

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

HYDROCHLORIC ACID 28% (18/20BE)

Version 3.1

Print Date 25.03.2025

Revision date / valid from 24.07.2023

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

1.1. Product identifier

Trade name : HYDROCHLORIC ACID 28% (18/20BE)
Substance name : hydrochloric acid
Index-No. : 017-002-01-X
CAS-No. : 7647-01-0
EC-No. : 231-595-7
EU REACH-Reg. No. : 01-2119484862-27-xxxx

UFI : PWEA-Y0W9-G001-UVFR
UFI code notified in : Belgium, Germany, Denmark, Estonia, Spain, France, Croatia, Ireland, Iceland, Lithuania, Luxembourg, Latvia, Malta, Netherlands, Norway, Portugal, Sweden

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

Use of the Substance/Mixture : Identified use: See table in front of appendix for a complete overview of identified uses.

Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Indufarm N.V.
Nijverheidslaan 5
BE 8770 Ingelmunster

Telephone : +32 (0)51 62 42 45

E-mail address : contact@indufarm.com

1.4. Emergency telephone number

Emergency telephone number : Belgium: Antipoison Center - Brussels TEL: +32(0)70 245 245

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Netherland: National Poisoning Information Center - Bilthoven
TEL: +31(0) 88 755 8000 (Only for the purpose of informing
medical personnel in cases of acute intoxications)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Corrosive to metals	Category 1	---	H290
Skin corrosion	Category 1A	---	H314
Serious eye damage	Category 1	---	H318
Specific target organ toxicity - single exposure	Category 3	Respiratory system	H335

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

Most important adverse effects

Human Health : See section 11 for toxicological information.
Physical and chemical hazards : See section 9/10 for physicochemical information.
Potential environmental effects : See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard symbols :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements

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Prevention	:	P261 P280	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	:	P301 + P330 + P331 P303 + P361 + P353 P304 + P340 + P310 P305 + P351 + P338	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazardous components which must be listed on the label:

- hydrochloric acid

2.3. Other hazards

The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

Ecological information: No information available about endocrine disruption properties for environment.

Toxicological information: No information available about endocrine disruption properties for human health.

The vapour may be invisible, heavier than air and spread along ground. The formation of caustic fumes is possible.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical nature : Aqueous solution

		Classification (REGULATION (EC) No 1272/2008)	
Hazardous components	Amount [%]	Hazard class / Hazard category	Hazard statements
hydrochloric acid			

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Index-No.	: 017-002-01-X	>= 25 - <= 30	Met. Corr.1	H290
CAS-No.	: 7647-01-0		Skin Corr.1A	H314
EC-No.	: 231-595-7		Eye Dam.1	H318
EU REACH- Reg. No.	: 01-2119484862-27-xxxx		STOT SE3	H335

M-Factor (Acute aquatic
toxicity): 1

specific concentration limit

STOT SE 3; H335

>= 10 %

Skin Corr. 1A; H314

>= 25 %

Skin Corr. 1B; H314

10 - < 25 %

Eye Dam. 1; H318

>= 1 %

Met. Corr. 1; H290

>= 0,1 %

Note B

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

For the full text of the Notes mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	: Take off all contaminated clothing immediately.
If inhaled	: In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
In case of skin contact	: Wash off immediately with soap and plenty of water. Call a physician immediately.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician immediately.
Protection of First Aid Responders	: First Aid responders should pay attention to self-protection and use the recommended protective clothing.

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

Symptoms	: Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.
Effects	: Extremely corrosive and destructive to tissue. If ingested, severe burns of the mouth and throat, as well as a danger of

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perforation of the oesophagus and the stomach. See Section 11 for more detailed information on health effects and symptoms.

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

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media : High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : The product itself does not burn. Contact with metals liberates hydrogen gas.
Hazardous combustion products : Hydrogen chloride gas

5.3. Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)
Specific extinguishing methods : Control smoke with water spray.
Further advice : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Keep away unprotected persons. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed

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up containers for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Use respirator with appropriate filter if vapours or aerosol are released. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep in an area equipped with acid resistant flooring. Suitable materials for containers: polyethylene; Polypropylene; Unsuitable materials for containers: Metals

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep in a well-ventilated place.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Keep away from metals.

