For emergency responders

**Self-protection of the first aider** No information available.

### Most important symptoms/effects, acute and delayed

**Symptoms** No information available.

### Indication of immediate medical attention and special treatment needed, if necessary

**Note to physicians** Treat symptomatically.

## Section 5: Firefighting measures

### Suitable Extinguishing Media

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available

### Specific hazards arising from the chemical

**Specific hazards arising from the chemical** No information available.

### Explosive properties

Not classified according to GHS criteria.

**Hazardous combustion products** This material will not burn.

**Specific/special fire-fighting measures**

**Specific/special fire-fighting measures** No information available.

**Special protective equipment and precautions for fire-fighters**

**Special protective equipment 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** Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.

**Other Information** Use personal protective equipment as required.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Neutralize spill if necessary. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

**Precautions to prevent secondary hazards**

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

## Section 7: Handling and storage, including how the chemical may be safely used

**Preventive measures for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Precautions for safe handling**

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong oxidizing agents, strong acids, and strong bases.

## Section 8: Exposure controls and personal protection

**Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	Australia
Propanoic acid (<0.1%) CAS#: 79-09-4	TWA: 10 ppm TWA: 30 mg/m <sup>3</sup>

Sodium fluoride (<0.01%) CAS#: 7681-49-4	TWA: 2.5 mg/m <sup>3</sup>
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	TWA: 2.5 mg/m <sup>3</sup> 3 ppm Peak 2.6 mg/m <sup>3</sup> Peak
Silica, amorphous (<0.01%) CAS#: 7631-86-9	TWA: 2 mg/m <sup>3</sup>

**Legend** See section 16 for terms and abbreviations

**Appropriate engineering controls**

**Engineering Controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hand Protection** Wear suitable gloves.

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** No special protective equipment required.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

**Thermal hazards** None under normal processing.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Color</b>	colorless
<b>Appearance</b>	aqueous solution clear	<b>Odor threshold</b>	No data available
<b>Odor</b>	Odorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	3.4	
<b>Melting point/freezing point</b>	0 °C / 32 °F	
<b>Boiling point / boiling range</b>	95 °C / 203 °F	
<b>Evaporation rate</b>	0.95 (water = 1)	
<b>Vapor pressure</b>	17.477 mm Hg / 2.33 kPa at 20 °C / 68 °F	Estimation based on theoretical calculation

Vapor density (air = 1)	0.62
Specific gravity (water = 1 / air = 1)	0.995
Partition Coefficient (n-octanol/water)	Not applicable
Soil Organic Carbon-Water Partition Coefficient	Not applicable
Autoignition temperature	No data available
Decomposition temperature	No data available
Dynamic viscosity	1 cP (mPa s) at 20 °C / 68 °F
Kinematic viscosity	1.005 cSt (mm <sup>2</sup> /s) at 20 °C / 68 °F

**Solubility(ies)****Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

**Solubility in other solvents**

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Most Polar Organic Solvents	Soluble	> 1000 mg/L	25 °C / 77 °F
Aqueous alkaline solutions	Soluble	> 1000 mg/L	25 °C / 77 °F

**Other Information****Metal Corrosivity**

Steel Corrosion Rate	1.24 mm/yr / 0.05 in/yr
Aluminum Corrosion Rate	0.99 mm/yr / 0.04 in/yr

**Volatile Organic Compounds (VOC) Content**

<b>Chemical name</b>	<b>CAS No.</b>	<b>Volatile organic compounds (VOC) content</b>	<b>CAA (Clean Air Act)</b>
Propanoic acid	79-09-4	No data available	X
Sodium fluoride	7681-49-4	No data available	-
Hydrofluoric acid	7664-39-3	No data available	-
Silica, amorphous	7631-86-9	No data available	-

**Explosive properties**

Upper explosion limit	No data available
Lower explosion limit	No data available

**Flammable properties**

Flash point	No data available
Method	No information available

**Flammability Limit in Air**

Upper flammability limit:	No data available
Lower flammability limit:	No data available

<b>Oxidizing properties</b>	No data available.
<b>Bulk density</b>	Not applicable
<b>Particle Size</b>	No information available
<b>Particle Size Distribution</b>	No information available

## Section 10: STABILITY AND REACTIVITY

### Reactivity

Not applicable.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to Mechanical Impact** None

**Sensitivity to Static Discharge** None.

### Possibility of Hazardous Reactions

**Possibility of Hazardous Reactions** None under normal processing.

### Hazardous polymerization

None under normal processing.

