



Hydrochloric acid

Safety Data Sheet

According to ABNT NBR 14725-4

Date of issue: 06 June 2017 Revision date: 06 June 2017 Supersedes: 12 November 2013 Version: 2.0

SECTION 1: Identification of Product and Company

1.1. Product identifier

Trade name : Hydrochloric acid
Product code : HCL
Recommended use : Industrial use

1.2. Company identification

Braskem S.A.
Rua Orogênio, 765 – Polo Petroquímico
CEP: 42810-000
Camaçari/BA – Brasil

Braskem S.A.
Av. Assis Chateaubriand, 5260 – Pontal da Barra
CEP: 57010-900
Maceió/AL – Brasil

Contact email: productsafety@braskem.com

Emergency number : +55 71 3413-3399
0800 821 660

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Corrosive to metals, Category 1
Acute toxicity (oral), Category 4
Skin corrosion/irritation, Category 1B
Serious eye damage/eye irritation, Category 1
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

2.2. Label elements

GHS-BR labelling

Hazard pictograms (GHS-BR)



Signal word (GHS-BR) : Danger

Hazard statements (GHS-BR) : H290 - May be corrosive to metals
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS-BR) : P234 - Keep only in original container
P260 - Do not breathe spray, mist, vapours
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, protective gloves, protective clothing
P301+P312 - IF SWALLOWED: Call a doctor, a POISON CENTER if you feel unwell
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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
P310 - Immediately call a doctor, a POISON CENTER
P312 - Call a doctor, a POISON CENTER if you feel unwell
P330 - Rinse mouth
P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P406 - Store in corrosive resistant container with a resistant inner liner

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P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards not contributing to the classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Hydrochloric acid	(CAS-No.) 7647-01-0	33

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
First-aid measures after ingestion	: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

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

Symptoms/effects after inhalation	: May cause respiratory irritation. Inhalation may cause irritation, cough, shortness of breath.
Symptoms/effects after skin contact	: Causes severe burns.
Symptoms/effects after eye contact	: Causes serious eye damage. Can cause blindness.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Ingestion may cause nausea, vomiting and diarrhea.

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

Notes to physician	: Treat symptomatically
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: On burning: release of (highly) toxic gases/vapours. Hydrogen chloride.
Explosion hazard	: No direct explosion hazard.
Reactivity	: Thermal decomposition generates: Corrosive vapours.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent firefighting water from entering the environment.
Protective equipment for firefighters	: 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

6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Ventilate spillage area. Stop leak if safe to do so. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

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6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Equip clean-up crew with proper protection.
- Emergency procedures : Evacuate unnecessary personnel. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection. Stop leaks if it can be done without personal risk. Keep upwind. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent contamination of soil, drains and surface waters. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Small spillages: Dilute with plenty of water. Drench affected area with water for at least 15 minutes. Large quantities: Contain large spillage with sand or earth. Collect all waste in suitable and labelled containers and dispose according to local legislation. Leftovers: neutralize with sodium bicarbonate. Flush residue with large amounts of water. Store away from other materials.
- Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : May be corrosive to metals.
- Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapours, spray, mist. NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from: Incompatible materials. Store in a well-ventilated place. Keep cool. Keep container closed when not in use.
- Incompatible materials : Metals. Strong oxidizing agents. Organic materials. alkalis.
- Packaging materials : Store in a corrosion resistant container with a resistant inner liner.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hydrochloric acid (7647-01-0)		
Brazil	Ceiling Value NR-15 (mg/m ³)	5.5 mg/m ³
Brazil	Ceiling Value NR-15 (ppm)	4 ppm
USA	Local name	Hydrogen chloride
USA	ACGIH Ceiling (ppm)	2 ppm
USA	Regulatory reference	ACGIH 2017

8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
- Environmental exposure controls : Avoid release to the environment.

