

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

Hazard pictograms:

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



GHS05 GHS06

Signal word:

Danger

Hazard-determining components of labelling:

4-Hydroxybutanoic acid lactone
hydrofluoric acid
phosphoric acid

Hazard statements:

H302 Harmful if swallowed.

Precautionary statements:

H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.









P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	EC No	CAS-No	Content	Classification (EC 1272/2008)	Classification (67/548/EEC)
phosphoric acid 75%	231-633-2	7664-38-2	1 - 2.5%	 Skin Corr. 1B - H314: C < 25 % Skin Irrit. 2;H315:10% C < 25 % Eye Irrit. 2; H319:10% C < 25 %	 C; R34
4-Hydroxybutanoic acid lactone	202-509-5	96-48-0	60 - 90%	 Acute tox. 4 - H302 Eye irrit. 2 - H319	 Xn; R22  Xi; R36
hydrofluoric acid	231-634-8	7664-39-3	1- <2.5%	 Acute Tox.2, H300 Acute Tox.1, H310 Acute Tox. 2, H330  Skin Corr. 1A; H314: C < 7 % Skin Corr. 1B; H314: 1 % C < 7 % Eye Irrit. 2; H319: 0.1 % C < 1 %	 C R35; T+ R26/27/28

The full text for all risk phrases and hazard statements is displayed in section 16.

4. FIRST AID MEASURES

Description of first aid measures:

General:

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.

Inhalation:

Supply fresh air or oxygen; call for doctor. In case of unconsciousness place patient stably in side position for transportation.

Ingestion:

Do not induce vomiting; call for medical help immediately. Drink plenty of water and provide fresh air. Call for a doctor immediately.

Skin contact:

Immediately wash with water and soap and rinse thoroughly. Rub in Ca-gluconate solution or Ca-gluconate gel immediately. Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

Eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

Most important symptoms and effects, both acute and delayed:

No further relevant information available.

Indication of any immediatemedical attention and special treatment needed:

No further relevant information available.

5. FIREFIGHTING MEASURES

Extinguishing media:

Extinguishing media:

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

Special hazards arising from the substance or mixture:

Formation of toxic gases is possible during heating or in case of fire. Hydrogen fluoride (HF).

Advice for firefighters:

Protective measures in fire:

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6. ACCIDENTAL RELEASE MEASURE

Personal precautions, protective equipment and emergency procedures:

Not required.

Environmental precautions:

Dilute with plenty of water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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.

7. HANDLING AND STORAGE

Precautions for safe handling:

Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. Open and handle receptacle with care.

Information about fire - and explosion protection:

Keep respiratory protective device available.

Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Not required.

Further information about storage conditions:

Keep container tightly sealed.

Specific end use(s):

No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Component	WEL
phosphoric acid 75%	Short-term value: 2 mg/m Long-term value: 1 mg/m
hydrofluoric acid	Short-term value: 2.5 mg/m , 3 ppm Long-term value: 1.5mg/m , 1.8 ppm

Ingredient comments:

WEL = Workplace Exposure Limits

Exposure controls:

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. Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Respiratory equipment:

Not necessary if room is well-ventilated. 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

Synthetic rubber gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves:

Butyl rubber (BR)

Fluorocarbon rubber (Viton)

Recommended thickness of the material: 0.7mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

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.

For the permanent contact gloves made of the following materials are suitable:

Butyl rubber (BR)

Fluorocarbon rubber (Viton)

For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Natural rubber (NR)

Chloroprene rubber (CR)

PVC gloves

Eye protection:



Tightly sealed goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance:	Plastic pen.
Form:	Liquid.
Colour:	Colorless.
Odour:	Characteristic.
Odour threshold:	Not determined.
Boiling point (°C):	100 C.
Melting point (°C):	Undetermined.
pH-value:	Not determined.
Flash point:	95 C
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	445 C
Decomposition temperature:	Not determined.
Self-igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	2.7 Vol %
Upper:	15.6 Vol %
Vapour pressure at 20 °C:	1 hPa
Density:	1.058 g/cm ³
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in / Miscibility with water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
VOC (EC):	81.00 %
Other information:	
No further relevant information available.	