### Conditions to avoid

**Conditions to avoid** None known based on information supplied.

### Incompatible materials

**Incompatible materials** Strong oxidizing agents, strong acids, and strong bases.

### Hazardous Decomposition Products

None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

### Information on Likely Routes of Exposure

#### Product Information

**Inhalation** No known effect based on information supplied.

**Eye contact** No known effect based on information supplied.

**Skin contact** No known effect based on information supplied.

**Ingestion** No known effect based on information supplied.

**Symptoms** No information available.

**Aggravated Medical Conditions** None known.

**Toxicologically synergistic products** None known.

**Toxicokinetics, metabolism and distribution** See ingredients information below.

Chemical name	Toxicokinetics, metabolism and distribution
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	After exposure severe hypocalcaemia may develop rapidly after a delay of minutes to hours (> 1% body surface area for concentrated solutions, or > 5% body surface area for dilute solutions).

**Product Acute Toxicity Data****Oral Exposure Route**

No data available

**Dermal Exposure Route**

No data available

**Inhalation (Dust/Mist) Exposure Route**

No data available

**Inhalation (Vapor) Exposure Route**

No data available

**Inhalation (Gas) Exposure Route**

No data available

**Unknown Acute Toxicity**

3E-05 % of the mixture consists of ingredient(s) of unknown toxicity.

**Acute Toxicity Estimations (ATE)**

<b>ATEmix (oral)</b>	No information available
<b>ATEmix (dermal)</b>	No information available
<b>ATEmix (inhalation-dust/mist)</b>	No information available
<b>ATEmix (inhalation-vapor)</b>	No information available
<b>ATEmix (inhalation-gas)</b>	No information available

**Ingredient Acute Toxicity Data****Oral Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Propanoic acid (<0.1%) CAS#: 79-09-4	Rat LD <sub>50</sub>	2600 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Rat LD <sub>50</sub>	31 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Rat LD <sub>50</sub>	31 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Mouse LD <sub>50</sub>	44 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Rat LD <sub>50</sub>	> 5000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

**Dermal Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Propanoic acid (<0.1%) CAS#: 79-09-4	Rabbit LD <sub>50</sub>	500 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Rat LD <sub>50</sub>	175 mg/kg	None reported	None reported	ERMA (New Zealand's Environmental Risk Management Authority)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Rat LD <sub>50</sub>	> 2000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

**Inhalation (Dust/Mist) Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Propanoic acid	Rat	> 4.9 mg/L	4 hours	None reported	IUCLID (The International

(<0.1%) CAS#: 79-09-4	LC <sub>50</sub>				Uniform Chemical Information Database)
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Rat LC <sub>50</sub>	0.55 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)
<b>Chemical name</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Toxicological effects</b>	<b>Key literature references and sources for data</b>
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Rat LC <sub>50</sub>	> 0.55 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)

Inhalation (Vapor) Exposure Route

If available, see data below

Inhalation (Gas) Exposure Route

If available, see data below

**Product Specific Target Organ Toxicity Single Exposure Data**

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

**Ingredient Specific Target Organ Toxicity Single Exposure Data**

Oral Exposure Route

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Human TD <sub>Lo</sub>	0.214 mg/kg	None reported	<b>Gastrointestinal Gas</b>	RTECS (Registry of Toxic Effects of Chemical Substances)
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Man TD <sub>Lo</sub>	143 mg/kg	None reported	<b>Vascular</b> BP lowering not characterized in autonomic section <b>Cardiac</b> Arrhythmias <b>Kidney, Ureter, or Bladder</b> Changes in tubules (including acute renal failure, acute tubular necrosis)	RTECS (Registry of Toxic Effects of Chemical Substances)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Rat LC <sub>Lo</sub>	5000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Human LD <sub>Lo</sub>	0.7 mg/kg	None reported	<b>Peripheral Nerve and Sensation</b> Recording from peripheral motor nerve	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route

If available, see data below

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Rat LC <sub>Lo</sub>	2.19 mg/L	4 hours	<b>Lungs, Thorax, or Respiration</b> Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Man TC <sub>Lo</sub>	0.100 mg/L	1 minute	<b>Olfaction</b> Other effects	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

If available, see data below



Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Human TC <sub>Lo</sub>	0.025 mg/L	None reported	<b>Lungs, Thorax, or Respiration</b> Cough	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Gas) Exposure Route**

If available, see data below

**Aspiration toxicity**

If available, see data below

**Kinematic viscosity**1.005 cSt (mm<sup>2</sup>/s)**Product Skin Corrosion/Irritation Data**

No data available.

