

Safety data sheet

Page: 1/9

BASF Safety data sheet

Date / Revised: 01.12.2016

Product: **HydrofluoricAcid49%VLSI Selectipur®**

Version: 5.0

(30269163/SDS_GEN_SG/EN)

Date of print 24.06.2017

1. Substance/preparation and manufacturer/supplier identification

HydrofluoricAcid49%VLSI Selectipur®

Manufacturer/supplier:

BASF South East Asia Pte Ltd.
7 Temasek Boulevard,
#35-01 Suntec Tower One, 038987, SINGAPORE
Telephone: +65 6 337-0330
Telefax number: +65 6 334-0330
E-mail address: xinhui.khaw@basf.com

Emergency information:

Singapore Emergency Toll-Free Number:
Telephone: 1800-723-1361
International emergency number:
Telephone: +49 180 2273-112

2. Hazard identification

Classification of the substance and mixture:

Corrosive to metals: Cat. 1

Acute toxicity: Cat. 2 (Inhalation - vapour)

Skin corrosion/irritation: Cat. 1

Serious eye damage/eye irritation: Cat. 1

Specific target organ toxicity — repeated exposure: Cat. 1

Label elements and precautionary statement:

Pictogram:



BASF Safety data sheet
Date / Revised: 01.12.2016
Product: **HydrofluoricAcid49%VLSI Selectipur®**

Version: 5.0

(30269163/SDS_GEN_SG/EN)

Date of print 24.06.2017

Signal Word:
Danger

Hazard Statement:

Fatal if inhaled. May be corrosive to metals. Causes damage to organs through prolonged or repeated exposure. Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary Statements (Prevention):

Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/gas/mist/vapours. In case of inadequate ventilation wear respiratory protection. Wash with plenty of water and soap thoroughly after handling. Do not eat, drink or smoke when using this product. Keep only in original container.

Precautionary Statements (Response):

Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. IF SWALLOWED: rinse mouth. Absorb spillage to prevent material damage.

Precautionary Statements (Storage):

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant/... container with a resistant inner liner.

Precautionary Statements (Disposal):

Dispose of contents/container to hazardous or special waste collection point.

3. Composition/information on ingredients

Chemical nature

inorganic acid, aqueous solution, water (Content (W/W): 51 %)

Hazardous ingredients**Hydrofluoric acid**

Content (W/W): 49 %
CAS Number: 7664-39-3

Acute Tox.: Cat. 2 (Inhalation - gas)
Acute Tox.: Cat. 2 (oral)
Acute Tox.: Cat. 1 (dermal)
Skin Corr./Irrit.: Cat. 1A
Eye Dam./Irrit.: Cat. 1
Aquatic Acute: Cat. 3

4. First-Aid Measures

General advice:

Immediately remove contaminated clothing. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). First aid personnel should pay attention to their own safety.

BASF Safety data sheet

Date / Revised: 01.12.2016

Version: 5.0

Product: **HydrofluoricAcid49%VLSI Selectipur®**

(30269163/SDS_GEN_SG/EN)

Date of print 24.06.2017

If inhaled:

Remove the affected individual into fresh air and keep the person calm. If breathing difficulties develop, aid in breathing and seek immediate medical attention. If not breathing, give artificial respiration. If necessary, give oxygen.

On skin contact:

Rinse skin immediately with plenty of water for 15 - 20 minutes. Apply calcium gluconate gel. Immediate medical attention required.

On contact with eyes:

In case of eye contact, wash them immediately with plenty of running water. Wash affected eyes for at least 15 minutes under running water with eyelids held open. Immediate medical attention required.

On ingestion:

Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention. If vomiting occurs, keep head lower than hips to prevent aspiration.

Note to physician:

Symptoms: skin corrosion, severe pain, Symptoms may be delayed for several hours.

Hazards: Risk of cardiac rhythm disturbances.

Treatment: Symptomatic treatment (decontamination, vital functions). Administration of calcium gluconate. If necessary, give oxygen.

5. Fire-Fighting Measures

Suitable extinguishing media:

water spray, dry powder, carbon dioxide

Additional information:

Use extinguishing measures to suit surroundings.