7.3. Specific end use(s)

Specific use(s) : Identified use: See table in front of appendix for a complete overview of identified uses.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Component:	hydrochloric acid	CAS-No. 7647-01-0
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Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL		
Workers, Acute - local effects, Inhalation	:	15 mg/m ³
DNEL		
Workers, Long-term - local effects, Inhalation	:	8 mg/m ³

Predicted No Effect Concentration (PNEC)

Fresh water	:	36 µg/l
Marine water	:	36 µg/l
Intermittent releases	:	45 µg/l
Sewage treatment plant (STP)	:	36 µg/l
Fresh water sediment Exposition is not expected.	:	
Marine sediment Exposition is not expected.	:	
Soil	:	0,036 mg/kg

Other Occupational Exposure Limit Values

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
5 ppm, 8 mg/m³
Indicative

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):
10 ppm, 15 mg/m³
Indicative

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Time Weighted Average (TWA):
5 ppm, 8 mg/m³

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Short Term Exposure Limit (STEL):
10 ppm, 15 mg/m³, (15 minutes)

Netherlands. OELs (binding), as amended, Short Term Exposure Limit (STEL):
15 mg/m³, (15 minutes)

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Netherlands. OELs (binding), as amended, Time Weighted Average (TWA):
8 mg/m³

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
5 ppm, 8 mg/m³
Indicative

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):
10 ppm, 15 mg/m³
Indicative

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : In case of brief exposure or low pollution use breathing filter apparatus.
In case of intensive or longer exposure use self-contained breathing apparatus.
Respiratory protection complying with EN 141.
Recommended Filter type:
Combination filter:B-P2

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.

Material : polychloroprene
Break through time : > 480 min
Glove thickness : 0,5 mm

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0,35 mm

Material : butyl-rubber
Break through time : > 480 min

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Glove thickness : 0,5 mm

Material : Polyvinylchloride
Break through time : > 480 min
Glove thickness : 0,5 mm

Material : Fluorinated rubber
Break through time : > 480 min
Glove thickness : 0,4 mm

Eye protection

Advice : Face-shield
Tightly fitting safety goggles (EN166)

Skin and body protection

Advice : Acid resistant protective clothing.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
If the product contaminates rivers and lakes or drains inform respective authorities.
If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form : liquid

Physical state : liquid

Colour : colourless, light yellow

Odour : stinging

Odour Threshold : No data available

Freezing point/range : < 1 °C

Boiling point/boiling range : < 100 °C

Flammability (solid, gas) : Product is a liquid, see section 9.2.
Remarks: non-combustible

Upper explosion limit / Upper flammability limit : Not applicable

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Lower explosion limit / Lower flammability limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Heating can release hazardous gases.
Self-Accelerating decomposition temperature (SADT)	:	No data available
pH	:	-1 - -0,5 Concentration: 100 % Method: (calculated)
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Dissolution Rate	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Dispersion Stability	:	No data available
Vapour pressure	:	< 30 hPa (20 °C)
Relative density	:	No data available
Density	:	ca. 1,12 g/cm ³ (20 °C)
Bulk density	:	No data available
Relative vapour density	:	No data available
Particle characteristics		
No data available		

9.2 Other information

Explosives	:	Product is not explosive.
Flammability (liquids)	:	non-combustible Remarks: non-combustible

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Metal corrosion rate : Corrosive to metals

Evaporation rate : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : No decomposition if used as directed.

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Gives off hydrogen by reaction with metals.

10.4. Conditions to avoid

Conditions to avoid : Protect from frost, heat and sunlight.
Thermal decomposition : Heating can release hazardous gases.

10.5. Incompatible materials

Materials to avoid : Metals, Oxidizing agents, Reducing agents, perchlorates, Sulphides, Peroxides, nitrates

10.6. Hazardous decomposition products

Hazardous decomposition products : Hydrogen chloride gas

SECTION 11: Toxicological information

11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

Data for the product

Acute toxicity

Oral

Not classified based on the calculation method according to CLP regulation., The toxicity of the product is based on its corrosivity.

Inhalation

Not classified based on the calculation method according to CLP regulation.

The toxicity of the product is based on its corrosivity.

Dermal

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Not classified based on the calculation method according to CLP regulation.
The toxicity of the product is based on its corrosivity.

Irritation

Skin

Result : Classified based on the calculation method according to CLP regulation.

Eyes

Result : Classified based on the calculation method according to CLP regulation.

Sensitisation

Result : Not classified based on the calculation method according to CLP regulation.

