BORTERA

# SAFETY DATA SHEET
# HYDROCHLORIC ACID

**Commission Regulation (EU) 2020/878 of 18 June 2020.**
**According to Regulation (EC) No 1907/2006, Annex II, as amended.**
**According to the REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577, as amended.**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

| | |
|---|---|
| **Product name** | **HYDROCHLORIC ACID** |
| **CAS No** | 7647-01-0 |
| **EC No** | 231-595-7 |

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

| | |
|---|---|
| **Identified uses** | It is used in the metal, chemical and petroleum industries. |

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**Classification (EC 1272/2008)**

| | |
|---|---|
| Physical and Chemical Hazards | Not classified. |
| Human Health Hazards | Skin Corr. 1B - H314. STOT SE 3 - H335 |
| Environment Hazards | Not classified. |

*The Full Text for all Hazard Statements are Displayed in Section 16.*

### 2.2. Label elements

**Label In Accordance With (EC) No. 1272/2008**
**CAS No:** 7647-01-0

| | |
|---|---|
| **Contain** | Hydrochloric Acid |
| **Signal Word** | Danger |

**Hazard Statements**

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage. |
| H335 | May cause respiratory irritation. |

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**Precautionary Statements**

| | |
|---|---|
| P234 | Keep only in original packaging. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P311 | IF exposed or concerned: Call a POISON CENTER or doctor. |
| P403 | Store in a well-ventilated place. |
| P501 | Dispose of contents/container in accordance with national regulations. |

### 2.3. Other hazards

This product does not contain any PBT or vPvB substances.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

| Name | EC No. | CAS No. | Content | Classification (EC 1272/2008) |
|---|---|---|---|---|
| Hydrochloric Acid* | 231-595-7 | 7647-01-0 | 30-32 % | Skin Corr. 1B - H314<br>STOT SE 3 - H335 |

| Name | Special concentration limit values |
|---|---|
| Hydrochloric Acid* | Eye Irrit. 2- H319: 10 % ≤ C < 25 %<br>STOT SE 3 - H335: C ≥ 10 %<br>Skin Corr. 1B - H314: C ≥ 25 %<br>Skin Irrit. 2 - H315: 10 % ≤ C < 25 % |

The Full Text for all Hazard Statements are Displayed in Section 16.

**Composition Comments**

- The data shown are in accordance with the latest EC Directives.
- *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.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

**Inhalation**
Immediately remove the exposed person to fresh air. Rinse nose and mouth with water.
If any discomfort persists, consult a doctor.

**Ingestion**
Never give anything liquid to an unconscious person. Rinse the mouth thoroughly.
If any discomfort persists, consult a doctor.

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**Skin contact**
Move the victim away from the site of contamination. Remove contaminated clothing. Wash skin immediately with soap and water. If irritation persists after washing, seek medical advice.

**Eye contact**
Immediately move the victim away from the exposure site. If contact lenses are present, they must be removed before washing the eyes. Immediately rinse eyes with plenty of water by opening the eyelids. Seek medical advice immediately. Continue flushing with water.

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

| | |
|---|---|
| **Inhalation** | Irritation in the upper part of the respiratory system. |
| **Ingestion** | Irritation. It damages the stomach and intestines. |
| **Skin contact** | Prolonged skin contact corrodes the skin. |
| **Eye contact** | Causes serious eye damage. |

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

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

**Extinguishing media:** Carbon dioxide, water spray, foam (to cool containers exposed to fire)
**Unsuitable fire extinguishers:** No information available.

### 5.2. Special hazards arising from the substance or mixture
Contact with most metals may release flammable, potentially explosive hydrogen gas.
Under fire conditions, heating may produce hydrochloric acid fumes.

### 5.3. Advice for firefighters

Remove the container from the fire area if it is possible to do so without any danger. Dispose of fire extinguishing water into sewers and water from flowing into their pathways. Install a dike to keep the water under control.

