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MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1. Product identifiers

Product name: Hydrofluoric acid, GR 48%, electronic grade Product Code: H 1532 CAS No : 7664-39-3

1.2. Relevant identified uses of the substance or mixture and uses advised against Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email <u>info@ottokemi.com</u>

1.4. Emergency telephone number Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 Acute toxicity, Oral (Category 2), H300 Acute toxicity, Inhalation (Category 2), H330 Acute toxicity, Dermal (Category 1), H310 Skin corrosion (Sub-category 1A), H314 Serious eve damage (Category 1), H318 For the full text of the H-Statements mentioned in this Section, see Section 16. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Danger Hazard statement(s) H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled. H314 Causes severe skin burns and eye damage. Precautionary statement(s) P260 Do not breathe mist or vapors. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable P304 + P340 + P310 for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Statements 2.3 Other hazards This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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Supplemental Hazard

none

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SECTION 3: Composition/information on ingredients

3.2 Mixtures Formula : HF

Component	Classification	Concentration
Hydrofluoric acid		
CAS-No. 7664-39-3	Acute Tox. 2; Acute Tox. 1; Skin Corr. 1A;	>= 30 - < 50 %
EC-No. 231-634-8	Eye Dam. 1; H300, H330, H310, H314,	
	H318 Concentration limits: >= 7 %: Skin	
	Corr. 1A, H314; 1 - < 7 %: Skin Corr. 1B,	
	H314; 0,1 - < 1 %: Eye Irrit. 2, H319;	

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance. Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure. In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician. First treatment with calcium gluconate paste.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media
No data available
5.2 Special hazards arising from the substance or mixture
Hydrogen fluoride
Not combustible.
5.3 Advice for firefighters
No data available
5.4 Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For personal protection see section 8.
- 6.2 Environmental precautions
- No data available

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6.3 Methods and materials for containment and cleaning up No data available6.4 Reference to other sectionsFor disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities
Do not store in glass
Storage class
Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials
7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters Ingredients with workplace control parameters 8.2 Exposure controls Personal protective equipment Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Full contact Material: Chloroprene Minimum layer thickness: 0,6 mm Break through time: > 480 min Material tested:Camapren® (KCL 722 / Aldrich Z677493, Size M) Splash contact Material: Nature latex/chloroprene Minimum layer thickness: 0,6 mm Break through time: 180 min Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario Control of environmental exposure Prevent product from entering drains. **SECTION 9: Physical and chemical properties** 9.1 Information on basic physical and chemical properties

a) Physical state	liquid
b) Color	No data available
c) Odor	No data available
d) Melting	No data available
point/freezing point	
e) Initial boiling point	No data available
and boiling range	
f) Flammability (solid,	No data available
gas)	
g) Upper/lower	No data available

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flammability or explosive limits h) Flash point i) Autoignition temperature j) Decomposition temperature k) pH l) Viscosity

m) Water solubility n) Partition coefficient: n-octanol/water o) Vapor pressure p) Density Relative density q) Relative vapor density r) Particle characteristics s) Explosive properties t) Oxidizing properties 9.2 Other safety information No data available

SECTION 10: Stability and reactivity

10.1 Reactivity No data available 10.2 Chemical stability No data available 10.3 Possibility of hazardous reactions No data available 10.4 Conditions to avoid Reacts dangerously with glass. 10.5 Incompatible materials Strong oxidizing agents, glass 10.6 Hazardous decomposition products In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L. Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Special Remarks on Toxicity to Animals: Not available. Special Remarks on Othonic Effects on Humans: Not available. Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity Mixture No data available 12.2 Persistence and degradability No data available 12.3 Bioaccumulative potential No data available 12.4 Mobility in soil No data available

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No data available No data available

No data available

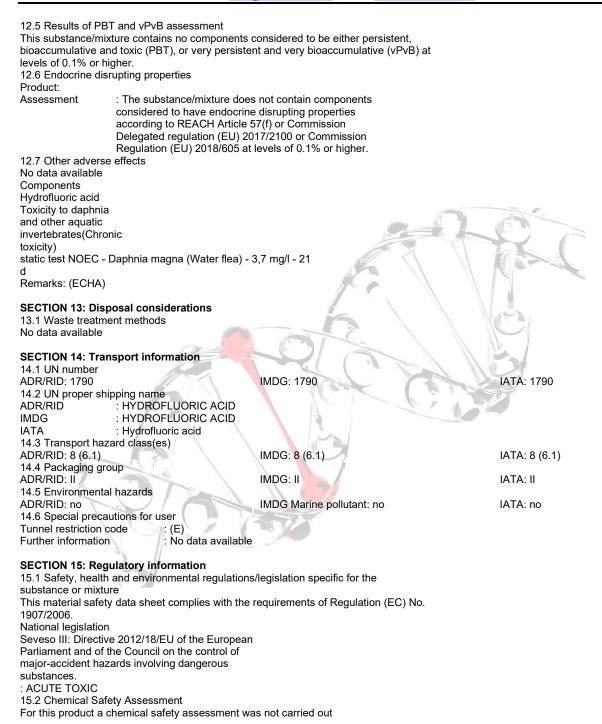
No data available Viscosity, kinematic: No data available Viscosity, dynamic: No data available No data available No data available

No data available No data available No data available No data available

No data available

Not classified as explosive. none

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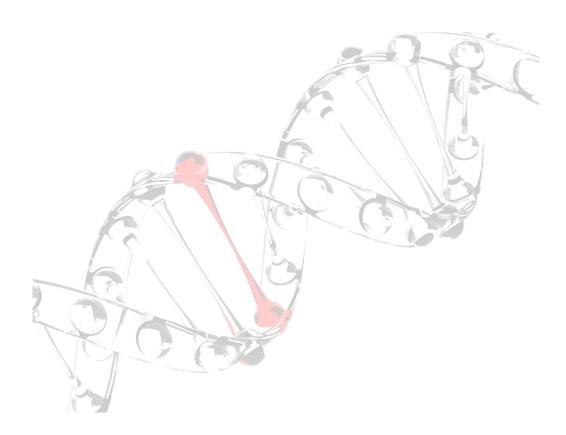
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SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.



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