Specific hazards:

hydrogen fluoride

Do not breathe gas/vapour. The substances/groups of substances mentioned can be released in case of fire. Fire and contact with water will generate toxic and corrosive substances.

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Suppress gases/vapours/mists with water spray jet. Cool endangered containers with water-spray. Contaminated extinguishing water must be disposed of in accordance with official regulations.

Evacuate area of all unnecessary personnel. In case of combustion evolution of dangerous gases possible. Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. Large quantities of extinguishing water containing dissolved product should be contained. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

6. Accidental Release Measures

Personal precautions:

Use personal protective clothing. Do not breathe vapour/spray. Avoid contact with the skin, eyes and clothing.

Environmental precautions:

Do not discharge into drains/surface waters/groundwater. Notify the responsible authorities of reportable releases to the air, into waterways, soil or sewers.

Methods for cleaning up or taking up:

For small amounts: Pick up with suitable absorbent material. Rinse away with water.

For large amounts: Dike spillage. Dispose of absorbed material in accordance with regulations.

Place into suitable containers for reuse or disposal in a licensed facility. Subject contaminated water to waste water treatment. Pump off product.

For residues: Pick up with suitable absorbent material. Neutralize with soda or slaked lime.

7. Handling and Storage

Handling

Avoid aerosol formation. Containers must only be opened under local exhaust ventilation. Refill and handle product only in closed system. Should only be processed in suitable rooms and with appropriate equipment. Work only in fume cupboards. Avoid inhalation of dusts/mists/vapours. The substance/ product may be handled only by appropriately trained personnel. Avoid contact with the skin, eyes and clothing.

Storage

Segregate from incompatible substances. Segregate from strong bases. Segregate from oxidizing agents.

Suitable materials for containers: High density polyethylene (HDPE), Perfluoroalkoxy-polymer-coated (PFA)

Unsuitable materials for containers: glass

Further information on storage conditions: Keep container tightly closed. Store in a cool, dry, well-ventilated area. Protect against moisture.

Keep container tightly closed in a cool, well-ventilated place.

Protect from temperatures below: 5 °C

Protect from temperatures above: 40 °C

8. Exposure controls and personal protection

Components with occupational exposure limits

Hydrofluoric acid, 7664-39-3;

BASF Safety data sheet

Date / Revised: 01.12.2016

Version: 5.0

Product: **HydrofluoricAcid49%VLSI Selectipur®**

(30269163/SDS_GEN_SG/EN)

Date of print 24.06.2017

TWA value 0.5 ppm (ACGIHTLV)
Measured as: fluorine (F)
CLV 2 ppm (ACGIHTLV)
Measured as: fluorine (F)
STEL value 2.6 mg/m³ ; 3 ppm (OEL (SG))
Skin Designation (ACGIHTLV)
Measured as: fluorine (F)
The substance can be absorbed through the skin.

Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Gas filter for acid inorganic gases/vapours such as SO₂, HCl (e.g. EN 14387 Type E). Self-contained breathing apparatus.

Hand protection:

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

fluoroelastomer (FKM) - 0.7 mm coating thickness

polyvinylchloride (PVC) - 0.7 mm coating thickness

butyl rubber (butyl) - 0.7 mm coating thickness

chloroprene rubber (CR) - 0.5 mm coating thickness

Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN 374)

nitrile rubber (NBR) - 0.4 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:

Wear face shield if splashing hazard exists., Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.

Body protection:

acid-proof chemical protection suit (f.e. according to EN 14605), Chemical resistant protective boots, Safety shoes, Apron, Protective suit, Hardhat

General safety and hygiene measures:

Avoid all contact with the substance. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Handle in accordance with good industrial hygiene and safety practice. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Preventive skin protection necessary. Take off immediately all contaminated clothing.

