

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

1.1. Product identifier

Product form : Mixture
Product name : Porcelain Etchant (4%HF)

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

1.2.1. Relevant identified uses

Use of the substance/mixture : For RX only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer:

Bisco, Inc. 1100 W Irving Park Road, Schaumburg, IL 60193 USA
1-847-534-6000, during normal business hours
www.bisco.com

EC Representative:

Bisico France, 208, allée de la Coudoulette, 13680 Lançon de Provence, France
Telephone: 33-4-90-42-92-92

1.4. Emergency telephone number

Emergency number : CHEMTREC - 24-Hour Hazmat Emergency Communications Center
Domestic: 1-800-424-9300 Outside the U.S.: 1-703-527-3887, collect calls accepted

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 3 H301
Acute toxicity (dermal), Category 2 H310
Acute toxicity (inhalation:vapour) Category 3 H331
Skin corrosion/irritation, Category 1A H314

Full text of H statements : see section 16

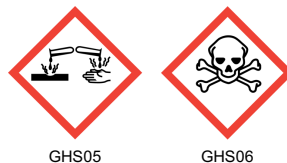
Adverse physicochemical, human health and environmental effects

Fatal in contact with skin. Toxic if inhaled. Toxic if swallowed. Causes severe skin burns and eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

Hydrofluoric Acid,7%<=conc<=60%,aqueous solutions; Sodium Fluoride

Hazard statements (CLP) :

H301+H331 - Toxic if swallowed or if inhaled
H310 - Fatal in contact with skin
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) :

P260 - Do not breathe vapours
P264 - Wash hands thoroughly after handling
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, eye protection, face protection
P301+P310 - IF SWALLOWED: Immediately call a doctor, a POISON CENTER
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a doctor, a POISON CENTER
P321 - Specific treatment (see First aid measures on this label)
P330 - Rinse mouth
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
P405 - Store locked up
P501 - Dispose of contents and container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste, a hazardous or special waste collection point, hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hydrofluoric Acid, 7% <= conc <= 60%, aqueous solutions	(CAS-No.) 7664-39-3 (EC-No.) 231-634-8 (EC Index-No.) 009-003-00-1	5 - 10	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Acute Tox. 2 (Inhalation:vapour), H330 Skin Corr. 1A, H314
Sodium Fluoride	(CAS-No.) 7681-49-4 (EC-No.) 231-667-8 (EC Index-No.) 009-004-00-7	< 1	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Hydrofluoric Acid, 7% <= conc <= 60%, aqueous solutions	(CAS-No.) 7664-39-3 (EC-No.) 231-634-8 (EC Index-No.) 009-003-00-1	(0.1 =<C < 1) Eye Irrit. 2, H319 (1 =<C < 7) Skin Corr. 1B, H314 (C >= 7) Skin Corr. 1A, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a doctor.
First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Call a physician immediately. Rinse skin with water/shower.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Call a physician immediately. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hydrofluoric Acid, 7% ≤ conc ≤ 60%, aqueous solutions (7664-39-3)		
EU	IOELV TWA (mg/m ³)	1.5 mg/m ³ (Hydrogen fluoride; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	1.8 ppm (Hydrogen fluoride; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV STEL (mg/m ³)	2.5 mg/m ³ (Hydrogen fluoride; EU; Short time value; Indicative occupational exposure limit value)
EU	IOELV STEL (ppm)	3 ppm (Hydrogen fluoride; EU; Short time value; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m ³)	1.5 mg/m ³ (Hydrogène (fluorure d'); Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	1.8 ppm (Hydrogène (fluorure d'); Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m ³)	2.5 mg/m ³ (Hydrogène (fluorure d'); Belgium; Short time value)
Belgium	Short time value (ppm)	3 ppm (Hydrogène (fluorure d'); Belgium; Short time value)
France	VME (mg/m ³)	1.5 mg/m ³ (Fluorure d'hydrogène; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	1.8 ppm (Fluorure d'hydrogène; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VLE (mg/m ³)	2.5 mg/m ³ (Fluorure d'hydrogène; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VLE (ppm)	3 ppm (Fluorure d'hydrogène; France; Short time value; VRC: Valeur réglementaire contraignante)