**Protective equipment for fire-fighters**
Protective face mask, protective gloves and safety helmet. In case of fire, use self-contained breathing apparatus and full protective clothing.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protective equipment as recommended in Section 8, "Exposure controls / Personal Protection". Avoid contact with eyes and skin. Avoid inhalation of fumes and vapors. Keep away persons not taking protective measures.

### 6.2. Environmental precautions
Avoid spillage into soil or watercourses.

### 6.3. Methods and material for containment and cleaning up
Absorb with a binding liquid material such as diatomaceous earth and must be disposed of in accordance with regional/national regulations. Dilute with large amounts of water and dispose of according to regional/national regulations.

### 6.4. Reference to other sections
For personal protection, see section 8.
See section 11 for additional information on health hazards. For waste disposal, see section 13.

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## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

It should be used in closed and well-ventilated areas.
Adequate ventilation should be provided to reduce the vapor and particle concentration in the environment where it is used below the permissible limits. Open process equipment requires a local ventilation system. All equipment must be corrosion resistant.
An eye shower and shower should be available at the process site and where used. Avoid contact with eyes and skin.

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

Store in a well-ventilated, dry place away from heat, open flames and sunlight.
Keep containers closed and upright, protecting them from physical damage.
Store the substance in its original packaging.
Smoking, eating and drinking should be prohibited in the environment.
The storage room should be dry and cool.
Provide good ventilation.
The warehouse should be cleaned regularly and ventilation, temperature and humidity should be checked regularly.
All substances should be kept closed in their original packaging when not in use.

**Common Storage Conditions**

Keep away from food, beverages and animal feeding areas. Keep away from open flame sources, sparks and heat.
Do not store with oxidizing agents and hazardous reactants. Keep away from metals and substances with which it reacts violently.
Keep away from materials. Do not allow smoking, open flames or sparks to prevent explosion of hydrogen gas from accidental contact of acid with metals. Follow the general rules for storing chemicals.

**Incompatible Substances**

Common metals, water, amines, metal oxides, acetic anhydride, propiolactane, vinyl acetate, mercury sulfate, calcium phosphide, formaldehyde, alkalis, carbonates, strong bases, sulfuric acid, chlorosulfonic acid, oxidizing agents, cyanides, sulfides, formaldehyde.

### 7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

**Occupational exposure control limits**

| | |
|---|---|
| Hydrochloric Acid | TWA (8 Hour): 5 ppm, 8 mg/m$^3$ (EU)<br>STEL (15 minute): 10 ppm, 15 mg/m$^3$ (EU) |

**DNEL values**

| | |
|---|---|
| Workers, local, long term, inhalation | 8 mg/m$^3$ |
| Workers, acute, short term, inhalation | 15 mg/m3 |

### 8.2. Exposure controls

**Protective equipment**

**Process conditions**

Provide an eye wash.

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**Engineering measures**
Provide suitable ventilation. Observe occupational exposure limits and reduce the risk of vapor inhalation.

**Respiratory equipment**
Wear a suitable NIOSH approved respirator for vapors and particulates at the point of use. Suitable respirators: full-face respirator, half-mask with filter for acids, positive pressure respirator or air mask.

**Hand protection**
Use rubber or PVC gloves.
**Eye protection**
Wear safety glasses or a face shield if there is a risk of splashing.

**Hygiene measures**
DO NOT SMOKE AT WORKING PLACES!
Wash your hands at every shift change and before eating, before smoking and before going to the toilet.
Remove all contaminated clothing immediately. Use a suitable skin cream to prevent dry skin.
Do not eat, drink or smoke during use.

