

Printing date 16.03.2015

Version number 1

Revision: 16.03.2015

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name: BUFFERD HYDROFLUORIC ACID 1100****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:

Umeda Center Bldg., 4-12, Nakazaki-Nishi 2-chome, Kita-Ku, Osaka, JAPAN

Phone: (+81) 6-6373-4345 Fax: (+81) 6-6373-4281

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

+81-6-6349-7521, +1-256-306-5000, +86-512-5-232-0949, +82-2-568-1722, +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. 1B H314 Causes severe skin burns and 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**Precautionary statements:**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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/shower.

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.

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

7732-18-5 Water

59,0%

## Safety data sheet

Printing date 16.03.2015

Version number 1

Revision: 16.03.2015

**Trade name: BUFFERD HYDROFLUORIC ACID 1100**

1341-49-7 Ammonium bifluoride	2,0%
T R25; C R34	
Acute Tox. 3, H301; Skin Corr. 1B, H314	
12125-01-8 Ammonium fluoride	39,0%
T R23/24/25	
Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	

**Additional information:** For the wording of the listed risk 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.

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.

## Safety data sheet

Printing date 16.03.2015

Version number 1

Revision: 16.03.2015

**Trade name: BUFFERD HYDROFLUORIC ACID 1100**

### 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 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:

Store under lock and key and with access restricted to technical experts or their assistants only.

Keep container tightly sealed.

**7.3 Specific end use(s):** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

**Additional information about design of technical facilities:** No further data; see item 7.

### 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

#### 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.

#### 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.

#### Protection of hands:



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.

## Safety data sheet

Printing date 16.03.2015

Version number 1

Revision: 16.03.2015

Trade name: **BUFFERD HYDROFLUORIC ACID 1100**

### Eye 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

#### Appearance

<b>Form:</b>	Liquid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Pungent
<b>pH-value:</b>	7
<b>Melting point/Melting range:</b>	ca.-22 °C
<b>Boiling point/Boiling range:</b>	No further information available.
<b>Flash point:</b>	Not applicable.
<b>Self-igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Lower explosive limit:</b>	No further information available.
<b>Upper explosive limit:</b>	No further information available.
<b>Vapour pressure:</b>	No further information available.
<b>Density at 20 °C:</b>	1,113 g/cm <sup>3</sup>
<b>Solubility in / Miscibility with water:</b>	Fully miscible.

**Partition coefficient (n-octanol/water):** No further information available.

**9.2 Other information:** No further relevant information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

### 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 toxicological effects

#### Acute toxicity

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

#### Primary irritant effect

**on the skin:** Caustic effect on skin and mucous membranes.

**on the eye:** Strong caustic effect.

**after inhalation:** No further information available.

**Sensitisation:** No sensitising effects known.

## Safety data sheet

Printing date 16.03.2015

Version number 1

Revision: 16.03.2015

**Trade name: BUFFERD HYDROFLUORIC ACID 1100**

**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**CMR effects**

**Germ cell mutagenicity:** No further information available.

**Carcinogenicity:** No further information available.

**Reproductive toxicity:** No further information available.

**Aspiration hazard:** No further information available.

**Specific target organ toxicity - single exposure:** No further information available.

**Specific target organ toxicity - repeated exposure:** No further information available.

### 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.

**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.

**12.5 Results of PBT and vPvB assessment**

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

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

**12.6 Other adverse effects:** No further relevant information available.

### 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:**

**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

## Safety data sheet

Printing date 16.03.2015

Version number 1

Revision: 16.03.2015

Trade name: **BUFFERD HYDROFLUORIC ACID 1100**

<b>14.6 Special precautions for user:</b>	Warning: Corrosive substances.
<b>Danger code (Kemler):</b>	86
<b>EMS Number:</b>	F-A,S-B
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>ADR</b>	
<b>Limited quantities (LQ):</b>	LQ22
<b>Transport category:</b>	2
<b>Tunnel restriction code:</b>	E
<b>UN "Model Regulation":</b>	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

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

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

##### 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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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/shower.

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.

### 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 européen sur le transport 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

## Safety data sheet

Printing date 16.03.2015

Version number 1

Revision: 16.03.2015

**Trade name: BUFFERD HYDROFLUORIC ACID 1100**

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*Met. Corr.1: Corrosive to metals, Hazard Category 1*

*Acute Tox. 3: Acute toxicity, Hazard Category 3*

*Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B*

*STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2*

*STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2*