8.3. Personal protective equipment

- Hand protection : Impermeable protective gloves. Polyvinyl alcohol or nitrile-butyl rubber gloves.
- Eye protection : Chemical goggles or face shield.
- Respiratory protection : An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Clear.
- Colour : Colourless

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Odour	: Pungent
Odour threshold	: Not available
pH	: Not available
Melting point	: $\approx -46.2\text{ }^{\circ}\text{C}$ ($-51.2\text{ }^{\circ}\text{F}$)
Freezing point	: Not available
Boiling point	: Not available
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: Not available
Flammability (solid, gas)	: Not available
Explosive limits	: Not applicable
Vapour pressure	: $> 1.41 - 14.1\text{ kPa}$
Relative vapour density at 20 °C	: Not available
Relative density	: Not available
Density	: $\approx 1.149 - 1.179$
Solubility	: Water: Soluble
Log Pow	: Not available
Log Kow	: Not available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
Viscosity, kinematic	: Not available
Viscosity, dynamic	: $> 1.71 - 2\text{ mPa.s}$ (20 °C)

9.2. Other information

Not available

SECTION 10: Stability and reactivity

Chemical stability	: Stable at ambient temperature and under normal conditions of use
Conditions to avoid	: High temperature
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates: Corrosive vapours
Incompatible materials	: Metals. Strong oxidizing agents, organic materials, alkalis
Possibility of hazardous reactions	: Incompatible materials
Reactivity	: Thermal decomposition generates: Corrosive vapours

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Oral: Harmful if swallowed.
Acute toxicity (dermal)	: Not available
Acute toxicity (inhalation)	: Not available

ATE BR (oral)	721 mg/kg bodyweight
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Hydrochloric acid (7647-01-0)	
LD50 oral rat	238 - 277 mg/kg
LD50 dermal rabbit	$> 5010\text{ mg/kg}$
LC50 inhalation rat (mg/l)	1.68 mg/l (Exposure time: 1 h)

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not available
Germ cell mutagenicity	: Not available
Carcinogenicity	: Not available
Reproductive toxicity	: Not available
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not available
Aspiration hazard	: Not available

Potential Adverse human health effects and symptoms	: Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation.
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Symptoms/effects after inhalation	: May cause respiratory irritation. Inhalation may cause irritation, cough, shortness of breath.
Symptoms/effects after skin contact	: Causes severe burns.
Symptoms/effects after eye contact	: Causes serious eye damage. Can cause blindness.

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Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Ingestion may cause nausea, vomiting and diarrhea.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not available
Chronic aquatic toxicity : Not available

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. Other adverse effects

GWPmix comment : No known effects from this product.

SECTION 13: Disposal considerations

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose of at authorized waste collection point. Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Do not allow into drains or water courses. Avoid release to the environment.

SECTION 14: Transport information

Classification for LAND transport: ANTT

UN Number : UN1789
Proper Shipping Name : HYDROCHLORIC ACID
Class / Division : 8
Número de risco : 80
Packing group : II
Environmental hazards : Not considered environmentally hazardous based on available data

Classification for SEA transport: IMO - IMDG

UN Number : UN1789
Proper Shipping Name : HYDROCHLORIC ACID
Class / Division : 8
Packing group : II
Marine Pollutant : Not considered marine pollutant based on available data
Transporte a granel conforme o Anexo II da Convenção MARPOL 73/78 e o Código IBC:
Nome do produto : Hydrochloric acid

Classification for AIR transport: IATA - ICAO

UN Number : UN1789
Proper Shipping Name : Hydrochloric acid
Class / Division : 8
Packing group : II
Environmental hazards : Not considered environmentally hazardous based on available data

This information does not intend to convey all specific regulatory or operational requirements/information relating to the product, therefore it cannot be considered exhaustive. Consult US DOT, IMO and ICAO regulations before transporting the product. It is responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: Regulatory information

No additional information available

SECTION 16: Other information

Other information : None.

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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. It warns that the handling of any chemical substance requires the previous knowledge of its hazards for the user. It is up to the user of the product company providing this SDS to and promote the training of its employees about possible risks come upon of the product. The information contained herein is not absolute, but only general information on the use of the chemical and indication of safety and security measures.