9. Physical and Chemical Properties

Form:	liquid
Colour:	colourless, clear
Odour:	pungent odour

BASF Safety data sheet
Date / Revised: 01.12.2016
Product: **HydrofluoricAcid49%VLSI Selectipur®**

Version: 5.0

(30269163/SDS_GEN_SG/EN)

Date of print 24.06.2017

Melting point: -35 °C
(49 %(m))
Boiling point: 107 °C
Flash point: not applicable
Lower explosion limit: not applicable
Upper explosion limit: not applicable
Fire promoting properties: not fire-propagating
Vapour pressure: 18.6 hPa
(49 %(m))
Density: 1.16 g/cm³
(20 °C)
Partitioning coefficient n-octanol/water (log Pow): -1.4

10. Stability and Reactivity

Conditions to avoid:
Avoid heat.

Substances to avoid:
metal, alkali metals, strong alkalies, glass, rubber

Hazardous reactions:
In aqueous solution, evolves hydrogen on contact with metals.

Hazardous decomposition products:
hydrogen fluoride

11. Toxicological Information

Acute toxicity

Assessment of acute toxicity:
| Of high toxicity after short-term inhalation.

Experimental/calculated data:
ATE (by inhalation): 0.5000 mg/l
Determined for vapor

Irritation

Assessment of irritating effects:
| Corrosive! Damages skin and eyes. May cause severe damage to the eyes.

BASF Safety data sheet
Date / Revised: 01.12.2016
Product: **HydrofluoricAcid49%VLSI Selectipur®**

Version: 5.0

(30269163/SDS_GEN_SG/EN)

Date of print 24.06.2017

Experimental/calculated data:
Skin corrosion/irritation rabbit: Corrosive. (OECD Guideline 404)
Literature data.

Serious eye damage/irritation rabbit:
Literature data.

Germ cell mutagenicity

Assessment of mutagenicity:
The substance was not mutagenic in bacteria. Literature data.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Repeated exposure to small quantities may affect certain organs.

Other relevant toxicity information

The product has not been tested. The statement has been derived from the properties of the individual components.

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Toxicity to fish:
LC50 (96 h) 51 mg/l, *Oncorhynchus mykiss* (other, static)

Aquatic invertebrates:
EC50 (48 h) 97 mg/l, *Daphnia magna* (other, static)
Nominal concentration.

Aquatic plants:
(96 h) 43 mg/l (biomass), *Scenedesmus* sp. (other, static)
Nominal concentration.

Microorganisms/Effect on activated sludge:
EC10 (3 h) 510 mg/l, activated sludge (DIN EN ISO 8192-OECD 209-88/302/EEC,P. C, aquatic)

13. Disposal Considerations

Dispose of in accordance with national, state and local regulations.
Do not discharge into drains/surface waters/groundwater.
This material and its container must be disposed of as hazardous waste.

BASF Safety data sheet
Date / Revised: 01.12.2016
Product: **HydrofluoricAcid49%VLSI Selectipur®**

Version: 5.0

(30269163/SDS_GEN_SG/EN)

Date of print 24.06.2017

Contaminated packaging:

Contaminated packaging should be emptied as far as possible and disposed of in accordance with official regulations after being thoroughly cleaned.

14. Transport Information

Domestic transport:

Hazard class: 8
Packing group: II
ID number: UN 1790
Hazard label: 8, 6.1
Proper shipping name: HYDROFLUORIC ACID

Sea transport

IMDG

Hazard class: 8
Packing group: II
ID number: UN 1790
Hazard label: 8, 6.1
Marine pollutant: NO
Proper shipping name: HYDROFLUORIC ACID

Air transport

IATA/ICAO

Hazard class: 8
Packing group: II
ID number: UN 1790
Hazard label: 8, 6.1
Proper shipping name: HYDROFLUORIC ACID

15. Regulatory Information

Other regulations

16. Other Information

Reference: BASF product information

Company / Dept.: BASF Taiwan Ltd. / Production EHS

Address: 33, Ching Chien 1 Rd., Kuanyin Ind. Park, Taoyuan 32853, Taiwan.

Telephone: +886 800 002 119

Prepared by: Rita Tseng

BASF Safety data sheet

Date / Revised: 01.12.2016

Version: 5.0

Product: **HydrofluoricAcid49%VLSI Selectipur®**

(30269163/SDS_GEN_SG/EN)

Date of print 24.06.2017

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.