**Skin protection**
Rubberized clothing, rubber aprons and boots should be used.

**Environmental Exposure Controls**
Obligations under existing legislation on environmental protection should be fully met.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

| | |
|---|---|
| **Appearance** | Liquid |
| **Colour** | Colourless, light yellow |
| **Odour** | Pungent |
| **Odour threshold** | No data available |
| **Solubility** | Soluble in water @ 20 ˚C |
| **Melting Point** | No data available |
| **Initial boiling point and range** | 80 ˚C @ 760 mmHg (32%W/W) |
| **Auto-ignition temperature** | No data available |
| **Flash point** | No data available |
| **Evaporation rate** | No data available |
| **Vapor density** | No data available |
| **Vapor pressure @ 20 ° C** | No data available |
| **Relative density** | No data available |
| **Flammability (solid, gas)** | No data available |
| **Upper/lower flammability or explosive limits** | No data available |
| **Coefficient of dispersion: n-octanol / water** | No data available |
| **Bulk density** | No data available |
| **Density** | 1160 kg/m3 @15,5 ˚C |
| **Decomposition Temperature** | No data available |
| **pH-Value** | 1.0 (0.1 M Solution) |
| **Molecular weight** | 36.47 g/mol |

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| | |
|---|---|
| **Viscosity** | No data available |
| **Oxidative properties** | No data available |
| **Explosive properties** | No data available |
| **Particle characteristic** | No data available |

**9.2. Other information**
No data available

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity**
No data available.

**10.2. Chemical stability**
Stable under normal temperature conditions and recommended use.

**10.3. Possibility of hazardous reactions**
No data available.

**10.4. Conditions to avoid**
Heat and humidity.

**10.5. Incompatible materials**
It reacts strongly with most metals, releasing hydrogen. It gives chlorine by oxidizing means, hydrogen with cyanides, hydrogen sulfide with sulfides and bichloromethyl ether with formaldehyde. Avoid contact with common metals, water, amines, metal oxides, acetic anhydride, propiolactane, vinyl acetate, mercury sulfate, calcium phosphide, formaldehyde, alkalis, carbonates, strong bases, sulfuric acid, chloro sulfonic acid.

**10.6. Hazardous decomposition products**
Hydrogen chloride (HCl), hydrogen (H2), chloride (Cl-), chlorine (Cl2), hydrogen sulphide (H2S), bichloromethyl ether. Under fire conditions, hydrochloric acid fumes may be emitted as a result of heating. Contact with most metals may release flammable, potentially explosive hydrogen gas.

## SECTION 11: TOXICOLOGICAL INFORMATION

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

**Acute toxicity**
LC50 Inhalation: 7051 mg/m$^3$ (rat)

**Skin corrosion/irritation**
Causes severe skin burns.

**Serious eye damage/irritation**
Causes serious eye damage. Hydrochloric acid causes injury to the rabbit cornea at pH values lower than 3. 0.9-3% solution causes perforations in the rabbit cornea.

**Respiratory or skin sensitisation:**
Inhalation of vapors or particles causes varying degrees of damage to affected cells and increased susceptibility to respiratory disease.

**Germ cell mutagenicity (in vitro – in vivo)**
Based on available data the classification criteria are not met.

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**Carcinogenicity**
Based on available data the classification criteria are not met.

**Reproductive Toxicity (Fertility - Development)**
Based on available data the classification criteria are not met.

**STOT-single exposure**
Based on available data the classification criteria are not met.

**STOT-repeated exposure**
Based on available data the classification criteria are not met.

**Aspiration Toxicity**
Based on available data the classification criteria are not met.

**Inhalation**
Sudden exposure to 100 ppm hydrogen chloride in the gas phase poses a serious danger to life and health. Exposure to gases or vapors may cause immediate coughing, burning in the throat and nose, shortness of breath, confusion, weakness and difficulty swallowing. Exposure to 5 ppm HCl may be followed by reddening of the nose, throat, pulmonary ducts or bronchi, followed by blistering, blistering of the lungs, headache, palpitations, dental erosion or perforation of the nasal septum. Chronic exposure causes erosion of teeth, skin redness and gastrointestinal upset.

**Ingestion**
Causes injury to the mouth, esophagus and stomach. It can cause pain, nausea, bile secretion, vomiting, chills, shock and dehydration.

