



HYDROGEN FLUORIDE

Safety Data Sheet

In accordance with the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014

Date of issue: 25/03/2019 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : HYDROGEN FLUORIDE
EC Index-No. : 009-002-00-6
EC-No. : 231-634-8
CAS-No. : 7664-39-3
REACH registration No : 01-2119458860-33
Product code : EIGA070
Formula : HF
Product group : Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : Test gas/Calibration gas,Chemical reaction / Synthesis,Use for manufacture of electronic/photovoltaic components,Laboratory use,Industrial and professional. Perform risk assessment prior to use,Contact supplier for more information on uses.
Uses advised against : Consumer use.

1.3. Details of the supplier of the safety data sheet

KOYUNCU TİCARET A.Ş.
GEBZE 5 (KİMYA) İHTİSAS OSB GEBKİM OSB RECEP YAZICI CAD.NO:4
DİLOVASI
KOCAELİ - Türkiye
T +90 262 658 06 05
safis@koyuncutas.com - www.koyuncutas.com

1.4. Emergency telephone number

| Country | Organisation/Company | Address | Emergency number | Comment |
|---------|---|--|------------------|---|
| Turkey | Ulusal Zehir Merkezi (UZEM) Refik Saydam Hıfzıssıhha Merkezi Başkanlığı | Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 06590 Ankara | 114 | Information is provided to public and medical personnel on poisoning incidents via 114. |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Acute toxicity (oral), Category 2 H300
Acute toxicity (dermal), Category 1 H310
Acute toxicity (inhalation:gas) Category 2 H330
Skin corrosion/irritation, Category 1A H314
Serious eye damage/eye irritation, Category 1 H318

Full text of H and EUH statements: see section 16

2.2. Label elements

Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Hazard pictograms (SEA) :



GHS05

GHS06

Signal word (SEA) :

Danger

Hazard statements (SEA) :

H300 - Fatal if swallowed.
H310 - Fatal in contact with skin.
H314 - Causes severe skin burns and eye damage.
H330 - Fatal if inhaled.

Precautionary statements (SEA) :

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.



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P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P301+P310 - IF SWALLOWED: Immediately dial 114 for the NATIONAL POISON CENTER or call a doctor/physician
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+P350 - IF ON SKIN: Gently wash with plenty of soap and water.
P302+P352 - IF ON SKIN: Wash with plenty of water/...
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.
P310 - Immediately dial 114 for the NATIONAL POISON CENTER or call a doctor/physician
P320 - Specific treatment is urgent (see supplemental first aid instruction on this label).
P321 - Specific treatment (see supplemental first aid instruction on this label).
P322 - Specific measures (see supplemental first aid instruction on this label).
P330 - Rinse mouth.
P363 - Wash contaminated clothing before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

Child-resistant fastening : Not applicable
Tactile warning : Not applicable

2.3. Other hazards

Other hazards not contributing to the classification

Other hazards not contributing to the classification : None.

SECTION 3: Composition/information on ingredients

3.1. Substances

| Name | Product identifier | % | Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013. |
|-------------------|---|-----|--|
| HYDROGEN FLUORIDE | (CAS-No.) 7664-39-3 (EC-No.) 231-634-8 (EC Index-No.) 009-002-00-6 (REACH-no) 01-2119458860-33 | 100 | Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:gas), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 |

Full text of H and EUH statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
First-aid measures after skin contact : Remove contaminated clothing. Drench affected area with water for at least 15 minutes. In case of skin contact, wearing rubber gloves rub 2.5% calcium gluconate gel continuously into the affected area for 1.5 hours or until further medical care is available.
First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.
First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed : May cause severe chemical burns to skin and cornea. Suitable first-aid treatment should be immediately available. Seek medical advice before using product. Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea. Prolonged exposure to small concentrations may result in pulmonary oedema. Delayed adverse effects possible. Refer to section 11.



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

Obtain medical assistance. Treat with corticosteroid spray as soon as possible after inhalation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray or fog.
Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.
Hazardous combustion products : None that are more hazardous than the product itself.

