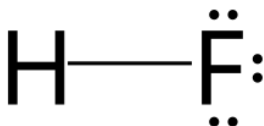


## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Mixture  
Trade name : HYDROFLUORIC ACID 48% AR/ACS  
EC Index-No. : 009-003-00-1  
EC-No. : 231-634-8  
CAS-No. : 7664-39-3  
Product code : 00175  
Type of product : Acids  
Formula : HF  
Chemical structure :



Synonyms : Hydrogen fluoride 48% solution

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

#### Relevant identified uses

Industrial/Professional use spec : Industrial  
For professional use only  
Use of the substance/mixture : Laboratory chemicals  
Reagent  
Manufacture of substances

### 1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.  
107 Wode House Road, Jehangir Villa, Colaba  
400005 Mumbai  
INDIA  
T +91 22 6663 6663, F +91 22 6663 6699  
[info@lobachemie.com](mailto:info@lobachemie.com), [www.lobachemie.com](http://www.lobachemie.com)

### 1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (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 [CLP]

Acute toxicity (oral), Category 1 H300  
Acute toxicity (dermal), Category 1 H310  
Acute toxicity (inhal.), Category 2 H330  
Skin corrosion/irritation, Category 1 H314

Full text of H- and EUH-statements: see section 16

#### Adverse physicochemical, human health and environmental effects

Fatal in contact with skin. Fatal if swallowed. Fatal if inhaled. Causes severe skin burns and eye damage.

# HYDROFLUORIC ACID 48% AR/ACS

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05

GHS06

Signal word (CLP)

: Danger

Contains

: HYDROGEN FLUORIDE

Hazard statements (CLP)

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

Precautionary statements (CLP)

: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.

### 2.3. Other hazards

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
WATER	CAS-No.: 7732-18-5 EC-No.: 231-791-2	49 – 52	Not classified
HYDROGEN FLUORIDE	CAS-No.: 7664-39-3	48 – 51	Acute Tox. 1 (Inhalation), H330 Skin Corr. 1A, H314

Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general

: Call a physician immediately.

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. Call a physician immediately. Call a doctor.

First-aid measures after skin contact

: Wash with plenty of water/.... Take off immediately all contaminated clothing. Get medical advice/attention. Call a physician immediately. Rinse skin with water/shower.

First-aid measures after eye contact

: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Call a physician immediately.

First-aid measures after ingestion

: Rinse mouth. Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Call a physician immediately. Do not induce vomiting.

# HYDROFLUORIC ACID 48% AR/ACS

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects : Causes severe skin burns and eye damage.  
Symptoms/effects after inhalation : Fatal if inhaled.  
Symptoms/effects after skin contact : Fatal in contact with skin. Burns.  
Symptoms/effects after eye contact : Serious damage to eyes.  
Symptoms/effects after ingestion : Fatal if swallowed. Burns.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.  
Unsuitable extinguishing media : Do not use extinguishing media containing water.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.  
Explosion hazard : No direct explosion hazard.  
Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

#### For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.  
Emergency procedures : Evacuate unnecessary personnel. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection".  
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.  
Methods for cleaning up : Take up liquid spill into absorbent material. On land, sweep or shovel into suitable containers. Collect spillage.  
Other information : Dispose of materials or solid residues at an authorized site.

# HYDROFLUORIC ACID 48% AR/ACS

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	: Do not breathe vapours. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray.
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Packaging materials	: Store always product in container of same material as original container.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

#### Appropriate engineering controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Personal protection equipment

##### Personal protective equipment:

Wear recommended personal protective equipment.

##### Personal protective equipment symbol(s):



#### Eye and face protection

##### Eye protection:

Chemical goggles or face shield

#### Skin protection

##### Skin and body protection:

Wear a mask

##### Hand protection:

Protective gloves

#### Respiratory protection

##### Respiratory protection:

Wear appropriate mask

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Appearance	: Clear liquid.
Molecular mass	: 20.01 g/mol
Odour	: Acrid.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: -35 °C
Boiling point	: 105 °C
Flammability	: Non flammable.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: < 2
Viscosity, kinematic	: Not available
Solubility	: Water: Infinitely miscible
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 25 mm Hg at 20°C
Vapour pressure at 50°C	: Not available
Density	: 1.15 – 1.18 g/cm <sup>3</sup> at 20 °C
Relative density	: Not available
Relative vapour density at 20°C	: 1.97 (Air = 1)
Particle characteristics	: Not applicable

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours.

# HYDROFLUORIC ACID 48% AR/ACS

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### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Fatal if swallowed.  
Acute toxicity (dermal) : Fatal in contact with skin.  
Acute toxicity (inhalation) : Fatal if inhaled.

HYDROFLUORIC ACID 48% AR/ACS (7664-39-3)	
ATE CLP (oral)	0.5 mg/kg bodyweight
ATE CLP (dermal)	5 mg/kg bodyweight
ATE CLP (gases)	100 ppmv/4h
ATE CLP (vapours)	0.5 mg/l/4h
ATE CLP (dust,mist)	0.05 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns.  
pH: < 2

HYDROGEN FLUORIDE (7664-39-3)	
pH	Acidic

Serious eye damage/irritation : Assumed to cause serious eye damage  
pH: < 2

HYDROGEN FLUORIDE (7664-39-3)	
pH	Acidic

Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified

#### 11.2. Information on other hazards

##### Other information

Potential adverse human health effects and symptoms : Fatal if swallowed,Fatal in contact with skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Not classified

#### 12.2. Persistence and degradability

HYDROFLUORIC ACID 48% AR/ACS (7664-39-3)	
Persistence and degradability	Rapidly degradable

WATER (7732-18-5)	
Persistence and degradability	Rapidly degradable

# HYDROFLUORIC ACID 48% AR/ACS

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### HYDROGEN FLUORIDE (7664-39-3)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.
Ecological waste information	: Hazardous waste due to toxicity.

