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Version number 1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name: BUFFERD HYDROFLUORIC ACID 120U****Article number: 1201****1.2 Relevant identified uses of the substance or mixture and uses advised against:**

No further relevant information available.

**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

DAIKIN INDUSTRIES, LTD. CHEMICALS DIVISION:

OSAKA UMEDA TWIN TOWERS SOUTH, 1-13-1 Umeda, Kita-ku, Osaka-shi, Osaka, 530-0001, Japan

Phone: +81-6-6147-9702 Fax: +81-6-6147-9807

**Further information obtainable from:** <http://www.daikin.com/>**1.4 Emergency telephone number:**

Japan: +81-6-6349-7521

China: +86-532-8388-9090, +86-21-34151689

South Korea: +82-2-568-1722

Americas: CHEMTREC +1-800-424-9300 (Outside US/Canada: +1-703-527-3887)

Europe: +49-211-179 225-0

**\* SECTION 2: Hazard identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Acute Tox. 3 H301 Toxic if swallowed.



STOT SE 2 H371 May cause damage to organs.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



Met. Corr. 1 H290 May be corrosive to metals.

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008:**

The product is classified and labelled according to the CLP regulation.

**Signal word:** Danger**Hazard-determining components of labelling:**

Ammonium fluoride

Ammonium bifluoride

**Precautionary statements:**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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.

P405 Store locked up.

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P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**SECTION 3: Composition/information on ingredients****Information on ingredients:**

CAS: 7732-18-5	Water	50-60%
CAS: 12125-01-8	Ammonium fluoride	35.0%
	Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	
CAS: 1341-49-7	Ammonium bifluoride	8.0%
	Acute Tox. 3, H301	
	Skin Corr. 1B, H314	
	Specific concentration limits: Skin Corr. 1B; H314: $C \geq 1\%$	
	Skin Irrit. 2; H315: $0.1\% \leq C < 1\%$	
	Eye Irrit. 2; H319: $0.1\% \leq C < 1\%$	
	Fluorosurfactant	<0.1%
	Eye Dam. 1, H318	
	Acute Tox. 4, H302	

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:**

Immediately remove any clothing soiled by the product.

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Seek immediate medical advice.

**After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:**

After rinsing with water thoroughly, apply 2.5% Ca-gluconate solution or Ca-gluconate gel immediately. Do not rub hard.

Apply the solution or the gel every 1-2 hours. Continue applying them every several hours even after the pain is eased.

If they are not at hand, keep rinsing with warm water for at least 30 minutes and call for a doctor immediately. Hand this SDS to the doctor.

Immediately wash with water and soap and rinse thoroughly.

**After eye contact:** Rinse opened eye for several minutes under running water. Then consult an ophthalmologist.

**After swallowing:**

Do not induce vomiting; Consult a doctor immediately.

Drink plenty of water and provide fresh air. Consult a doctor immediately.

**4.2 Most important symptoms and effects, both acute and chronic:** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**5.2 Special hazards arising from the substance or mixture:**

Formation of toxic gases is possible during heating or in case of fire.

**5.3 Advice for firefighters:****Protective equipment:**

Wear self-contained breathing apparatus and protective suit.

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**Trade name: BUFFERD HYDROFLUORIC ACID 120U***Wear fully protective suit.***SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures:***Wear appropriate protective devices (See Section 8 Exposure Controls/Personal Protection).**Avoid contact with eyes and skin.**Do not inhale the product.**Wear protective clothing.***6.2 Environmental precautions:***Dilute with plenty of water.**Do not allow to enter sewers/surface or ground water.***6.3 Methods and material for containment and cleaning up:***For a small amount of leakage: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders) or collect in an empty container that can be sealed tightly.**Use neutralising agent.**Dispose contaminated material as hazardous waste according to section 13.**Ensure adequate ventilation.***6.4 Reference to other sections:***See Section 7 for information on safe handling.**See Section 8 for information on personal protection equipment.**See Section 13 for disposal information.***SECTION 7: Handling and storage****7.1 Precautions for safe handling:***Ensure good ventilation/exhaustion at the workplace.**Open and handle receptacle with care.**Prevent formation of aerosols.**Information about fire - and explosion protection: Keep respiratory protective device available.***7.2 Conditions for safe storage, including any incompatibilities:****Storage****Requirements to be met by storerooms and receptacles:***Store only in the original receptacle.**Provide acid-resistant floor.**Information about storage in one common storage facility: Do not store together with alkalis (caustic solutions).***Further information about storage conditions:***Keep container tightly sealed.**Store under lock and key and with access restricted to technical experts or their assistants only.***7.3 Specific end use(s):** *No further relevant information available.***SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:***The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.**Additional information: The lists valid during the making were used as basis.***8.2 Exposure controls***Appropriate engineering controls No further data; see item 7.***Individual protection measures, such as personal protective equipment****General protective and hygienic measures:***Keep away from foodstuffs, beverages and feed.**Immediately remove all soiled and contaminated clothing**Wash hands before breaks and at the end of work.**Store protective clothing separately.**Avoid contact with the eyes and skin.**Keep away from tobacco products.*

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Trade name: **BUFFERD HYDROFLUORIC ACID 120U****Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

**Hand protection**

Protective gloves

**Material of gloves:** Fluorocarbon rubber**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye/face protection**

Tightly sealed goggles

**Body protection:**

Acid resistant protective clothing.