5.3. Advice for firefighters

Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. Move containers away from the fire area if this can be done without risk.
Special protective equipment for fire fighters : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. Standard EN 943-2: Protective clothing against liquid and gaseous chemicals, aerosols and solid particles. Gas-tight chemical protective suits for emergency teams. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Try to stop release. Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Use chemically protective clothing. Ensure adequate air ventilation. Monitor concentration of released product. Act in accordance with local emergency plan. Stay upwind.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Reduce vapour with fog or fine water spray. Try to stop release.

6.3. Methods and material for containment and cleaning up

Methods and material for containment and cleaning up : Hose down area with water. Wash contaminated equipment or sites of leaks with copious quantities of water.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product : Installation of a cross purge assembly between the cylinder and the regulator is recommended. Purge system with dry inert gas (e.g. helium or nitrogen) before gas is introduced and when system is placed out of service. Avoid exposure, obtain special instructions before use. Avoid contact with aluminium. The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Avoid suck back of water, acid and alkalis. Do not breathe gas. Avoid release of product into work area.



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Safe handling of the gas receptacle

: Refer to supplier's container handling instructions. Do not allow backfeed into the container. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities

: EIGA recommends a pressure check be conducted every two years for continued storage of unused product. Excess pressure must be vented through an appropriate scrubber system. If user wishes to return cylinder after two years, please contact your supplier for return. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| HYDROGEN FLUORIDE (7664-39-3) | |
|--|--|
| Turkey - Occupational Exposure Limits | |
| Local name | Hidrojen florür |
| OEL TWA (mg/m ³) | 1.5 mg/m ³ |
| OEL TWA (ppm) | 1.8 ppm |
| OEL STEL (mg/m ³) | 2.5 mg/m ³ |
| OEL STEL (ppm) | 3 ppm |
| Regulatory reference | 12 Ağustos 2013 Tarihli ve 28733 Sayılı Resmî Gazete |
| EU - Occupational Exposure Limits | |
| Local name | Hydrogen fluoride |
| IOELV TWA (mg/m ³) | 1.5 mg/m ³ |
| IOELV TWA (ppm) | 1.8 ppm |
| IOELV STEL (mg/m ³) | 2.5 mg/m ³ |
| IOELV STEL (ppm) | 3 ppm |
| Regulatory reference | COMMISSION DIRECTIVE 2000/39/EC |
| HYDROGEN FLUORIDE (7664-39-3) | |
| DNEL/DMEL (Workers) | |
| Acute - systemic effects, inhalation | 2.5 mg/m ³ |
| Acute - local effects, inhalation | 2.5 mg/m ³ |
| Long-term - systemic effects, inhalation | 1.5 mg/m ³ |
| Long-term - local effects, inhalation | 1.5 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.9 mg/l |
| PNEC aqua (marine water) | 0.9 mg/l |
| PNEC (Soil) | |
| PNEC soil | 11 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 51 mg/l |