## SECTION 14: Transport information

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

### 14.1. UN number or ID number

UN-No. (ADR)	: UN 1790
UN-No. (IMDG)	: UN 1790
UN-No. (IATA)	: UN 1790
UN-No. (ADN)	: UN 1790
UN-No. (RID)	: UN 1790

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: HYDROFLUORIC ACID
Proper Shipping Name (IMDG)	: HYDROFLUORIC ACID
Proper Shipping Name (IATA)	: Hydrofluoric acid
Proper Shipping Name (ADN)	: HYDROFLUORIC ACID
Proper Shipping Name (RID)	: HYDROFLUORIC ACID
Transport document description (ADR) (ADR)	: UN 1790 HYDROFLUORIC ACID, 8 (6.1), II, (E)
Transport document description (IMDG)	: UN 1790 HYDROFLUORIC ACID, 8 (6.1), II
Transport document description (IATA)	: UN 1790 Hydrofluoric acid, 8 (6.1), II
Transport document description (ADN)	: UN 1790 HYDROFLUORIC ACID, 8 (6.1), II
Transport document description (RID)	: UN 1790 HYDROFLUORIC ACID, 8 (6.1), II

# HYDROFLUORIC ACID 48% AR/ACS

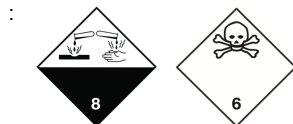
## Safety Data Sheet

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### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 8 (6.1)  
Danger labels (ADR) : 8, 6.1



#### IMDG

Transport hazard class(es) (IMDG) : 8 (6.1)  
Danger labels (IMDG) : 8, 6.1



#### IATA

Transport hazard class(es) (IATA) : 8 (6.1)  
Danger labels (IATA) : 8, 6.1



#### ADN

Transport hazard class(es) (ADN) : 8 (6.1)  
Danger labels (ADN) : 8, 6.1



#### RID

Transport hazard class(es) (RID) : 8 (6.1)  
Danger labels (RID) : 8, 6.1



### 14.4. Packing group

Packing group (ADR) : II  
Packing group (IMDG) : II  
Packing group (IATA) : II  
Packing group (ADN) : II  
Packing group (RID) : II

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-B  
Other information : No supplementary information available



# HYDROFLUORIC ACID 48% AR/ACS

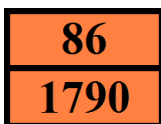
## Safety Data Sheet

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### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: CT1
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02
Mixed packing provisions (ADR)	: MP15
Portable tank and bulk container instructions (ADR)	: T8
Portable tank and bulk container special provisions (ADR)	: TP2
Tank code (ADR)	: L4DH
Tank special provisions (ADR)	: TU14, TE21
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Hazard identification number (Kemler No.)	: 86
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 2W
APP code	: B

#### Transport by sea

Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
Special packing provisions (IMDG)	: PP81
IBC packing instructions (IMDG)	: IBC02
IBC special provisions (IMDG)	: B20
Tank instructions (IMDG)	: T8
Tank special provisions (IMDG)	: TP2
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: SW1, SW2, H2
Segregation (IMDG)	: SGG1, SG36, SG49
Properties and observations (IMDG)	: Colourless liquid with an irritating odour. Highly corrosive to glass, other siliceous materials and most metals. Toxic if swallowed, by skin contact or by inhalation. Both the liquid and its fumes cause severe burns to skin, eyes and mucous membranes.
MFAG-No	: 157

#### Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
ERG code (IATA)	: 8P

#### Inland waterway transport

Classification code (ADN)	: CT1
Special provisions (ADN)	: 802
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Equipment required (ADN)	: PP, EP, TOX, A
Ventilation (ADN)	: VE02
Number of blue cones/lights (ADN)	: 2

# HYDROFLUORIC ACID 48% AR/ACS

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### Rail transport

Classification code (RID)	: CT1
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02
Mixed packing provisions (RID)	: MP15
Portable tank and bulk container instructions (RID)	: T8
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L4DH
Special provisions for RID tanks (RID)	: TU14, TE17, TE21
Transport category (RID)	: 2
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28
Colis express (express parcels) (RID)	: CE6
Hazard identification number (RID)	: 86

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### EU-Regulations

##### REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

##### Council Regulation (EC) for the control of dual-use items

Contains substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items: Hydrogen fluoride (7664-39-3).

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### National regulations

##### France

Occupational diseases	
Code	Description
RG 32	Occupational disorders caused by fluoride, hydrofluoric acid and its mineral salts

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### Germany

- Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1).  
Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).  
Major Accidents Ordinance (12. BImSchV) : Is not subject to the Major Accidents Ordinance (12. BImSchV)

### Netherlands

- SZW-lijst van kankerverwekkende stoffen : None of the components are listed  
SZW-lijst van mutagene stoffen : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

### Denmark

- Danish National Regulations : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### Poland

- Polish National Regulations : Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).  
Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).  
The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).  
Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).  
Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).  
Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).  
The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)  
Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).  
Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).  
ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Abbreviations and acronyms:

ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road

# HYDROFLUORIC ACID 48% AR/ACS

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acronyms:	
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety & Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)

# HYDROFLUORIC ACID 48% AR/ACS

## Safety Data Sheet

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### Abbreviations and acronyms:

TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

### Full text of H- and EUH-statements:

Acute Tox. 1 (Inhalation)	Acute toxicity (inhal.), Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.

Safety Data Sheet (SDS), EU

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.