



# Single-element Standard Solution for ICP. Titanium (Ti) 1000mg/l in HCl 5%, HF 0.5%

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 18/10/2015

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Version: 1.2

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : Single-element Standard Solution for ICP.  
Titanium (Ti) 1000mg/l in HCl 5%, HF 0.5%  
Product code : S061

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

##### 1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use  
Use of the substance/mixture : Certified reference material for laboratory use  
Function or use category : Laboratory chemicals

##### 1.2.2. Uses advised against

No additional information available

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

##### Spectracer UK Ltd.

Second Floor,  
27 Gloucester Place,  
London,  
W1U 8HU,  
United Kingdom.

Tel: +44 (0) 207 193 9114

Fax: +44 (0) 203 432 4686

Email: [contact@spectracer.co.uk](mailto:contact@spectracer.co.uk)

Web: [www.spectracer.com](http://www.spectracer.com)

#### 1.4. Emergency telephone number

Emergency number : Tel: +44(0)1933 445260 Option 1. Language: English only.  
For Chemical Emergencies Only  
Llewellyn (Safety Advisors) Europe Ltd

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964	
United Kingdom	National Poisons Information Service (NHS Direct)	<a href="http://www.npis.org">http://www.npis.org</a>	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Corrosive to metals, Category 1 H290  
Acute toxicity (oral), Category 4 H302  
Acute toxicity (dermal), Category 3 H311  
Serious eye damage/eye irritation, Category 2 H319

Full text of hazard classes and H-statements : see section 16

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

May be corrosive to metals. Toxic in contact with skin. Harmful if swallowed. Causes serious eye irritation.

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#### 2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

hydrofluoric acid

Hazard statements (CLP) :

H290 - May be corrosive to metals  
H302 - Harmful if swallowed  
H311 - Toxic in contact with skin  
H319 - Causes serious eye irritation

Precautionary statements (CLP) :

P234 - Keep only in original packaging  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P302+P352 - IF ON SKIN: Wash with plenty of water  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312 - Call a POISON CENTRE or doctor if you feel unwell  
P330 - Rinse mouth  
P337+P313 - If eye irritation persists: Get medical advice/attention  
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse  
P390 - Absorb spillage to prevent material damage  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
hydrochloric acid	(CAS-No.) 7647-01-0 (EC-No.) 231-595-7 (EC Index-No.) 017-002-01-X (REACH-no) 01-2119484862-27-XXXX	5 - 15	Met. Corr. 1, H290 Skin Corr. 1B, H314 STOT SE 3, H335
hydrofluoric acid	(CAS-No.) 7664-39-3 (EC-No.) 231-634-8 (EC Index-No.) 009-002-00-6	0,1 - 1	Acute Tox. 2 (Inhalation), H330 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Oral), H300 Skin Corr. 1A, H314

##### Specific concentration limits:

Name	Product identifier	Specific concentration limits
hydrochloric acid	(CAS-No.) 7647-01-0 (EC-No.) 231-595-7 (EC Index-No.) 017-002-01-X (REACH-no) 01-2119484862-27-XXXX	(C >= 10) STOT SE 3, H335 ( 10 =<C < 25) Eye Irrit. 2, H319 ( 10 =<C < 25) Skin Irrit. 2, H315 (C >= 25) Skin Corr. 1B, H314
hydrofluoric acid	(CAS-No.) 7664-39-3 (EC-No.) 231-634-8 (EC Index-No.) 009-002-00-6	( 0,1 =<C < 1) Eye Irrit. 2, H319 ( 1 =<C < 7) Skin Corr. 1B, H314 ( 7 =<C < 100) Skin Corr. 1A, H314

Full text of H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general :

Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation :

Remove person to fresh air and keep comfortable for breathing.

