

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

*** SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name: BUFFERD HYDROFLUORIC ACID 130****Article number: BHF130****1.2 Relevant identified uses of the substance or mixture and uses advised against:****Sector of Use SU8** Manufacture of bulk, large scale chemicals (including petroleum products)**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/>sales@daikinchem.de**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.

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

Trade name: **BUFFERD HYDROFLUORIC ACID 130**

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:**

CAS: 7732-18-5 Water 58%

CAS: 12125-01-8 Ammonium fluoride 37%

Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331

CAS: 1341-49-7 Ammonium bifluoride 5%

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: $0.1\% \leq C < 1\%$ **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:**

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

Immediately remove any clothing soiled by the product.

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

Seek immediate medical advice.

First aiders shall pay attention to self-protection.

After inhalation:

Supply fresh air or oxygen; call for doctor.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult a doctor if symptoms persist.

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.

Consult a doctor in case of complaints.

After eye contact:

Rinse opened eye for several minutes under running water. Then consult an ophthalmologist.

Consult an ophthalmologist in case of complaints.

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:

After skin contact: the affected skin becomes painful and red.

After eye contact: irritation of the mucous membranes.

After swallowing: nausea, stomachache.

Protection of rescuers: Wear self-contained breathing apparatus and fully protective suit to avoid contact with toxic substances.

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

Medical supervision for at least 48 hours.

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

Trade name: **BUFFERD HYDROFLUORIC ACID 130***** SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Water spray

Foam

Fire-extinguishing powder

Dry sand

CO₂

5.2 Special hazards arising from the substance or mixture:

Can form explosive gas-air mixtures.

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

5.3 Advice for firefighters:

Cool the container thoroughly with a large amount of water even after extinguishment.

In case of a large fire: stay a safe distance away from the fire and use unmanned hose holder or monitor nozzles.

If impossible, evacuate from the fire and burn in until the materials disappear.

Remove receptacles from area of fire if possible.

Protective equipment:

Wear fully protective suit.

Wear self-contained breathing apparatus and protective suit.

Do not inhale explosion gases or combustion gases.

*** SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures:**

Wear protective clothing.

Ensure adequate ventilation before entering the area.

Stay on the windward side.

Keep out unauthorized persons.

Wear appropriate protective devices (See Section 8 Exposure Controls/Personal Protection).

Avoid contact with eyes and skin.

Do not swallow the product.

6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/surface or ground water.

Must not be emitted into the environment.

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.

Ensure adequate ventilation.

For a large amount of leakage: Enclose with banks to avoid outflow. Lead the leakage to a safe place and collect.

Remove gas with water haze. After recovering it, rinse with a large amount of water.

6.4 Reference to other sections:

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:**

Open and handle receptacle with care.

Prevent formation of aerosols.

Ensure good ventilation/exhaustion at the workplace.

Do not handle until all safety precautions have been read and understood.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Keep respiratory protective device available.

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

Trade name: BUFFERD HYDROFLUORIC ACID 130**7.2 Conditions for safe storage, including any incompatibilities:****Storage****Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

Store in a cool and dry location.

Provide acid-resistant floor.

Prevent any seepage into the ground.

Information about storage in one common storage facility:

Do not store together with acids.

Do not store together with alkalis (caustic solutions).

See section 10 for information on incompatible materials.

Further information about storage conditions:

Keep container tightly sealed.

Protect from heat and direct sunlight.

Store containers in a well ventilated area.

Store locked up.

7.3 Specific end use(s): No further relevant information available.*** SECTION 8: Exposure controls/personal protection****8.1 Control parameters** No further information available.**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**

Install eyewash containers and safety showers in worksites where the product is stored or handled.

Keep the process closed, equip with local exhaust ventilation and take other engineering measurements to control airborne concentration below administrative level or threshold limit value.

Individual protection measures, such as personal protective equipment**General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Store protective clothing separately.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Keep away from tobacco products.

Respiratory protection: Use respiratory protective device with filters for acid gases.**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

Safety glasses

Tightly sealed goggles

Body protection:

Boots

Apron

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

Trade name: **BUFFERD HYDROFLUORIC ACID 130**

Protective work clothing
Full head, face and neck protection



Acid resistant protective clothing including boots and apron

*** SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties

General Information

Physical state	Fluid
Colour:	Colourless
Odour:	Pungent
Odour threshold:	Not determined.
Melting point/freezing point:	15 °C
Boiling point or initial boiling point and boiling range	Undetermined.
Flammability	Not applicable.
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.
	Not determined.
pH at 20 °C	6
Viscosity:	
Kinematic viscosity	Not determined.
Dynamic:	Not determined.
Solubility	
water:	Fully miscible.
Partition coefficient n-octanol/water (log value)	No further information available.
	Not determined.
Vapour pressure:	No further information available.
Density and/or relative density	
Density at 20 °C:	1.115 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Particle characteristics	No further information available.