**Ingredient Skin Corrosion/Irritation Data**

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Propanoic acid (<0.1%) CAS#: 79-09-4	Open Irritation Test	Rabbit	495 mg	None reported	Corrosive to skin	RTECS (Registry of Toxic Effects of Chemical Substances)
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Standard Draize Test	Rat	500 mg	3 minutes	Corrosive to skin	RTECS (Registry of Toxic Effects of Chemical Substances)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Standard Draize Test	Rabbit	500 mg	24 hours	Not corrosive or irritating to skin	IUCLID (The International Uniform Chemical Information Database)

**Product Serious Eye Damage/Eye Irritation Data**

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Propanoic acid (<0.1%) CAS#: 79-09-4	Standard Draize Test	Rabbit	0.99 mg	None reported	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Standard Draize Test	Rabbit	20 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Standard Draize Test	Human	50 mg	None reported	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Standard Draize Test	Rabbit	25 mg	24 hours	Mild eye irritant	IUCLID (The International Uniform Chemical Information Database)

**Sensitization Information****Product Sensitization Data****Skin Sensitization Exposure Route**

No data available.

**Respiratory Sensitization Exposure Route**

No data available.

**Ingredient Sensitization Data****Skin Sensitization Exposure Route**

If available, see data below.

Chemical name	Test method	Species	Results	Key literature references and sources for data
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Propanoic acid (<0.1%) CAS#: 79-09-4	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID (The International Uniform Chemical Information Database)
Sodium fluoride (<0.01%) CAS#: 7681-49-4	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA (The European Chemicals Agency)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID (The International Uniform Chemical Information Database)

**Respiratory Sensitization Exposure Route**

If available, see data below.

**Chronic Toxicity Information****Product Specific Target Organ Toxicity Repeat Dose Data****Oral Exposure Route**

No data available.

**Dermal Exposure Route**

No data available.

**Inhalation (Dust/Mist) Exposure Route**

No data available.

**Inhalation (Vapor) Exposure Route**

No data available.

**Inhalation (Gas) Exposure Route**

No data available.

**Ingredient Specific Target Organ Toxicity Repeat Exposure Data****Oral Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Rat TD <sub>Lo</sub>	2.8 mg/kg	56 days	<b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (multiple enzyme effects) <b>Kidney, Ureter, or Bladder</b>  <b>Liver</b> Hepatitis (hepatocellular necrosis), zonal	RTECS (Registry of Toxic Effects of Chemical Substances)

**Dermal Exposure Route**

If available, see data below

**Inhalation (Dust/Mist) Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Rat TC <sub>Lo</sub>	1.0 mg/L	119 days	<b>Biochemical</b> Other degenerative changes <b>Kidney, Ureter, or Bladder</b> Other changes in urine composition <b>Musculoskeletal</b> Changes in teeth and supporting structures	RTECS (Registry of Toxic Effects of Chemical Substances)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Rat TC <sub>Lo</sub>	0.154 mg/L	28 days	<b>Lungs, Thorax, or Respiration</b> Structural or functional change in trachea or bronchi	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Rat TC <sub>Lo</sub>	0.000252 mg/L	17 weeks	<b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (monoamine oxidase and dehydrogenases) <b>Blood</b>	RTECS (Registry of Toxic Effects of Chemical Substances)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	Rat TC <sub>Lo</sub>	0.00541 mg/L	5 days	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Vapor) Exposure Route**

If available, see data below

Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
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	type	dose	time		sources for data
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Rat TC <sub>Lo</sub>	0.0005 mg/L	119 days	<b>Musculoskeletal</b> Changes in teeth and supporting structures	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route