CMR effects

CMR Properties

Carcinogenicity : Not classified based on the calculation method according to CLP regulation.
Mutagenicity : Not classified based on the calculation method according to CLP regulation.
Teratogenicity : Not classified based on the calculation method according to CLP regulation.
Reproductive toxicity : Not classified based on the calculation method according to CLP regulation.

Specific Target Organ Toxicity

Single exposure

Remarks : Classified based on the calculation method according to CLP regulation.

Repeated exposure

Remarks : Not classified based on the calculation method according to CLP regulation.

Other toxic properties

Repeated dose toxicity

No data available

Aspiration hazard

Not applicable,

Further information

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Other relevant toxicity : If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Component: hydrochloric acid CAS-No. 7647-01-0

Acute toxicity

Oral

LD50 : 2222 mg/kg (Rat) (Calculation method)

Inhalation

LC50 : 45,6 mg/l (Rat, male; 5 min) (No guideline followed)

Dermal

LD50 : > 5010 mg/kg (Rabbit) 31.5 % solution

Irritation

Skin

Result : corrosive effects (Rabbit; 1 - 4 h) (OECD Test Guideline 404)

Eyes

Result : Causes serious eye damage. (Rabbit) (OECD Test Guideline 405)

Sensitisation

Result : not sensitizing (Guinea pig) (Maximisation Test)

CMR effects

CMR Properties

Carcinogenicity : Did not show carcinogenic effects in animal experiments.

Mutagenicity : In vitro tests did not show mutagenic effects

Teratogenicity : No valid data available.

Reproductive toxicity : Animal testing did not show any effects on fertility.

Genotoxicity in vitro

Result : negative (Ames test; Salmonella typhimurium; with and without metabolic activation)
negative (Cytogenetic test; Mouse; with and without metabolic activation)

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Specific Target Organ Toxicity

Single exposure

Inhalation : Target Organs: Respiratory system May cause respiratory irritation.

Repeated exposure

Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Repeated dose toxicity

NOAEC : 15 mg/m³
(Rat)(Inhalation)

Aspiration hazard

Not applicable,

11.2. Information on other hazards

Data for the product

Endocrine disrupting properties

Assessment : No information available about endocrine disruption properties for human health.

Component: hydrochloric acid **CAS-No. 7647-01-0**

Endocrine disrupting properties

Assessment : No information available about endocrine disruption properties for human health.

SECTION 12: Ecological information

12.1. Toxicity

Component: hydrochloric acid **CAS-No. 7647-01-0**

Acute toxicity

Fish

LC50 : 20,5 mg/l (Lepomis macrochirus; 24 h)

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Toxicity to daphnia and other aquatic invertebrates

EC50 : 0,45 mg/l (Daphnia magna; 48 h) (OECD Test Guideline 202)

algae

ErC50 : 0,73 mg/l (Chlorella vulgaris (Fresh water algae); 72 h) (End point: Growth rate; OECD Test Guideline 201)

Bacteria

EC50 : 0,23 mg/l (activated sludge; 3 h) (End point: Respiration inhibition; OECD Test Guideline 209)

M-Factor

M-Factor (Acute Aquat. Tox.) : 1

12.2. Persistence and degradability

Component:	hydrochloric acid	CAS-No. 7647-01-0
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Persistence and degradability

Persistence

Result : The product is water soluble.

Biodegradability

Result : The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Component:	hydrochloric acid	CAS-No. 7647-01-0
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Bioaccumulation

Result : Bioaccumulation is not expected.

12.4. Mobility in soil

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Component:	hydrochloric acid	CAS-No. 7647-01-0
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Mobility

Soil : Not expected to adsorb on soil.
Water : The product is water soluble.

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

Result : The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

Component:	hydrochloric acid	CAS-No. 7647-01-0
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Results of PBT and vPvB assessment

Result : The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

12.6. Endocrine disrupting properties

Data for the product

Endocrine disrupting potential : No information available about endocrine disruption properties for environment.

Component:	hydrochloric acid	CAS-No. 7647-01-0
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Endocrine disrupting potential : No information available about endocrine disruption properties for environment.

12.7. Other adverse effects

Data for the product

Additional ecological information

Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
Harmful effects to aquatic organisms due to pH-shift.