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8.2. Exposure controls

| | |
|----------------------------------|--|
| Appropriate engineering controls | : Provide adequate general and local exhaust ventilation. Product to be handled in a closed system and under strictly controlled conditions. Preferably use permanent leak-tight installations (e.g. welded pipes). Gas detectors should be used when toxic gases may be released. Consider the use of a work permit system e.g. for maintenance activities. Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits (where available). |
| Personal protective equipment | : A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected. |
| Hand protection | : Wear chemically resistant protective gloves. Standard EN 374 - Protective gloves against chemicals. Consult glove manufacturer's product information on material suitability and material thickness. The breakthrough time of the selected gloves must be greater than the intended use period. Permeation time: minimum >480min long term exposure : material / thickness Fluoroelastomer (Viton®) (FKM) / 0.7 [mm]. Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risk. |
| Eye protection | : Wear goggles and a face shield when transfilling or breaking transfer connections. Provide readily accessible eye wash stations and safety showers. Standard EN 166 - Personal eye-protection - specifications |
| Respiratory protection | : Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known. Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers. Gas filters do not protect against oxygen deficiency. Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks. Keep self contained breathing apparatus readily available for emergency use. Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Recommended: Filter E (yellow). |
| Thermal hazard protection | : None in addition to the above sections. |
| Environmental exposure controls | : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment. |
| Other information | : Keep suitable chemically resistant protective clothing readily available for emergency use. Standard EN943-1 - Full protective suits against liquid, solid and gaseous chemicals. Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | : Gas |
| Molecular mass | : 20 g/mol |
| Colour | : Colourless. Gives off white fumes in moist air. |
| Odour | : Pungent. |
| Odour threshold | : Odour threshold is subjective and inadequate to warn of overexposure. |
| pH | : If dissolved in water pH-value will be affected. |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Relative evaporation rate (ether=1) | : Not applicable for gases and gas mixtures. |
| Melting point | : -83 °C |
| Freezing point | : -83 °C |
| Boiling point | : 19.5 °C |
| Flash point | : Not applicable for gases and gas mixtures. |
| Critical temperature | : 188 °C |
| Auto-ignition temperature | : Non flammable. |
| Decomposition temperature | : Not applicable. |
| Flammability (solid, gas) | : Non flammable. |
| Vapour pressure | : 1 bar(a) |
| Vapour pressure at 50 °C | : Not applicable. |
| Critical pressure | : 6480 kPa |
| Relative vapour density at 20 °C | : Not applicable. |



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| | |
|----------------------|--|
| Relative density | : 0.97 |
| Relative gas density | : Lighter or similar to air. |
| Solubility | : Water: Completely soluble. |
| Log Pow | : Not applicable for inorganic products. |
| Log Kow | : Not applicable for gas mixtures. |
| Viscosity, kinematic | : No reliable data available. |
| Viscosity, dynamic | : No reliable data available. |
| Explosive properties | : Not applicable. |
| Oxidising properties | : Not applicable. |
| Explosive limits | : Non flammable. |

9.2. Other information

Additional information : Considered heavier than air because of hydrogen bonding between molecules. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No reactivity hazard other than the effects described in sub-sections below.

10.4. Conditions to avoid

Avoid moisture in installation systems.

10.5. Incompatible materials

Reacts with most metals in the presence of moisture, liberating hydrogen, an extremely flammable gas. With water causes rapid corrosion of some metals. Reacts with water to form corrosive acids. May react violently with alkalis. Moisture. For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled.

| HYDROGEN FLUORIDE (7664-39-3) | |
|-------------------------------|--------------------|
| LC50 inhalation rat (ppm) | 483 ppm/4h |
| ATE (SEA) (oral) | 5 mg/kg bodyweight |
| ATE (SEA) (dermal) | 5 mg/kg bodyweight |
| ATE (SEA) (Gases) | 483 ppm/4h |

| | |
|-----------------------------------|--|
| Skin corrosion/irritation | : Causes severe skin burns and eye damage. pH: If dissolved in water pH-value will be affected. |
| Serious eye damage/irritation | : Causes serious eye damage. pH: If dissolved in water pH-value will be affected. |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| Target organ(s) | : Respiratory system. |
| STOT-repeated exposure | : Not classified |
| Target organ(s) | : Respiratory system. Kidneys. liver. Cardiovascular system. Central nervous system. |
| Aspiration hazard | : Not classified |



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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Classification criteria are not met.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

| HYDROGEN FLUORIDE (7664-39-3) | |
|---------------------------------|---------------|
| LC50 96 h - Fish [mg/l] | 51 - 340 mg/l |
| EC50 48h - Daphnia magna [mg/l] | 97 - 352 mg/l |
| EC50 72h - Algae [mg/l] | 43 - 122 mg/l |

12.2. Persistence and degradability

| HYDROGEN FLUORIDE (7664-39-3) | |
|-------------------------------|--|
| Persistence and degradability | Not applicable for inorganic products. |

12.3. Bioaccumulative potential

| HYDROGEN FLUORIDE (7664-39-3) | |
|-------------------------------|--|
| Log Pow | Not applicable for inorganic products. |
| Log Kow | Not applicable for gas mixtures. |
| Bioaccumulative potential | No data available. |

12.4. Mobility in soil

| HYDROGEN FLUORIDE (7664-39-3) | |
|-------------------------------|--|
| Mobility in soil | No additional information available |
| Ecology - soil | Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely. |

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : Not classified as PBT or vPvB.