If available, see data below

**Product Carcinogenicity Data**

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

**Ingredient Carcinogenicity Data**

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Propanoic acid	79-09-4	-	-	-	-
Sodium fluoride	7681-49-4	-	Group 3	-	X
Hydrofluoric acid	7664-39-3	-	-	-	-
Silica, amorphous	7631-86-9	-	Group 3	-	-

**Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	Does not apply
<b>IARC (International Agency for Research on Cancer)</b>	Does not apply
<b>NTP (National Toxicology Program)</b>	Does not apply
<b>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</b>	Does not apply

Oral Exposure Route

If available, see data below

Dermal Exposure Route

If available, see data below

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Inhalation (Vapor) Exposure Route

If available, see data below

Inhalation (Gas) Exposure Route

If available, see data below

**Product Germ Cell Mutagenicity *in vitro* Data**

No data available.

**Ingredient Germ Cell Mutagenicity *in vitro* Data**

If available, see data below

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Propanoic acid (<0.1%) CAS#: 79-09-4	Mutation in microorganisms	<i>Salmonella</i> <i>typhimurium</i>	6.667 mg/plate	None reported	Negative test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Cytogenetic analysis	Human fibroblast	20 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Cytogenetic analysis Unscheduled DNA synthesis	Human fibroblast Human lymphocyte	20 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**Product Germ Cell Mutagenicity *in vivo* Data**

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route  
Inhalation (Gas) Exposure Route

No data available  
No data available

**Ingredient Germ Cell Mutagenicity *in vivo* Data****Oral Exposure Route**

If available, see data below

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Cytogenetic analysis	Mouse	1 mg/L	3 weeks	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Micronucleus test	Mouse	40 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**Dermal Exposure Route**

If available, see data below

**Inhalation (Dust/Mist) Exposure Route**

If available, see data below

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Cytogenetic analysis	Rat	0.001 mg/L	24 days	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route  
Inhalation (Gas) Exposure Route

If available, see data below  
If available, see data below

**Product Reproductive Toxicity Data****Oral Exposure Route**

No data available

**Dermal Exposure Route**

No data available

**Inhalation (Dust/Mist) Exposure Route**

No data available

**Inhalation (Vapor) Exposure Route**

No data available

**Inhalation (Gas) Exposure Route**

No data available

**Ingredient Reproductive Toxicity Data****Oral Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Rat TD <sub>Lo</sub>	3.4 mg/kg	None reported	<b>Specific Developmental Abnormalities</b> Urogenital System	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium fluoride (<0.01%) CAS#: 7681-49-4	Rat TD <sub>Lo</sub>	28 mg/kg	None reported	<b>Specific Developmental Abnormalities</b> Musculoskeletal system	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Dust/Mist) Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Rat TC <sub>Lo</sub>	0.00047 mg/L	22 days	<b>Effects on Fertility</b> Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants) Pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea)	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and

	type	dose	time		sources for data
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	Rat TC <sub>Lo</sub>	0.00498 mg/L	22 days	Effects on Embryo or Fetus Fetal death	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

If available, see data below

Inhalation (Gas) Exposure Route

If available, see data below

## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

#### Unknown Aquatic Toxicity

3E-05 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

### Product Ecological Data

#### Aquatic toxicity

##### Fish

No data available

##### Crustacea

No data available

##### Algae

No data available

### Ingredient Ecological Data

#### Aquatic toxicity

##### Fish

If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Propanoic acid (<0.1%) CAS#: 79-09-4	96 hours	<i>Oncorhynchus mykiss</i>	LC <sub>50</sub>	51.0 mg/L	IUCLID (The International Uniform Chemical Information Database)
Sodium fluoride (<0.01%) CAS#: 7681-49-4	96 hours	<i>Channa punctatus</i>	LC <sub>50</sub>	51 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	96 hours	<i>Oncorhynchus mykiss</i>	LC <sub>50</sub>	51 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	96 hours	<i>Brachydanio rerio</i>	LC <sub>50</sub>	5000 mg/L	IUCLID (The International Uniform Chemical Information Database)

##### Crustacea

If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Propanoic acid (<0.1%) CAS#: 79-09-4	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	45.8 mg/L	IUCLID (The International Uniform Chemical Information Database)
Sodium fluoride (<0.01%) CAS#: 7681-49-4	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	98 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	97 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	48 Hours	<i>Ceriodaphnia dubia</i>	EC <sub>50</sub>	7600 mg/L	IUCLID (The International Uniform Chemical Information Database)