9.2 Other information:

Form:	Liquid
Auto-ignition temperature:	Product is not self-igniting.
Explosive properties:	Product does not present an explosion hazard.
Evaporation rate	Not determined.

Information with regard to physical hazard classes

Explosives	Not applicable
Flammable gases	Not applicable
Aerosols	Not applicable
Oxidising gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Not applicable
Flammable solids	Not applicable
Self-reactive substances and mixtures	Not applicable
Pyrophoric liquids	Not applicable
Pyrophoric solids	Not applicable
Self-heating substances and mixtures	Not applicable
Substances and mixtures, which emit flammable gases in contact with water	Not applicable

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

Trade name: **BUFFERD HYDROFLUORIC ACID 130**

Oxidising liquids	Not applicable
Oxidising solids	Not applicable
Organic peroxides	Not applicable
Corrosive to metals	May be corrosive to metals.
Desensitised explosives	Not applicable

*** SECTION 10: Stability and reactivity****10.1 Reactivity** May be corrosive to metals.**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).

Reacts with acids.

Reacts with carbon dioxide.

10.4 Conditions to avoid: Keep away from heat, sparks, flame, high temperature.**10.5 Incompatible materials:** Glass, concrete and silicon**10.6 Hazardous decomposition products:**

Hydrogen fluoride

Ammonia

*** 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:****CAS: 12125-01-8 Ammonium fluoride**

Oral LD50 100.1 mg/kg (expert judgement)

Dermal LD50 300.1 mg/kg (expert judgement)

Inhalative LC50 0.6 mg/l (expert judgement)

CAS: 1341-49-7 Ammonium bifluoride

Oral LD50 100 mg/kg (Rat)

Skin corrosion/irritation: Causes severe skin burns and eye damage.**Serious eye damage/irritation:** Causes serious eye damage.**Respiratory or skin sensitisation:** No further information available.**STOT-single exposure:** May cause damage to organs.**STOT-repeated exposure:** May cause damage to organs through prolonged or repeated exposure.**Subacute to chronic toxicity:** No further information available.**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.**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

For information on endocrine disrupting properties see section 11.

12.7 Other adverse effects:**Ecotoxicological effects:** no data

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

Trade name: **BUFFERD HYDROFLUORIC ACID 130****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.
Disposal must be made according to official regulations.

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**

UN2817

14.2 UN proper shipping name:**ADR, IMDG, IATA**

AMMONIUM HYDROGENDIFLUORIDE SOLUTION

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

8 (CT1) Corrosive substances.

Label:

8+6.1

IMDG**Class:**

8 Corrosive substances.

Label:

8/6.1

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

Segregation groups:

(SGG1) Acids, (SGG2) ammonium compounds

Stowage Category

B

Stowage Code

SW2 Clear of living quarters.

Segregation Code

SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

Trade name: **BUFFERD HYDROFLUORIC ACID 130****14.7 Maritime transport in bulk according to IMO instruments****Transport/Additional information:**

Not applicable.

Avoid direct sunlight. Make sure of no damage, corrosion, leaks on the receptacles.

Take necessary measures for preventing cargo shift.

ADR**Limited quantities (LQ):**

1L

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

Transport category:

2

Tunnel restriction code:

E

IMDG**Limited quantities (LQ)**

1L

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":

UN 2817 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.

Dutch List of Substances of Very High Concern (ZZS)

None of the ingredients is listed.

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

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.

Seveso category H2 ACUTE TOXIC

Printing date 29.03.2023

Version number 1

Revision: 29.03.2023

Trade name: BUFFERD HYDROFLUORIC ACID 130**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II***None of the ingredients is listed.***Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))***None of the ingredients is listed.***Annex II - REPORTABLE EXPLOSIVES PRECURSORS***None of the ingredients is listed.***Regulation (EC) No 273/2004 on drug precursors***None of the ingredients is listed.***Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors***None of the ingredients is listed.***National regulations** *No further information available.***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/>sales@daikinchem.dewww.daikinchem.de**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.**