12.6. Other adverse effects

Ozone : Not classified
Other adverse effects : May cause pH changes in aqueous ecological systems.
Effect on the ozone layer : None.
Effect on global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations. Regulation on Incineration of Waste Materials published in the Official Journal numbered 27721 on October 6, 2010. Waste Management Regulation published in the Official Journal numbered 29314 on April 2, 2015.

Waste treatment methods : Contact supplier if guidance is required. Must not be discharged to atmosphere. Ensure that the emission levels from local regulations or operating permits are not exceeded. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.eu> for more guidance on suitable disposal methods. Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction. Return unused product in original cylinder to supplier.

Additional information : External treatment and disposal of waste should comply with applicable local and/or national regulations.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : 16 05 04 *: Gases in pressure containers (including halons) containing hazardous substances.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

| ADR | IMDG | IATA | ADN | RID |
|--------------------------------------|------------------------------|------------------------------|----------------|----------------|
| 14.1. UN number | | | | |
| 1052 | 1052 | 1052 | Not applicable | Not applicable |
| 14.2. UN proper shipping name | | | | |
| HYDROGEN FLUORIDE, ANHYDROUS | HYDROGEN FLUORIDE, ANHYDROUS | Hydrogen fluoride, anhydrous | Not applicable | Not applicable |



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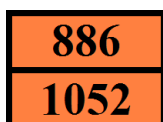
| ADR | IMDG | IATA | ADN | RID |
|---|---|---|------------------------------------|------------------------------------|
| Transport document description | | | | |
| UN 1052 HYDROGEN FLUORIDE, ANHYDROUS, 8 (6.1), I, (C/D) | UN 1052 HYDROGEN FLUORIDE, ANHYDROUS, 8 (6.1), I | UN 1052 Hydrogen fluoride, anhydrous, 8 | Not applicable | Not applicable |
| 14.3. Transport hazard class(es) | | | | |
| 8 (6.1) | 8 (6.1) | 8 (6.1) | Not applicable | Not applicable |
| | | Not applicable | Not applicable | Not applicable |
| 14.4. Packing group | | | | |
| I | I | Not applicable | Not applicable | Not applicable |
| 14.5. Environmental hazards | | | | |
| Dangerous for the environment : No | Dangerous for the environment : No Marine pollutant : No | Dangerous for the environment : No | Dangerous for the environment : No | Dangerous for the environment : No |
| No supplementary information available | | | | |

14.6. Special precautions for user

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment, Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency, Before transporting product containers:
- Ensure there is adequate ventilation, - Ensure that containers are firmly secured, - Ensure cylinder valve is closed and not leaking, - Ensure valve outlet cap nut or plug (where provided) is correctly fitted, - Ensure valve protection device (where provided) is correctly fitted.

- Overland transport

Classification code (ADR) : CT1
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P200
Mixed packing provisions (ADR) : MP2
Portable tank and bulk container instructions (ADR) : T10
Portable tank and bulk container special provisions (ADR) : TP2
Tank code (ADR) : L21DH(+)
Tank special provisions (ADR) : TU14, TU34, TC1, TE21, TA4, TT9, TM3
Vehicle for tank carriage : AT
Transport category (ADR) : 1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28, CV34
Special provisions for carriage - Operation (ADR) : S14
Hazard identification number (Kemler No.) : 886
Orange plates :



Tunnel restriction code (ADR) : C/D

- Transport by sea

Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P200



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|------------------------------------|---|
| Tank instructions (IMDG) | : T10 |
| Tank special provisions (IMDG) | : TP2 |
| EmS-No. (Fire) | : F-C |
| EmS-No. (Spillage) | : S-U |
| Stowage category (IMDG) | : D |
| Stowage and handling (IMDG) | : SW2 |
| Properties and observations (IMDG) | : Colourless, fuming and highly volatile liquid with an irritating and pungent odour. Highly corrosive to metals and glass in the presence of moisture. Boiling point: 20°C . Toxic if swallowed, by skin contact or by inhalation. Causes severe burns to skin, eyes and mucous membranes. |
| MFAG-No | : 125 |