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Hydrofluoric Acid, 7% ≤ conc ≤ 60%, aqueous solutions (7664-39-3)		
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	1 mg/m ³ (Fluorwaterstof (als F); Netherlands; Short time value; Public occupational exposure limit value; als F)
Netherlands	Grenswaarde TGG 15MIN (ppm)	1.2 ppm (Fluorwaterstof (als F); Netherlands; Short time value; Public occupational exposure limit value; als F)
United Kingdom	WEL TWA (mg/m ³)	1.5 mg/m ³ Hydrogen fluoride (as F); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	1.8 ppm Hydrogen fluoride (as F); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m ³)	2.5 mg/m ³ Hydrogen fluoride (as F); United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	3 ppm Hydrogen fluoride (as F); United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
USA - ACGIH	ACGIH TWA (ppm)	0.5 ppm (Hydrogen fluoride, as F; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	ACGIH Ceiling (ppm)	2 ppm (Hydrogen fluoride, as F; USA; Momentary value; TLV - Adopted Value)
Sodium Fluoride (7681-49-4)		
EU	IOELV TWA (mg/m ³)	2.5 mg/m ³ (Fluorides, inorganic; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m ³)	2.5 mg/m ³ (Fluorures inorganiques (en F); Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m ³)	2 mg/m ³ (Sodium (fluorure de), en F; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	2 mg/m ³ (Fluoriden, anorganisch en oplosbaar (als F); Netherlands; Short time value; Public occupational exposure limit value; als F)
United Kingdom	WEL TWA (mg/m ³)	2.5 mg/m ³ Fluorides (inorganic as F); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
USA - ACGIH	ACGIH TWA (mg/m ³)	2.5 mg/m ³ (Fluorides, as F; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Protective goggles

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Gel.

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Colour	: Orange.
Odour	: Odourless.
Odour threshold	: No data available
pH	: ~1
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Oral: Toxic if swallowed.
Acute toxicity (dermal)	: Dermal: Fatal in contact with skin.
Acute toxicity (inhalation)	: Inhalation:vapour: Toxic if inhaled.

ATE CLP (oral)	61.0328638498 mg/kg bodyweight
ATE CLP (dermal)	61.2745098039 mg/kg bodyweight
ATE CLP (vapours)	6.1274509804 mg/l/4h

Sodium Fluoride (7681-49-4)	
LD50 oral rat	52 mg/kg (Rat)

Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: <= 0
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: <= 0
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified

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Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

Sodium Fluoride (7681-49-4)	
LC50 fish 1	> 530 mg/l (LC50; 96 h)
EC50 Daphnia 1	98 mg/l (EC50; 48 h)

12.2. Persistence and degradability

Hydrofluoric Acid, 7% ≤ conc ≤ 60%, aqueous solutions (7664-39-3)	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Sodium Fluoride (7681-49-4)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

Hydrofluoric Acid, 7% ≤ conc ≤ 60%, aqueous solutions (7664-39-3)	
Log Pow	-0.9 (Calculated)
Bioaccumulative potential	Bioaccumulation: not applicable.

Sodium Fluoride (7681-49-4)	
BCF fish 1	2.3 (BCF)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Sodium Fluoride (7681-49-4)	
Ecology - soil	Toxic to flora.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: 1790
UN-No. (IMDG)	: 1790
UN-No. (IATA)	: 1790

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UN-No. (ADN) : Not applicable

UN-No. (RID) : 1790

14.2. UN proper shipping name

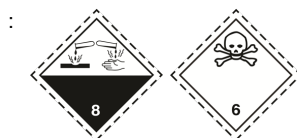
Proper Shipping Name (ADR) : HYDROFLUORIC ACID
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable
Transport document description (ADR) : UN 1790 HYDROFLUORIC ACID, 8 (6.1), II, (E)
Transport document description (IMDG) : UN 1790 , 8
Transport document description (IATA) : UN 1790 , 8
Transport document description (RID) : UN 1790 , 8 (6.1)

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8 (6.1)

Danger labels (ADR) : 8, 6.1



IMDG

Transport hazard class(es) (IMDG) : 8

IATA

Transport hazard class(es) (IATA) : 8

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : 8 (6.1)

Danger labels (RID) : 8, 6.1



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : CT1

Limited quantities (ADR) : 11

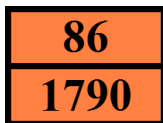
Excepted quantities (ADR) : E2

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Vehicle for tank carriage : AT
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : 86
Orange plates :



Tunnel restriction code (ADR) : E
EAC code : 2X

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

No data available

- Rail transport

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 3, severe hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Revision date :07/17/2018

Full text of H- and EUH-statements:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
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Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H300	Fatal if swallowed
H301	Toxic if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H319	Causes serious eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product