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First-aid measures after skin contact	: Wash skin with plenty of water. Remove/Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after eye contact	: Eye irritation.
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#### 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	: Water spray. Dry powder. Foam. Carbon dioxide.
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#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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#### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Avoid contact with skin, eyes and clothing.
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##### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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#### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up	: Take up liquid spill into absorbent material.
Other information	: Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions	: Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up. Store in a well-ventilated place. Keep cool.
Incompatible materials	: Metals.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

hydrochloric acid (7647-01-0)		
EU	Local name	Hydrogen chloride
EU	IOELV TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	5 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>

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hydrochloric acid (7647-01-0)		
EU	IOELV STEL (ppm)	10 ppm
Austria	Local name	Chlorwasserstoff
Austria	MAK (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Austria	MAK (ppm)	5 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	10 ppm
Belgium	Local name	Hydrogène (chlorure d') # Waterstofchloride
Belgium	Limit value (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	5 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	10 ppm
Bulgaria	Local name	Хлороводород
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Bulgaria	OEL TWA (ppm)	5 ppm
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Bulgaria	OEL STEL (ppm)	10 ppm
Croatia	Local name	Vodikov klorid
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	5 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	10 ppm
Croatia	Naznake (HR)	EU* (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2000/39/ EC (prva lista)); T (otrovno); C (nagrizajuće)
Czech Republic	Local name	Chlorovodík
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	5,43 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	10,19 ppm
Denmark	Local name	Hydrogenchlorid (Chlorbrinte)
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	5 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi); L (markerer, at grænseværdien er en loftværdi, som ikke på noget tidspunkt må overskrides)
Estonia	Local name	Vesinikkloriid
Estonia	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Estonia	OEL TWA (ppm)	5 ppm
Estonia	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Estonia	OEL STEL (ppm)	10 ppm
Finland	Local name	Kloorivety, vedetön
Finland	HTP-arvo (15 min)	7,6 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	5 ppm
France	Local name	Chlorure d'hydrogène (Acide chlorhydrique)
France	VLE (mg/m <sup>3</sup> )	7,6 mg/m <sup>3</sup>
France	VLE (ppm)	5 ppm
France	Note (FR)	Valeurs réglementaires contraignantes
Germany	Local name	Hydrogenchlorid
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>



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hydrochloric acid (7647-01-0)		
Germany	TRGS 900 Occupational exposure limit value (ppm)	2 ppm
Germany	Remark (TRGS 900)	DFG,EU,Y
Greece	OEL TWA (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	5 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	5 ppm
Hungary	Local name	SÓSAV
Hungary	AK-érték	8 mg/m <sup>3</sup>
Hungary	CK-érték	16 mg/m <sup>3</sup>
Hungary	Megjegyzések (HU)	i, m; EU1
Ireland	Local name	Hydrogen chloride
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	5 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	10 ppm
Ireland	Notes (IE)	IOELV
Italy	Local name	Acido cloridrico
Italy	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	5 ppm
Italy	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Italy	OEL STEL (ppm)	10 ppm
Latvia	Local name	Hlorūdeņradis
Latvia	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	5 ppm
Latvia	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Latvia	OEL STEL (ppm)	10 ppm
Lithuania	Local name	Vandenilio chloridas
Lithuania	IPRV (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	5 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	10 ppm
Luxembourg	Local name	Chlorure d'hydrogène
Luxembourg	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Luxembourg	OEL TWA (ppm)	5 ppm
Luxembourg	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Luxembourg	OEL STEL (ppm)	10 ppm
Malta	Local name	Hydrogenchloride
Malta	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	5 ppm
Malta	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Malta	OEL STEL (ppm)	10 ppm
Netherlands	Local name	Zoutzuur
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 8H (ppm)	5 ppm
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 15MIN (ppm)	10 ppm
Poland	Local name	Chlorowodór