- Air transport

| | |
|--|-------------|
| PCA Limited quantities (IATA) | : Forbidden |
| PCA limited quantity max net quantity (IATA) | : Forbidden |
| PCA packing instructions (IATA) | : Forbidden |
| PCA max net quantity (IATA) | : Forbidden |
| CAO packing instructions (IATA) | : Forbidden |
| CAO max net quantity (IATA) | : Forbidden |
| ERG code (IATA) | : 8P |

- Inland waterway transport

No data available

- Rail transport

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. National regulations

| | |
|----------------------------|--|
| Local regulations (Turkey) | : Regulation on Health and Safety Precautions When Working with Carcinogenic and Mutagenic Substances published in the Official Journal numbered 28730 on August 6, 2013 Regulation on Health and Safety Precautions When Working with Chemical Substances published in the Official Journal numbered 28733 on August 12, 2013 Personal Protective Equipment Regulation published in the Official Journal numbered 26361 on November 29, 2006 Regulation on Use of Personal Protective Equipments in Workplaces published in the Official Journal numbered 28695 on July 2, 2013 Aerosol Containers Regulation published in the Official Journal numbered 24246 on November 30, 2000 Regulation on Transportation of Dangerous Goods by Road published in the Official Journal numbered 28801 on October 24, 2013 Simple Pressurized Containers Regulation published in the Official Journal numbered 29877 on November 3, 2016. |
|----------------------------|--|

This product doesn't contain any substances that is controlled or prohibited for use according to the Regulation for Reduction of Ozone Depleting Substances published in the Official Journal numbered 27052 on November 12, 2008.

Restrictions on use : None.

SECTION 16: Other information

Abbreviations and acronyms:

| | |
|--|---|
| | ATE - Acute Toxicity Estimate |
| | CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| | REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| | EINECS - European Inventory of Existing Commercial Chemical Substances |
| | CAS# - Chemical Abstract Service number |
| | PPE - Personal Protection Equipment |
| | LC50 - Lethal Concentration to 50 % of a test population |



HYDROGEN FLUORIDE

Safety Data Sheet

In accordance with the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014

Date of issue: 25/03/2019 Version: 1.0

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|--|---|
| | RMM - Risk Management Measures |
| | PBT - Persistent, Bioaccumulative and Toxic |
| | vPvB - Very Persistent and Very Bioaccumulative |
| | STOT- SE : Specific Target Organ Toxicity - Single Exposure |
| | CSA - Chemical Safety Assessment |
| | EN - European Standard |
| | UN - United Nations |
| | ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road |
| | IATA - International Air Transport Association |
| | IMDG code - International Maritime Dangerous Goods |
| | RID - Regulations concerning the International Carriage of Dangerous Goods by Rail |
| | WGK - Water Hazard Class |
| | STOT - RE : Specific Target Organ Toxicity - Repeated Exposure |

Data sources : Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Training advice : Users of breathing apparatus must be trained. Ensure operators understand the toxicity hazard.

Other information : Classification using data from databases maintained by the European Industrial Gases Association (EIGA).

Full text of H- and EUH-statements

| | |
|-------------------------------|---|
| Acute Tox. 1 (Dermal) | Acute toxicity (dermal), Category 1 |
| Acute Tox. 2 (Inhalation:gas) | Acute toxicity (inhalation:gas) Category 2 |
| Acute Tox. 2 (Oral) | Acute toxicity (oral), Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1A |
| H300 | Fatal if swallowed. |
| H310 | Fatal in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H330 | Fatal if inhaled. |

Safety Data Sheet author's

Name : Ezgi Üstün

Certificate number : NBC 01.77.03

Certificate valid until : 28/03/2019

Contact information : eustun@koyuncutas.com

SDS Turkey

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.