

**-MATERIAL SAFETY DATA SHEET-****1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY**

Product name : Flusol forte.
Supplier : Houweling International B.V.
Klappolder 104
2665 LP Bleiswijk
Phone: 00 31 10-440 1166
Fax: 00 31 10-511 8610
Telephone number for emergency : 00 31 30-748888
(National Poisons Information Centre, only accessible in case of accidental poisoning to a doctor).

2. COMPOSITION AND INFORMATION ON INGREDIENTS

In accordance with EC directives this product should be considered as a preparation.

Description of the substances responsible for the hazards classification.

Hydrofluoric acid (> 7%)

CAS Number: 7664-39-3
Concentration limit for symbol T + C: 7% from
Concentration limit for symbol T, C: From 1%
Concentration limit for symbol Xn: From 0.1%
T + symbol C: R26/27/28 R35

3. HAZARDS

Specific hazards: Highly corrosive and toxic. Contact with hydrofluoric acid can result in serious bodily injury that in severe circumstances may cause death.

4. FIRST AID MEASURES

Skin Contact: Rinse with water and calcium gluconaat cream / gel applied to the infected area until at least 15 minutes after the disappearance of pain. If no salve present, continue flushing with water and transport to hospital.

Inhalation: Fresh light, resting, half sitting position and transport to hospital

Eye contact: Min. 15 minutes rinse with water and consult an eye specialist.

Ingestion: Rinse mouth with milk or water.

NOT induce vomiting and immediately transport to hospital

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: All extinguishing agents can be used.

6. ACCIDENTAL RELEASE MEASURES OF THE SUBSTANCE

Evacuate the area and warn experts.

Personal precautions: Avoid contact with the product. Proper breathing apparatus with a full face mask, boots and chemical durable suit, gloves: Rubber or synthetic

Methods for cleaning / absorption: The product if spilled should be washed down with generous amounts of water. NOT absorb in metal or glass.

Other observations: None

**-MATERIAL SAFETY DATA SHEET-****7. HANDLING AND STORAGE**

Handling: No action if proper handling;

Storage: cool and dry place with ventilation along the floor.

Separate from other products. Provide adequate ventilation in the workplace.

8. MEASURES EXPOSURE CONTROLS / PERSONAL PROTECTION

- Exposure Limits MAC values:
- Hydrofluoric acid: MAC value (as HF) 2.5 mg/m³
- Avoid all contact with skin, eyes and inhalation.
- To work with appropriate protective clothing protective gloves (rubber or PVC) and face shield or eye protection in combination with breathing protection (filter type E).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Odour	Irritating
Colour	Colourless
Density	1.076 kg / l at 20 degrees Celsius
Boiling point	> 100 ° C
Water solubility	Soluble (in water)
PH value (at 20 ° C)	1.9

10 STABILITY AND REACTIVITY

Stable under normal circumstances.

- Reacts violently with strong bases and metals to form an explosive gas.
- The product damaged glass and other silicon compounds.

11 TOXICOLOGICAL INFORMATION

Direct toxic (lethal) in the following situation:

Hydrofluoric Acid Water Inhalation rat	LC50 1.07mg/1/h
Hydrofluoric Acid Water Inhalation	LC50 Mouse 0.27mg/1/h

- the product is corrosive to the eyes, skin, mucous membranes and respiratory organs.
- Inhalation of vapour may cause pulmonary oedema, in severe cases with risk of death.
- Inhalation, ingestion and burning of large areas of skin, a decrease in calcium and magnesium in the serum cause.
- Risk of bone deformity.

Additional information

Based on our experience and be provided information, we can see that it has no harmful effects, if properly handled.

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Eco toxicity: Hydrofluoric acid EC50/24h 10.6mg / l (daphnia)

CAUTION! Not undiluted to surface water, groundwater or drain.

13 CONSIDERATIONS OF REMOVAL

Remove chemical wastage in agreement with the local and national regulation.

14 TRANSPORT INFORMATION

RID / ADR Class: 8 (6.1), II
Transport Name: Hydrofluoric acid, with a maximum of 60% hydrofluoric
IMDG Code: 8
MFAG: 750
ICAO / IATA-DGR: -
UN-No: 1790
Further information:: Independent of other products

ADR / RID
Class 8
Number 6.1

IMO / IMDG
Class 8
Proper shipping name: Flusol forte

ICAO / IATA
Class 8
Proper shipping name: Flusol forte

15 REGULATORY INFORMATION

Symbol: T + C
Hazard designation: Highly toxic, Corrosive
Contains: Hydrofluoric acid > 7%

R-phrases:

R26/27/28: Very poisons by inhalation, Ingestion by mouth and contact with skin.
R35: Causes serious burning units

S-phrases:

S36/37/39: Wear suitable protective clothing, gloves and protection for the eyes and face
S7 / 9: Closed packaging store on good ventilated area.
S28: By contact with eyes immediately rinse with lots of water.
S26: By contact with eyes immediately rinse with lots of water and get medical advise.
S51: only use on good ventilated areas.
S45: In case of accident or if to feel unwell, immediately get medical advise



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16 OTHER INFORMATION

This information is based on the current state of knowledge and relates to the concentrated product. This leaves the safety requirements and is therefore no technical information on the scope.

For further information:

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