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hydrochloric acid (7647-01-0)		
Poland	NDS (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Portugal	Local name	Ácido clorídrico
Portugal	OEL - Ceilings (ppm)	2 ppm
Romania	Local name	Acid clorhidric
Romania	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	5 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	10 ppm
Slovakia	Local name	Chlorovodík
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	5 ppm
Slovakia	OEL STEL (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Slovakia	OEL STEL (ppm)	10 ppm
Slovenia	Local name	vodikov klorid, brezvodni (klorovodik, brezvodni)
Slovenia	OEL TWA (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Slovenia	OEL TWA (ppm)	5 ppm
Slovenia	OEL STEL (mg/m <sup>3</sup> )	16 mg/m <sup>3</sup>
Slovenia	OEL STEL (ppm)	10 ppm
Spain	Local name	Cloruro de hidrógeno
Spain	VLA-ED (mg/m <sup>3</sup> )	7,6 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	5 ppm
Spain	VLA-EC (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	10 ppm
Spain	Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	Saltsyra
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> 3 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	2 ppm 2 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup> 6 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	4 ppm 4 ppm
United Kingdom	Local name	Hydrogen chloride
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> gas and aerosol mists
United Kingdom	WEL TWA (ppm)	1 ppm gas and aerosol mists
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup> gas and aerosol mists
United Kingdom	WEL STEL (ppm)	5 ppm gas and aerosol mists
Iceland	Local name	Vetnisklórið (klórvetni)
Iceland	OEL (15 min ref) (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
Iceland	OEL (15 min ref) (ppm)	5 ppm
Norway	Local name	Hydrogenklorid (Saltsyre)
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>

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hydrochloric acid (7647-01-0)		
Norway	Grenseverdier (AN) (ppm)	5 ppm
Norway	Merknader (NO)	T (Takverdi er en øyeblikksverdi som angir maksimalkonsentrasjon av et kjemikalie i pustesonen som ikke skal overskrides); E (EU har en veiledende grenseverdi for stoffet)
Switzerland	Local name	Chlorwasserstoff
Switzerland	MAK (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> 3 mg/m <sup>3</sup>
Switzerland	MAK (ppm)	2 ppm 2 ppm
Switzerland	KZGW (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup> 6 mg/m <sup>3</sup>
Switzerland	KZGW (ppm)	4 ppm 4 ppm
Switzerland	Remark (CH)	SSc - OAW <sup>KT AN</sup> - DFG, NIOSH, OSHA
Australia	Local name	Hydrogen chloride
USA - ACGIH	Local name	Hydrogen chloride
USA - ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA - ACGIH	Remark (ACGIH)	URT irr
USA - OSHA	Local name	Hydrogen chloride
USA - OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm
hydrofluoric acid (7664-39-3)		
EU	Local name	Hydrogen fluoride
EU	IOELV TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	1,8 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	3 ppm
Austria	Local name	Fluorwasserstoff
Austria	MAK (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Austria	MAK (ppm)	1,8 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	3 ppm
Austria	Remark (AT)	H
Belgium	Local name	Hydrogène (fluorure d') # Waterstofffluoride
Belgium	Limit value (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	1,8 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	3 ppm
Belgium	Remark (BE)	M: La mention M indique que lors d'une exposition supérieure à la valeur limite, des irritations apparaissent ou un danger d'intoxication aiguë existe. Le procédé de travail doit être conçu de telle façon que l'exposition ne dépasse jamais la valeur limite. Lors des mesurages, la période d'échantillonnage doit être aussi courte que possible afin de pouvoir effectuer des mesurages fiables. Le résultat des mesurages est calculé en fonction de la période d'échantillonnage.# De vermelding M duidt aan dat bij de blootstelling boven de grenswaarde irritatie optreedt of er gevaar bestaat voor acute vergiftiging. Het werkproces moet zo zijn ontworpen dat de blootstelling de grenswaarde nooit overschrijdt. Bij een controle geldt dat de bemonsterde periodezo kort mogelijk moet zijn om een betrouwbare meting te kunnen verrichten. het meetresultaat wordt dan gerelateerd aan de beschouwde periode.
Bulgaria	Local name	Флуороводород
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>

