

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Date of issue: 04.02.2013 Revision date: 13.03.2023 Supersedes version of: 05.04.2018 Version: 2.3

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Name : Hydrochloric acid, volumetric solution 2.0 M (2.0 N)
Trade name : UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)
EC Index-No. : 017-002-01-X
EC-No. : 231-595-7;231-596-7
CAS-No. : 7647-01-0
Product code : CHAC-2V0
Formula : HCl

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Laboratory use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

labbox labware s.l.
Migjorn, 1
P.O. Box Barcelona (SPAIN)
08338 Premia de Dalt – SPAIN
ES
T +34 937 07 79 70 - F +34 937 909 532
info@labbox.com - www.labbox.com

1.4. Emergency telephone number

Emergency number : +34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number.

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	

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

Full text of H and EUH statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

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

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H290 - May be corrosive to metals.

Precautionary statements (CLP) :

P390 - Absorb spillage to prevent material damage.

P406 - Store in corrosive resistant container with a resistant inner liner.

2.3. Other hazards

PBT: not relevant – no registration required

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

Component	
Hydrochloric acid, volumetric solution 2.0 M (2.0 N) (7647-01-0)	PBT: not relevant – no registration required

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 is 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

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, volumetric solution 2.0 M (2.0 N)	CAS-No.: 7647-01-0 EC-No.: 231-595-7;231-596-7 EC Index-No.: 017-002-01-X	1 – 10	Met. Corr. 1, H290
hydrogen chloride	CAS-No.: 7647-01-0 EC-No.: 231-595-7 EC Index-No.: 017-002-00-2	5 – 10	Press. Gas Acute Tox. 3 (Inhalation), H331 Skin Corr. 1A, H314

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
Hydrochloric acid, volumetric solution 2.0 M (2.0 N)	CAS-No.: 7647-01-0 EC-No.: 231-595-7;231-596-7 EC Index-No.: 017-002-01-X	(10 \leq C < 100) STOT SE 3, H335 (10 \leq C < 25) Eye Irrit. 2, H319 (10 \leq C < 25) Skin Irrit. 2, H315 (25 \leq C < 100) Skin Corr. 1B, H314

Full text of H and EUH statements: see section 16

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

No additional information available

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

Never give anything by mouth to an unconscious person.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Sand. Carbon dioxide. Foam. Dry powder.
Unsuitable extinguishing media	: Strong water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : fume.

5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Collect spillage. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : May be corrosive to metals.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep container tightly closed.
Storage area : Store away from heat. Store in a well-ventilated place.
Special rules on packaging : Store in a closed container. Keep only in original container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N) (7647-01-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Hydrogen chloride
France - Occupational Exposure Limits	
Local name	Chlorure d'hydrogène (Acide chlorhydrique)
VLE (OEL Ceiling/STEL)	7,6 mg/m ³
VLE (OEL Ceiling/STEL) [ppm]	5 ppm
Remark	Valeurs réglementaires contraignantes
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Hydrogenchlorid
AGW (OEL TWA) [1]	3 mg/m ³
AGW (OEL TWA) [2]	2 ppm
Remark	DFG,EU,Y
Italy - Occupational Exposure Limits	
Local name	Acido cloridrico
OEL TWA	8 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
OEL STEL [ppm]	10 ppm
Portugal - Occupational Exposure Limits	
Local name	Ácido clorídrico
OEL Ceiling [ppm]	2 ppm
Spain - Occupational Exposure Limits	
Local name	Cloruro de hidrógeno

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N) (7647-01-0)	
VLA-ED (OEL TWA) [1]	7,6 mg/m ³
VLA-ED (OEL TWA) [2]	5 ppm
VLA-EC (OEL STEL)	15 mg/m ³
VLA-EC (OEL STEL) [ppm]	10 ppm
Remark	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).
United Kingdom - Occupational Exposure Limits	
Local name	Hydrogen chloride
WEL TWA [1]	2 mg/m ³ gas and aerosol mists
WEL TWA [2]	1 ppm gas and aerosol mists
WEL STEL	8 mg/m ³ gas and aerosol mists
WEL STEL (ppm)	5 ppm gas and aerosol mists