Boots

Apron

Full head, face and neck protection

Protective work clothing

**\* SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Physical state**

Fluid

**Colour:**

Colourless

**Odour:**

Pungent

**Melting point/freezing point:**

ca.-8 °C

**Boiling point or initial boiling point and boiling range**

Undetermined.

**Flammability**

Product is not flammable.

**Lower and upper explosion limit****Lower explosive limit:**

No further information available.

**Upper explosive limit:**

Not determined.

**Flash point:**

Not applicable.

**Decomposition temperature:**

No further information available.

**pH**

5

**Viscosity:****Kinematic viscosity**

No further information available.

**Solubility****water:**

Fully miscible.

**Partition coefficient n-octanol/water (log value)**

No further information available.

**Vapour pressure:**

No further information available.

**Density and/or relative density****Density at 20 °C:**1.11 g/cm<sup>3</sup>**Vapour density**

No further information available.

**Particle characteristics**

No further information available.

**9.2 Other information:****Form:**

Liquid

**Auto-ignition temperature:**

Product is not self-igniting.

**Information with regard to physical hazard classes****Explosives**

Not applicable

**Flammable gases**

Not applicable

**Aerosols**

Not applicable

**Oxidising gases**

Not applicable

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<b>Gases under pressure</b>	Not applicable
<b>Flammable liquids</b>	Not applicable
<b>Flammable solids</b>	Not applicable
<b>Self-reactive substances and mixtures</b>	Not applicable
<b>Pyrophoric liquids</b>	Not applicable
<b>Pyrophoric solids</b>	Not applicable
<b>Self-heating substances and mixtures</b>	Not applicable
<b>Substances and mixtures, which emit flammable gases in contact with water</b>	Not applicable
<b>Oxidising liquids</b>	Not applicable
<b>Oxidising solids</b>	Not applicable
<b>Organic peroxides</b>	Not applicable
<b>Corrosive to metals</b>	
May be corrosive to metals.	
<b>Desensitised explosives</b>	Not applicable

### **SECTION 10: Stability and reactivity**

**10.1 Reactivity** No further relevant information available.

**10.2 Chemical stability**

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions:** Reacts with alkali (lyes).

**10.4 Conditions to avoid:** No further relevant information available.

**10.5 Incompatible materials:** Glass, concrete and silicon

**10.6 Hazardous decomposition products:** Hydrogen fluoride

### **SECTION 11: Toxicological information**

**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Acute toxicity**

Toxic if swallowed.

**LD/LC50 values relevant for classification:** No further information available.

**Skin corrosion/irritation:**

Causes severe skin burns and eye damage.

**Serious eye damage/irritation:**

Causes serious eye damage.

**Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**STOT-single exposure:**

May cause damage to organs.

**STOT-repeated exposure:**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

**11.2 Information on other hazards:**

**Endocrine disrupting properties:**

None of the ingredients is listed.

### **SECTION 12: Ecological information**

**12.1 Toxicity**

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability:** No further relevant information available.

**12.3 Bioaccumulative potential:** No further relevant information available.

**12.4 Mobility in soil:** No further relevant information available.

**12.5 Results of PBT and vPvB assessment**

**PBT:** No further relevant information available.

**vPvB:** No further information available.

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**12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.

**12.7 Other adverse effects:**

**Additional ecological information:**

**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.

### SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

**Recommendation:**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packaging**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

**14.1 UN number or ID number**

**ADR, IMDG, IATA**

2817

**14.2 UN proper shipping name:**

**IMDG, IATA**

AMMONIUM HYDROGENDIFLUORIDE SOLUTION

**14.3 Transport hazard class(es):**

**ADR, IMDG, IATA**



**Class:**

8 Corrosive substances.

**Label:**

8+6.1

**14.4 Packing group:**

**ADR, IMDG, IATA**

II

**14.5 Environmental hazards:**

**Marine pollutant:**

No

**14.6 Special precautions for user:**

Warning: Corrosive substances.

**Hazard identification number (Kemler code):**

86

**EMS Number:**

F-A,S-B

**14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

**Transport/Additional information:**

**ADR**

**Limited quantities (LQ):**

LQ22

**Transport category:**

2

**Tunnel restriction code:**

E

**UN "Model Regulation":**

UN2817, AMMONIUM HYDROGENDIFLUORIDE SOLUTION,  
8 (6.1), II

### \* SECTION 15: Regulatory information

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

No further relevant information available.

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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Trade name: **BUFFERD HYDROFLUORIC ACID 120U****Hazard pictograms**

GHS05 GHS06 GHS08

**Signal word** Danger**Hazard-determining components of labelling:**Ammonium fluoride  
Ammonium bifluoride**Hazard statements**

H290 May be corrosive to metals.

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H371 May cause damage to organs.

H373 May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**SECTION 16: Other information**

The product is for the industrial use only. We do not guarantee the safety in case the product is used for the other purposes. When using the product for health-care application or food/feed application, consult us in advance. This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing SDS:** EHS Department**Contact:** <http://www.daikin.com/>**Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Met. Corr. 1: Corrosive to metals – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

\* **Data compared to the previous version altered.**