**11.2. Information on other hazards**
This product does not contain any endocrine disrupting properties.

## SECTION 12: ECOLOGICAL INFORMATION

**12.1. Toxicity**
**Toxicity to aquatic algae**
EC50, freshwater algae, 0.73 mg/l
NOEC, freshwater algae, 0.364 mg/l

**Toxicity to microorganisms**
EC50, microorganisms, 0.23 mg/l

**12.2. Persistence and degradability**
No information available.

**12.3. Bioaccumulative potential**
No information available.

**12.4. Mobility in soil**
Soluble in water.

**12.5. Results of PBT and vPvB assessment**
This product does not contain any PBT or vPvB substances.

**12.6. Endocrine disrupting properties**
This product does not contain any endocrine disrupting properties.

**12.7. Other adverse effects**
It should not be released to the environment.

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## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1. Waste treatment methods**

Dispose of absorbed material by incineration in an appropriate licensed facility. Waste and used packaging must be disposed of in accordance with the relevant regulations.
Do not allow to get into surface and ground water, drinking water sources, stagnant and flowing water and sewage.
Hazardous Waste List Number: 06 01 02*

## 14 TRANSPORT INFORMATION

**14.1. UN number or ID number**

| | |
|---|---|
| **UN No. (ADR/RID/ADN)** | 1789 |
| **UN No. (IMDG)** | 1789 |
| **UN No. (ICAO)** | 1789 |

**14.2. UN proper shipping name**

| | |
|---|---|
| **Proper Shipping Name** | HYDROCHLORIC ACID |

**14.3. Transport hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN Class** | 8 |
| **Classification code** | C1 |
| **ADR/RID/ADN Class** | Class 8: Corrosive substances |
| **ADR Label No.** | 8 |
| **IMDG Class** | 8 |
| **ICAO/IATA Class** | 8 |
| **Transport Labels** | |


**14.4. Packing group**

| | |
|---|---|
| **ADR/RID/ADN Packing group** | II |
| **IMDG Packing group** | II |
| **ICAO/ IATA Packing group** | II |

**14.5. Environmental hazards**

**Environmentally Hazardous Substance/Marine Pollutant**
No.

**14.6. Special precautions for user**

| | |
|---|---|
| **Limited Quantities** | 1 L |
| **EMS** | F-A, S-B |
| **ADR shipment category** | 2 |
| **Emergency Action Code** | 2R |
| **Hazard No. (ADR)** | 80 |
| **Tunnel Restriction Code** | (E) |

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

Not applicable.

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## SECTION 15: REGULATORY INFORMATION

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

**National Legislation**

- Commission Regulation (EU) 2020/878 of 18 June 2020.
- Health and Safety at Work etc. Act 1974 (as amended).
- EH40/2005 Workplace exposure limits.
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

**Seveso Directive - Control of major accident hazards**
Not relevant.

**Restrictions (Annex XVII Regulation 1907/2006)**
There are no known restrictions on the use of this product.

**15.2. Chemical Safety Assessment**
No chemical safety assessment has been carried out.

## SECTION 16: OTHER INFORMATION

**Abbreviations and acronyms used in the safety data sheet**
ADR: European Agreement on International Carriage of Dangerous Goods by Road.
ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement on International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
ICAO-TI: Technical Specification for Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
TWA: Time weighted average
ATE: Estimated value of acute toxicity
EC No: European Community number
CAS: Chemical Theory Service.
LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
LC50: Substance concentration causing 50% (half) death in the test animals group.
EC50: Effective Concentration of the substance causing the maximum of 50%.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent, Very Bioaccumulative.
DNEL: Derived No Effect Level
PNEC: Predicted no-effect concentration
STOT: Specific Target Organ Toxicity

**Information Sources**
This SDS has been obtained from the owner of the product.
ECHA - www.echa.europa.eu

**Revision Comments**
This is first issue.

**Classification reason**

| | |
|---|---|
| Skin Corr. 1B- H314 | : Calculation method. |
| STOT SE 3 - H335 | : Calculation method. |

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**Hazard Statements in Full**
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

**Issued By**
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**Issued Note**
This SDS is prepared based on the information and documents received from product owner. CRAD or/and SDS author shall not be responsible for incorrect preapared of SDS and pecuniary loss or intangible damages because of deficient or wrong information and documents which comes from product owner

**Disclaimer**
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