

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

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

· **1.1 Product identifier**

· **Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)**

· **Catalog number:** 56Z612698, 56L612698, 56L612695, 56L612665, 56U612698, 56U612695, 56U612665

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

· **Application of the substance / the preparation:** Reagent for water analysis

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Met. Corr.1 H290 May be corrosive to metals.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS05



GHS07

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)

(Contd. of page 1)

- **Signal word** Warning
- **Hazard-determining components of labelling:**
hydrochloric acid 19 %
- **Hazard statements**
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
- **Precautionary statements**
P260 Do not breathe mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352 IF ON SKIN: Wash with plenty of water.
P313 Get medical advice/attention.
P390 Absorb spillage to prevent material damage.
- **2.3 Other hazards** No further relevant information available.
- **Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **Determination of endocrine-disrupting properties**
The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** aqueous solution

- **Dangerous components:**

CAS: 7647-01-0 EINECS: 231-595-7 Index No: 017-002-01-X Reg.nr.: 01-2119484862-27-XXXX	hydrochloric acid ⚠ Met. Corr. 1, H290; Skin Corr. 1B, H314; ⚠ STOT SE 3, H335 Specific concentration limits: Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 % STOT SE 3; C ≥ 10 %	10–20%
---	---	--------

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact**
Instantly rinse with water.
If skin irritation continues, consult a doctor.
- **After eye contact** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
Seek medical treatment.
- **4.2 Most important symptoms and effects, both acute and delayed:**
irritations
after inhalation:
mucosal irritations, cough, shortness of breath
damage to the affected mucous membranes possible
- **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)

(Contd. of page 2)

- **5.2 Special hazards arising from the substance or mixture**

- The product is not combustible.

- Formation of toxic gases is possible during heating or in case of fire.

- Hydrogen chloride (HCl)

- **5.3 Advice for firefighters**

- **Protective equipment:**

- Wear self-contained breathing apparatus.

- Wear full protective suit.

- **Additional information**

- Collect contaminated fire fighting water separately. It must not enter drains.

- Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

- Suppress (knock down) gases/vapours/mists with a water spray jet.

- Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

- **Advice for non-emergency personnel:**

- Wear protective equipment. Keep unprotected persons away.

- Avoid substance contact.

- Ensure adequate ventilation

- **Advice for emergency responders:** Protective equipment: see section 8

- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

- **6.3 Methods and material for containment and cleaning up:**

- Ensure adequate ventilation.

- Neutralize with diluted sodium hydroxide solution or by throwing on lime sand, lime or sodium carbonate.

- Absorb with liquid-binding material (sand, diatomite, universal binders).

- Dispose of contaminated material as waste according to item 13.

- **6.4 Reference to other sections**

- See Section 8 for information on personal protection equipment.

- See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

- **Advice on safe handling:** Prevent formation of aerosols.

- **Hygiene measures:**

- Do not inhale gases / fumes / aerosols.

- Avoid contact with the skin.

- Avoid contact with the eyes.

- Take off immediately all contaminated clothing.

- Wash hands during breaks and at the end of the work.

- Do not eat, drink or smoke when using this product.

- **7.2 Conditions for safe storage, including any incompatibilities**

- **Requirements to be met by storerooms and containers:** Store in cool location.

- **Information about storage in one common storage facility:**

- Store away from metals.

- Do not store together with alkalis (caustic solutions).

- **Further information about storage conditions:**

- Protect from heat and direct sunlight.

- Protect from the effects of light.

- Protect from humidity and keep away from water.

- **Recommended storage temperature:** 20°C +/- 5°C

- **7.3 Specific end use(s)** No further relevant information available.

GB
(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)

(Contd. of page 3)

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Components with limit values that require monitoring at the workplace:

CAS: 7647-01-0 hydrochloric acid

WEL (Great Britain)	Short-term value: 8 mg/m ³ , 5 ppm Long-term value: 2 mg/m ³ , 1 ppm (gas and aerosol mists)
IOELV (European Union)	Short-term value: 15 mg/m ³ , 10 ppm Long-term value: 8 mg/m ³ , 5 ppm

· Regulatory information

WEL (Great Britain): EH40/2020
IOELV (European Union): (EU) 2019/1831

· DNELs

Derived No Effect Level (DNEL)

CAS: 7647-01-0 hydrochloric acid

Inhalative	DNEL	15 mg/m ³ (Worker / acute / local effects) 8 mg/m ³ (Worker / long-term / local effects)
------------	------	---

· Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

· PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7647-01-0 hydrochloric acid

PNEC	0.036 mg/l (Sewage treatment plant) 0.036 mg/l (Marine water) 0.045 mg/l (Aquatic intermittent release) 0.036 mg/l (Fresh water)
------	---

· **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

· Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

· Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· **Eye/face protection** Safety glasses

· Hand protection

Protective gloves.
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.

· Material of gloves

nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm

· Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Other skin protection (body protection):** Protective work clothing.

· **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

· **Recommended filter device for short term use:** Combination filter E-P2

· **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· **Physical state** Fluid

(Contd. on page 5)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)

(Contd. of page 4)

· Form:	Solution
· Colour:	Colourless
· Odour:	Pungent
· Odour threshold:	Not determined.
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	Not determined.
· Flammability	Not applicable.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH at 20°C	<1
	Strongly acidic
· Kinematic viscosity	Not determined.
· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20°C:	~1.04 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not determined.
· Particle characteristics	Not applicable (liquid).
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	May be corrosive to metals.
· Metals that are corroded by the substance or mixture	Information on incompatible materials can be found in Sections 7 and 10.
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	< 1 %
· Solvent content:	
· Organic solvents:	0 %
· Water:	> 80 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 Reacts with metals forming hydrogen (Danger of explosion in case of large amounts!)
 Corrosive action on metals
 Reacts with alkali (lyes)
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
 metals
 alkali metals
 aluminium
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

(Contd. on page 6)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)

(Contd. of page 5)

· LD/LC50 values that are relevant for classification:		
CAS: 7647-01-0 hydrochloric acid		
Inhalative	LC50	3124 ppm / 1h (rat) (RTECS,V, pure)

- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.