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hydrofluoric acid (7664-39-3)		
Bulgaria	OEL TWA (ppm)	1,8 ppm
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Bulgaria	OEL STEL (ppm)	3 ppm
Croatia	Local name	Vodikov fluorid
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	1,8 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	3 ppm
Croatia	Naznake (HR)	EU* (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2000/39/ EC (prva lista)); T+ (vrlo otrovno); C (nagrizajuće)
Czech Republic	Local name	Fluorovodík
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	1835 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	3058 ppm
Denmark	Local name	Hydrogenfluorid (Fluorbrinte)
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	1,8 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi)
Estonia	Local name	Vesinikfluoriid
Estonia	OEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Estonia	OEL TWA (ppm)	1,8 ppm
Estonia	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Estonia	OEL STEL (ppm)	3 ppm
Finland	Local name	Fluorivety
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	1,8 ppm
Finland	HTP-arvo (15 min)	2,5 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	3 ppm
Finland	Huomautus (FI)	iho
France	Local name	Fluorure d'hydrogène (Acide fluorhydrique)
France	VME (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
France	VME (ppm)	1,8 ppm
France	VLE (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
France	VLE (ppm)	3 ppm
France	Note (FR)	Valeurs réglementaires contraignantes
Germany	Local name	Fluorwasserstoff
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	0,83 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	1 ppm
Germany	Remark (TRGS 900)	DFG,EU,Y,H
Greece	OEL TWA (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	3 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	3 ppm
Hungary	Local name	HIDROGÉN-FLUORID
Hungary	AK-érték	1,5 mg/m <sup>3</sup>





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hydrofluoric acid (7664-39-3)		
Hungary	CK-érték	2,5 mg/m <sup>3</sup>
Hungary	Megjegyzések (HU)	b, m; 1.
Ireland	Local name	Hydrogen fluoride (as F)
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	1,8 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	3 ppm
Ireland	Notes (IE)	Sk, IOELV
Italy	Local name	Acido fluoridrico
Italy	OEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	1,8 ppm
Italy	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Italy	OEL STEL (ppm)	3 ppm
Latvia	Local name	Fluorūdeņradis
Latvia	OEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	1,8 ppm
Latvia	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Latvia	OEL STEL (ppm)	3 ppm
Lithuania	Local name	Vandenilio fluoridas
Lithuania	IPRV (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	1,8 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	3 ppm
Lithuania	Remark (LT)	Ū (ūmus poveikis)
Luxembourg	Local name	Fluorure d'hydrogène
Luxembourg	OEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Luxembourg	OEL TWA (ppm)	4,8 ppm
Luxembourg	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Luxembourg	OEL STEL (ppm)	3 ppm
Malta	Local name	Hydrogenfluoride
Malta	OEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	1,8 ppm
Malta	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Malta	OEL STEL (ppm)	3 ppm
Netherlands	Local name	Fluorwaterstof
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (als F)
Netherlands	Grenswaarde TGG 15MIN (ppm)	1,2 ppm (Fluorwaterstof (als F); Netherlands; Short time value; Public occupational exposure limit value; als F)
Poland	Local name	Fluorowodór
Poland	NDS (mg/m <sup>3</sup> )	0,5 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Portugal	Local name	Ácido fluorídrico , expresso em F
Portugal	OEL TWA (ppm)	0,5 ppm
Portugal	OEL - Ceilings (ppm)	2 ppm
Romania	Local name	Acid fluorhidric
Romania	OEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	1,8 ppm