10. STABILITY AND REACTIVITY

Reactivity:

Chemical stability:

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

Possibility of hazardous reactions:
No dangerous reactions known.

Conditions to avoid:
No further relevant information available.

Incompatible materials:
No further relevant information available.

Hazardous decomposition products:
No dangerous decomposition products known.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity:

LD/LC50 values relevant for classification:

Components	Oral	Dermal
Hydroxybutanoic acid lactone	LD50 1540 mg/kg (rat)	LD50 5000 mg/kg (gui)
hydrogen fluoride*	LD50 1276 mg/kg (rat)	LD50 5 mg/kg (ATE)

* - **Inhalative** - LC50/4h 0.5 mg/l (ATE)

Primary irritant effect:

on the skin: Causes severe skin burns and eye damage.
on the eye: Causes serious eye damage.

Sensitization:

No sensitizing effects known.

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:
Harmful,
Irritant.

12. ECOLOGICAL INFORMATION

Toxicity:

Aquatic toxicity:

No further relevant information available.

Persistence and degradability:

No further relevant information available.

Behaviour in environmental systems:

Bioaccumulative potential:

No further relevant information available.

Mobility in soil:

No further relevant information available.

Additional ecological information:

General notes: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
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.

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects:

No further relevant information available.

13. DISPOSAL CONSIDERATIONS

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.

14. TRANSPORT INFORMATION

UN number:

ADR, ADN, IMDG, IATA: UN2810

UN proper shipping name:

ADR, ADN: 2810 TOXIC LIQUID, ORGANIC, N.O.S. (HYDROGEN FLUORIDE)
 IMDG, IATA: TOXIC LIQUID, ORGANIC, N.O.S. (HYDROGEN FLUORIDE)

Transport hazard class(es):

ADR, ADN, IMDG, IATA: 6.1 (T1) Toxic substances. 6.1
 6.1 Toxic substances. 6.1

Packing group:

ADR, IMDG, IATA: III

Environmental hazards:

Marine pollutant: No

Special precautions for user:

Hazard identification number: Warning: Toxic substances.
 (Kemler code): 60

EMS Number:

Segregation groups F-A,S-A
 Stowage Category Acids
 Stowage Code A
 SW2 Clear of living quarters.

Maritime transport in bulk according to IMO instruments:

Not applicable.

Transport/Additional information:

ADR 5L
 Limited quantities (LQ) Code: E1
 Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 1000 ml
 Transport category 2
 Tunnel restriction code E

IMDG

5L
 Limited quantities (LQ) Code: E1
 Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.
 (HYDROGEN FLUORIDE), 6.1, III

15. REGULATORY INFORMATION

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

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

Hazard pictograms:

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



GHS05 GHS06

Signal word: Danger

Hazard-determining components of labelling: 4-Hydroxybutanoic acid lactone
hydrofluoric acid
phosphoric acid

Hazard statements: H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.

Precautionary statements: P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.
P310: Immediately call a POISON CENTER/doctor.
P321: Specific treatment (see on this label).
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P405: Store locked up.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Directive 2012/18/EU

Named dangerous substances -ANNEX I: None of the ingredients is listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

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.

Relevant phrases: H300 Fatal if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.

Department issuing SDS: Abteilung Umweltschutz

Contact: Labor

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 Harmonized System of Classification and Labelling of Chemicals.

EINECS:

European Inventory of Existing Commercial Chemical Substances.

ELINCS:

European List of Notified Chemical Substances.

CAS:

Chemical Abstracts Service (division of the American Chemical Society).

VOC:

Volatile Organic Compounds (USA, EU).

LC50:

Lethal concentration, 50 percent.

LD50:

Lethal dose, 50 percent.

PBT:

Persistent, Bioaccumulative and Toxic

vPvB:

very Persistent and very Bioaccumulative

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 1: Acute toxicity – 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

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

DISCLAIMER:

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.