Component:	hydrochloric acid	CAS-No. 7647-01-0
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Additional ecological information

Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

- Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services. This product shall be disposed of or recovered in compliance with Directive 2008/98/EC on waste as lastly amended.
- Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

14.1. UN number or ID number

1789

14.2. UN proper shipping name

ADR : HYDROCHLORIC ACID
RID : HYDROCHLORIC ACID
IMDG : HYDROCHLORIC ACID

14.3. Transport hazard class(es)

ADR-Class : 8
(Labels; Classification Code; Hazard Identification Number; Tunnel restriction code) 8; C1; 80; (E)
RID-Class : 8
(Labels; Classification Code; Hazard Identification Number) 8; C1; 80
IMDG-Class : 8
(Labels; EmS) 8; F-A, S-B

14.4. Packaging group

ADR : II
RID : II
IMDG : II

14.5. Environmental hazards

Environmentally hazardous according to ADR : no
Environmentally hazardous according to RID : no
Marine Pollutant according to IMDG-Code : no

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14.6. Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Data for the product

EU. Regulation EC No. 689/2008 : ; The substance/mixture does not fall under this legislation.

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC) : Point Nos.: , 3; Listed

Point Nos.: , 75; Listed

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I : ; The substance/mixture does not fall under this legislation.

Netherlands : ABM: C (2)

Component:	hydrochloric acid	CAS-No. 7647-01-0
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EU. Chemicals Subject to PIC Procedure: Regulation 649/2012/EU on export and import of dangerous chemicals, as amended : ; The substance/mixture does not fall under this legislation.

EU. Regulation 273/2004, Drug Precursors, Category 3 : Scheduled substance Combined Nomenclature (CN) code: , 2806 10 00; Combined Nomenclature designation

EU. REACH, Annex XVII, Marketing and Use : Point Nos.: , 3; Listed

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Restrictions (Regulation
1907/2006/EC)

Point Nos.: , 75; Listed

EU. Directive 98/8/EC,
Annex 1, Active
substances in biocidal
products

: Minimum purity: 999, g/kg; Private area and public health area
disinfectants and other biocidal products; Special provisions
may apply; see text of legislation.

Deadline for Compliance: , 30 Apr 2016

Inclusion Date: , 1 May 2014

Expiry Date of Inclusion: , 30 Apr 2024

EU. Regulation No
1451/2007 [Biocides],
Annex I, OJ (L 325)

: EC Number: , 231-595-7; Listed

EU. Directive
2012/18/EU (SEVESO
III) on major accident
hazards involving
dangerous substances,
Annex I

: ; The substance/mixture does not fall under this legislation.

Notification status hydrochloric acid:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	231-595-7
ENCS (JP)	YES	(1)-215
IECSC	YES	
INSQ	YES	
ISHL (JP)	YES	(1)-215
KECI (KR)	YES	97-1-203
KECI (KR)	YES	KE-20189
NZIOC	YES	HSR004090
ONT INV	YES	
PHARM (JP)	YES	
PICCS (PH)	YES	
TCSI	YES	
TH INV	YES	2806.10
TH INV	YES	55-1-05940
TSCA	YES	
VN INVL	YES	

15.2. Chemical safety assessment

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A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Full text of the Notes referred to under section 3.

Note B	Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: "nitric acid ...%". In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
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Abbreviations and Acronyms

AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances
ISHL (JP)	Japan. Inventory of Industrial Safety & Health
KECI (KR)	Korea. Existing Chemicals Inventory
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level

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LOEL	lowest observed effect level
NDSL	Canada. Environmental Protection Act. Non-Domestic Substances List
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NZIOC	New Zealand. Inventory of Chemicals
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
ONT INV	Canada. Ontario Inventory List
PBT	persistent, bioaccumulative and toxic
PHARM (JP)	Japan. Pharmacopoeia Listing
PICCS (PH)	Philippines. Inventory of Chemicals and Chemical Substances
PNEC	predicted no-effect concentration
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
UK REACH Auth. No.:	UK REACH Authorisation Number
UK REACH AuthAppC. No.	UK REACH Authorisation Application Consultation Number
UK REACH-Reg.No	UK REACH Registration Number
STOT	specific target organ toxicity
SVHC	substance of very high concern
TCSI	Taiwan. Existing Chemicals Inventory
TH INV	Thailand. Existing Chemicals Inventory from FDA
TSCA	US. Toxic Substances Control Act
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
VN INVL	Vietnam. National Chemical Inventory
vPvB	very persistent and very bioaccumulative

Further information

- Key literature references : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
- Methods used for product classification : The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
- Hints for trainings : The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.

HYDROCHLORIC ACID 28% (18/20BE)

Other information :

The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.

The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.