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hydrofluoric acid (7664-39-3)		
Romania	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	3 ppm
Slovakia	Local name	Fluórovodík, kyselina fluorovodíková (ako F)
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	1,8 ppm
Slovakia	OEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Slovakia	OEL STEL (ppm)	3 ppm
Slovenia	Local name	vodikov fluorid
Slovenia	OEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Slovenia	OEL TWA (ppm)	1,8 ppm
Slovenia	OEL STEL (mg/m <sup>3</sup> )	2,25 mg/m <sup>3</sup>
Slovenia	OEL STEL (ppm)	2,7 ppm
Spain	Local name	Fluoruro de hidrógeno
Spain	VLA-ED (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	1,8 ppm
Spain	VLA-EC (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	3 ppm
Spain	Notes	VLB® (Agente químico que tiene Valor Límite Biológico específico en este documento), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	Fluorväte
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup> 1,5 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	1,8 ppm 1,8 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	1,7 mg/m <sup>3</sup> 1,7 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	2 ppm 2 ppm
Sweden	Anmärkning (SE)	31 (Vid exponering för blandningar av fluorider och vätefluorid ska nivågränsvärdet för fluorider tillämpas)
United Kingdom	Local name	Hydrogen fluoride
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup> (as F)
United Kingdom	WEL TWA (ppm)	1,8 ppm (as F)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup> (as F)
United Kingdom	WEL STEL (ppm)	3 ppm (as F)
Iceland	Local name	Vetnisflúoríð (flúorvetni) I
Iceland	OEL (8 hours ref) (mg/m <sup>3</sup> )	0,6 mg/m <sup>3</sup>
Iceland	OEL (8 hours ref) (ppm)	0,7 ppm
Iceland	OEL (15 min ref) (mg/m <sup>3</sup> )	2,5 mg/m <sup>3</sup>
Iceland	OEL (15 min ref) (ppm)	3 ppm
Norway	Local name	Hydrogenfluorid (Fluss-syre)
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	0,5 mg/m <sup>3</sup>
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	1,5 mg/m <sup>3</sup>



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hydrofluoric acid (7664-39-3)		
Norway	Grenseverdier (Korttidsverdi) (ppm)	1,8 ppm
Norway	Merknader (NO)	H (Kjemikalier som kan tas opp gjennom huden); E (EU har en veiledende grenseverdi for stoffet); S (Korttidsverdi er en verdi for gjennomsnittskonsentrasjonen av et kjemisk stoff i pustesonen til en arbeidstaker som ikke skal overskrides i en fastsatt referanseperiode. Referanseperioden er 15 minutter hvis ikke annet er oppgitt)
Switzerland	Local name	Fluorwasserstoff
Switzerland	MAK (mg/m <sup>3</sup> )	0,83 mg/m <sup>3</sup>
Switzerland	MAK (ppm)	1 ppm
Switzerland	KZGW (mg/m <sup>3</sup> )	1,66 mg/m <sup>3</sup>
Switzerland	KZGW (ppm)	2 ppm
Switzerland	Remark (CH)	B SS <sub>c</sub> - AW & Haut & Auge, Knochen <sup>KT</sup> - HSE, NIOSH, OSHA
Australia	Local name	Hydrogen fluoride (as F)
USA - ACGIH	Local name	Hydrogen fluoride , as F
USA - ACGIH	ACGIH TWA (ppm)	0,5 ppm
USA - ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA - ACGIH	Remark (ACGIH)	URT, LRT, skin, & eye irr
USA - OSHA	Local name	Hydrogen fluoride (as F)
USA - OSHA	Remark (OSHA)	(2) See Table Z-2.

### 8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Hand protection	: Protective gloves
Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended
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	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: < 2
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Miscible with water.



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Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 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

metals.

### 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 : Oral: Harmful if swallowed. Dermal: Toxic in contact with skin.

ATE CLP (oral)	1000 mg/kg bodyweight
ATE CLP (dermal)	1000 mg/kg bodyweight

Skin corrosion/irritation : Not classified  
pH: < 2

Serious eye damage/irritation : Causes serious eye irritation.  
pH: < 2

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

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

hydrochloric acid (7647-01-0)	
LC50 other aquatic organisms 2	250 (240 - 260) mg/l (48h) Crustaceans; Portmann, J.E., and K.W. Wilson 1971. The Toxicity of 140 Substances to the Brown Shrimp and Other Marine Animals. Shellfish Information Leaflet No.22 (2nd Ed.), Ministry of Agric.Fish.Food, Fish.Lab.Burnham-on-Crouch, Essex, and Fish Exp.Station Conway, North Wales :12 p.
hydrofluoric acid (7664-39-3)	
LC50 fish 1	107,5 mg/l (LC50; 96 h)
EC50 Daphnia 1	270 mg/l (EC50; 48 h)

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<b>hydrofluoric acid (7664-39-3)</b>	
Threshold limit algae 1	95 mg/l (EC0; 96 h)

### 12.2. Persistence and degradability

<b>hydrofluoric acid (7664-39-3)</b>	
Persistence and degradability	Biodegradability: Not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

### 12.3. Bioaccumulative potential

<b>hydrofluoric acid (7664-39-3)</b>	
Log Pow	-1,4 (Experimental value)
Bioaccumulative potential	Bioaccumulation: Not applicable.