· Information on components:		
CAS: 7647-01-0 hydrochloric acid		
Irritation of skin	OECD 404	(rabbit: burns)
Irritation of eyes	OECD 405	(rabbit: burns)

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· Information on components:		
CAS: 7647-01-0 hydrochloric acid		
Sensitisation	OECD 406	(negative) (EPA OPP 81-6: Guinea pig maximisation test)

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** May cause respiratory irritation.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

· Information on likely routes of exposure

Exposure to hydrochloric acid is possible during occupational handling due to contact with the skin and inhalation of vapors. The main intake pathway is considered to be via the respiratory tract.

Gastrointestinal tract: Specific kinetic studies are not available. They are considered not necessary because gastric juice already contains a high concentration of hydrochloric acid which is physiologically conditioned. Following ingestion, local effects are therefore of priority. [GESTIS]

· Additional toxicological information:		
CAS: 7647-01-0 hydrochloric acid		
· (source: GESTIS)		
Main toxic effects		
Acute: Irritation and corrosion to the eyes, airways and skin, danger of severe damage to the eyes and lungs, following ingestion, concentration-dependent damage to the gastrointestinal tract		
Chronic: Airway diseases, damage to the teeth, gastrointestinal disorders		
Further Information:		
The acute action of hydrochloric acid is based on the locally damaging effects on contacted tissues which are primarily dependent on the concentration. Following repeated contact with the skin, even diluted hydrochloric acid can cause skin damage (reddening, drying, fissures, dermatitis). The critical effect following repeated inhalative exposure is irritation to the respiratory tract.		

- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **Other information**
According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:		
CAS: 7647-01-0 hydrochloric acid		
EC50	20.5 mg/l/96h (bluegill) (OECD 203)	(Merck)

- **Other information:**
Toxic for fish:
HCl > 25 mg/l

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)

(Contd. of page 6)

- **12.2 Persistence and degradability** .
- **Other information:**
Mixture of inorganic compounds.
Methods for the determination of biodegradability are not applicable to inorganic substances.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Avoid transfer into the environment.
- **Water hazard:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.



SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

European waste catalogue	
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- | | |
|---|--------------------------------|
| 14.1 UN number or ID number | UN1789 |
| ADR, IMDG, IATA | |
| 14.2 UN proper shipping name | 1789 HYDROCHLORIC ACID mixture |
| ADR | 1789 HYDROCHLORIC ACID mixture |
| IMDG, IATA | HYDROCHLORIC ACID mixture |
| 14.3 Transport hazard class(es) | |
| ADR | |
|  | |
| Class | 8 (C1) Corrosive substances. |
| Label | 8 |
| IMDG, IATA | |
|  | |
| Class | 8 Corrosive substances. |
| Label | 8 |
| 14.4 Packing group | |
| ADR, IMDG, IATA | II |
| 14.5 Environmental hazards: | Not applicable. |

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)

(Contd. of page 7)

<ul style="list-style-type: none"> · 14.6 Special precautions for user · Kemler Number: · EMS Number: · Segregation groups · Stowage Category 	Warning: Corrosive substances. 80 F-A,S-B (SGG1) Acids E
<ul style="list-style-type: none"> · 14.7 Maritime transport in bulk according to IMO instruments 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> · Transport category · Tunnel restriction code 	2 E
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	
	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

* SECTION 15: Regulatory information

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

- **Poisons Act UK**

- **Regulated explosives precursors**

The substance falls under regulated explosive precursors due to the fact that the concentration is greater than/equal ($\geq x\%$) the stated mass percentage:

CAS: 7647-01-0	hydrochloric acid	10%
----------------	-------------------	-----

- **Regulated poisons**

None of the ingredients is listed.

- **Reportable explosives precursors**

None of the ingredients is listed.

- **Reportable poisons**

None of the ingredients is listed.

- **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

- **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

- **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

None of the ingredients is listed.

- **Regulation (EC) No 273/2004 on drug precursors**

CAS: 7647-01-0	hydrochloric acid	3
----------------	-------------------	---

- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

CAS: 7647-01-0	hydrochloric acid	3
----------------	-------------------	---

- **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

- **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

- **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.10.2023

Version number 4 (replaces version 3)

Revision: 27.10.2023

Product name: Hydrochloric acid 1:1 Catalysed (Betz Reagent)

(Contd. of page 8)

- **Substances of very high concern (SVHC) according to REACH, Article 57**
This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
 - **Substances of very high concern (SVHC) according to UK REACH**
This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
 - **Directive 2012/18/EU (SEVESO III):**
 - **Named dangerous substances - ANNEX I** None of the ingredients is listed.
 - **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
 - **Information about limitation of use:** Not required.
 - **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.
-

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Training hints** Provide adequate information, instruction and training for operators.
- **Relevant phrases**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
- **Abbreviations and acronyms:**
OECD: Organisation for Economic Co-operation and Development
STOT: specific target organ toxicity
SE: single exposure
RE: repeated exposure
EC50: half maximal effective concentration
IC50: half maximal inhibitory concentration
NOEL or NOEC: No Observed Effect Level or Concentration
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Met. Corr. 1: Corrosive to metals – Category 1
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- **Sources**
Data arise from safety data sheets, reference works and literature.
RTECS (Registry of Toxic Effects of Chemical Substances)
- *** Data compared to the previous version altered.**

— GB —