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure. EN 374.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

Eye protection			
Type	Field of application	Characteristics	Standard
			EN 166

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Nitrile rubber (NBR) /

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Nitrile rubber (NBR)	6 (> 480 minutes)	0.2		EN 374-3, EN 374-2, EN 388

8.2.2.3. Respiratory protection

No additional information available

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Strong bases. Strong reducing agents. Oxidizing agent.

10.6. Hazardous decomposition products

Corrosive vapours.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
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

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : Not applicable

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

12.2. Persistence and degradability

No additional information available

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

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N) (7647-01-0)

PBT: not relevant – no registration required

Component

Hydrochloric acid, volumetric solution 2.0 M (2.0 N)
(7647-01-0)

PBT: not relevant – no registration required

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Not applicable.

12.7. Other adverse effects

Other adverse effects : Do not discharge into drains or rivers.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Must follow special treatment according to local regulation.
HP Code : HP8 - "Corrosive:" waste which on application can cause skin corrosion.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR) : UN 1789
UN-No. (IMDG) : UN 1789
UN-No. (IATA) : UN 1789
UN-No. (ADN) : UN 1789
UN-No. (RID) : UN 1789

14.2. UN proper shipping name

Proper Shipping Name (ADR) : HYDROCHLORIC ACID
Proper Shipping Name (IMDG) : HYDROCHLORIC ACID
Proper Shipping Name (IATA) : Hydrochloric acid
Proper Shipping Name (ADN) : HYDROCHLORIC ACID
Proper Shipping Name (RID) : HYDROCHLORIC ACID
Transport document description (ADR) : UN 1789 HYDROCHLORIC ACID, 8, III, (E)
Transport document description (IMDG) : UN 1789 HYDROCHLORIC ACID, 8, III
Transport document description (IATA) : UN 1789 Hydrochloric acid, 8, III
Transport document description (ADN) : UN 1789 HYDROCHLORIC ACID, 8, III
Transport document description (RID) : UN 1789 HYDROCHLORIC ACID, 8, III

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

14.3. Transport hazard class(es)

ADR

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



IMDG

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



IATA

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



ADN

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



RID

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



14.4. Packing group

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

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C1
Special provisions (ADR) : 520

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Hazard identification number (Kemler No.)	: 80
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 2R

Transport by sea

Special provisions (IMDG)	: 223
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: C
Segregation (IMDG)	: SGG1A, SG36, SG49
Properties and observations (IMDG)	: Colourless liquid. An aqueous solution of the gas hydrogen chloride. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.

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
ERG code (IATA)	: 8L

Inland waterway transport

Classification code (ADN)	: C1
Special provisions (ADN)	: 520
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: C1
Special provisions (RID)	: 520
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

Portable tank and bulk container special provisions (RID) : TP1
Tank codes for RID tanks (RID) : L4BN
Special provisions for RID tanks (RID) : TU42
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W12
Colis express (express parcels) (RID) : CE8
Hazard identification number (RID) : 80

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)

Reference code	Applicable on
3.	UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)
3(b)	UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

REACH Annex XIV (Authorisation List)

Contains no REACH Annex XIV substances

REACH Candidate List (SVHC)

Contains no substance on the REACH candidate list

PIC Regulation (Prior Informed Consent)

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

France

Occupational diseases	
Code	Description
RG 66	Occupational rhinitis and asthma

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).

UN1789 Hydrochloric acid, volumetric solution 2.0 M (2.0 N)

Safety Data Sheet

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

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident 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
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

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
Met. Corr. 1	Corrosive to metals, Category 1
Press. Gas	Gases under pressure
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

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.