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available











## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

## SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
2922	2922	2922	2922	2922
<b>14.2. UN proper shipping name</b>				
CORROSIVE LIQUID, TOXIC, N.O.S. (hydrofluoric acid ; hydrochloric acid)	CORROSIVE LIQUID, TOXIC, N.O.S. (hydrofluoric acid ; hydrochloric acid)	Corrosive liquid, toxic, n.o.s. (hydrofluoric acid ; hydrochloric acid)	CORROSIVE LIQUID, TOXIC, N.O.S. (hydrofluoric acid ; hydrochloric acid)	CORROSIVE LIQUID, TOXIC, N.O.S. (hydrofluoric acid ; hydrochloric acid)
<b>Transport document description</b>				
UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (hydrofluoric acid ; hydrochloric acid), 8 (6.1), III, (E)	UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (hydrofluoric acid ; hydrochloric acid), 8 (6.1), III	UN 2922 Corrosive liquid, toxic, n.o.s. (hydrofluoric acid ; hydrochloric acid), 8 (6.1), III	UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (hydrofluoric acid ; hydrochloric acid), 8 (6.1), III	UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (hydrofluoric acid ; hydrochloric acid), 8 (6.1), III
<b>14.3. Transport hazard class(es)</b>				
8 (6.1)	8 (6.1)	8 (6.1)	8 (6.1)	8 (6.1)
 	 	 	 	 
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No



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ADR	IMDG	IATA	ADN	RID
	Marine pollutant : No			
No supplementary information available				

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR)	: CT1
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 5l
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T7
Portable tank and bulk container special provisions (ADR)	: TP1, TP28
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
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	: 2X
APP code	: B

#### - Transport by sea

Special provisions (IMDG)	: 223, 274
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP1, TP28
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

#### - Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 852
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 856
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A3



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ERG code (IATA) : 8P

### - Inland waterway transport

Classification code (ADN) : CT1  
Special provisions (ADN) : 274, 802  
Limited quantities (ADN) : 5 L  
Excepted quantities (ADN) : E1  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EP, TOX, A  
Ventilation (ADN) : VE02  
Number of blue cones/lights (ADN) : 0

### - Rail transport

Classification code (RID) : CT1  
Special provisions (RID) : 274  
Limited quantities (RID) : 5L  
Excepted quantities (RID) : E1  
Packing instructions (RID) : P001, IBC03, R001  
Mixed packing provisions (RID) : MP19  
Portable tank and bulk container instructions (RID) : T7  
Portable tank and bulk container special provisions (RID) : TP1, TP28  
Tank codes for RID tanks (RID) : L4BN  
Transport category (RID) : 3  
Special provisions for carriage – Packages (RID) : W12  
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28  
Colis express (express parcels) (RID) : CE8  
Hazard identification number (RID) : 86

### 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. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	Single-element Standard Solution for ICP. Titanium (Ti) 1000mg/l in HCl 5%, HF 0.5% - hydrochloric acid - hydrofluoric acid
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	Single-element Standard Solution for ICP. Titanium (Ti) 1000mg/l in HCl 5%, HF 0.5% - hydrochloric acid - hydrofluoric acid

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

##### Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 4)  
Storage class (LGK) : LGK 6.1D - Non-combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects

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12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed  
 SZW-lijst van mutagene stoffen : None of the components are listed  
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed  
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed  
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

### Denmark

Recommendations Danish Regulation : 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  
 The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H290	May be corrosive to metals
H300	Fatal if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H335	May cause respiratory irritation

SDS EU Mod H F (REACH ANNEX II)

*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.*