##### Algae

If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium fluoride	72 Hours	<i>Scenedesmus subspicatus</i>	EC <sub>50</sub>	850 mg/L	GESTIS (Information System on

(<0.01%) CAS#: 7681-49-4					Hazardous Substances of the German Social Accident Insurance)
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	96 hours	<i>Scenedesmus sp.</i>	EC <sub>50</sub>	43 mg/L	IUCLID (The International Uniform Chemical Information Database)
Silica, amorphous (<0.01%) CAS#: 7631-86-9	72 Hours	<i>Selenastrum capricornutum</i>	EC <sub>50</sub>	440 mg/L	IUCLID (The International Uniform Chemical Information Database)

**Other Information****Persistence and degradability****Product Biodegradability Data**

No data available.

**Ingredient Biodegradability Data**

Chemical name	Test method	Biodegradation	Exposure time	Results
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	None reported	None reported	None reported	Readily biodegradable

**Bioaccumulation****Product Bioaccumulation Data**

No data available.

**Partition Coefficient (n-octanol/water)**

Not applicable

**Ingredient Bioaccumulation Data**

Chemical name	Test method	Exposure time	Species	Bioconcentration factor (BCF)	Results
Sodium fluoride (<0.01%) CAS#: 7681-49-4	None reported	10 days	None reported	BCF = 2.3	Does not have the potential to bioaccumulate
Hydrofluoric acid (<0.01%) CAS#: 7664-39-3	None reported	None reported	None reported	None reported	Does not have the potential to bioaccumulate

**Mobility****Soil Organic Carbon-Water Partition Coefficient**

Not applicable

**Water solubility**

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

**Other adverse effects**

No information available.

### Section 13: DISPOSAL CONSIDERATIONS

#### Disposal methods

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

### Section 14: TRANSPORT INFORMATION

<b>ADG</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG</b>	Not regulated

#### **Additional information**

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.  
 If the item is part of a reagent set or kit the classification would change to the following:  
 UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.  
 If the item is not regulated, the Chemical Kit classification does not apply.

### Section 15: REGULATORY INFORMATION

#### Regulatory information

##### National regulations

##### Australia

Model Work Health and Safety Regulations  
 [NOHSC:2011(2003)] National Code of Practice for the Preparation of Material Safety Data Sheets  
 Labelling of Workplace Hazardous Chemicals Code of Practice  
 See section 8 for national exposure control parameters

Chemical name	Named dangerous substances per Seveso Directive (2012/18/EU)
Hydrofluoric acid - 7664-39-3	50 tonne TQ 50 tonne TQ >50% solution Hydrofluoric acid

##### **National pollutant inventory**

Not subject to reporting

Chemical name	National pollutant inventory
Propanoic acid - 79-09-4	20 MWH Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total
Sodium fluoride - 7681-49-4	10 tonne/yr Threshold category 1 400 tonne/yr Threshold category 2a 1 tonne/h Threshold category 2a 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MWH Threshold category 2b

Hydrofluoric acid - 7664-39-3	10 tonne/yr Threshold category 1 400 tonne/yr Threshold category 2a 1 tonne/h Threshold category 2a 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
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**Banned and/or restricted**

No Products Listed.

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>TCSI</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Complies

**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 and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**TCSI** - Taiwan Chemical Substances Inventory**AICS** - Australian Inventory of Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals**International Regulations****Ozone-depleting substances (ODS)** Not applicable**Persistent Organic Pollutants** Not applicable**Export Notification requirements** Not applicable**Section 16: Any other relevant information****Key or legend to abbreviations and acronyms used in the safety data sheet**

<i>NIOSH IDLH</i>	<i>Immediately Dangerous to Life or Health</i>
<i>ACGIH</i>	<i>ACGIH (American Conference of Governmental Industrial Hygienists)</i>
<i>NDF</i>	<i>no data</i>

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	Maximum Allowable Concentration
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these



"liberated" exposure limits in their state regulations.

SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

**Issue Date** 03-Jan-2018

**Revision Date** 03-Jan-2018

**Revision Note**

None

**Reference Sources for Section 11**

See Section 11: TOXICOLOGICAL INFORMATION

**Disclaimer**

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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**End of Safety Data Sheet**