Material Safety Data Sheet

Hydrochloric Acid 28%

1. Company Identification and Product Information

Product Name: Hydrochloric Acid 28%
Application: Hydrochloric acid 28%
Supplier: Accepta Ltd
Statham House
Talbot Road
Manchester
M32 0FP
Telephone: 0161 877 2334
Fax: 0870 135 6389
Email: info@accepta.com
Website: www.accepta.com
Emergency (only) Telephone: 0161 877 2334

2. Hazard Identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
REGULATION (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Hazard class</th>
<th>Hazard category</th>
<th>Target Organs</th>
<th>Hazard statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosive to metals</td>
<td>Category 1</td>
<td>---</td>
<td>H290</td>
</tr>
<tr>
<td>Skin corrosion</td>
<td>Category 1B</td>
<td>---</td>
<td>H314</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td>Category 3</td>
<td>---</td>
<td>H335</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.
Classification according to EU Directives 67/548/EEC or 1999/45/EC

Directive 67/548/EEC or 1999/45/EC

Hazard symbol / Category of danger
Risk phrases
Corrosive (C) R34
Irritant (Xi) R37

For the full text of the R-phrases 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 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
Prevention: P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response: P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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 IF exposed or concerned:
P310 Immediately call a POISON CENTER or doctor/physician.

Hazardous components which must be listed on the label: Hydrochloric acid

2.3. Other hazards
No other information is available.

3. Composition Information

3.1. Substances
Chemical nature: Aqueous solution

Classification
(REGULATION (EC) No 1272/2008)
4. First Aid Measures

4.1. Description of first aid measures
General advice: Take off all contaminated clothing immediately.
If inhaled: If unconscious place in recovery position and seek medical advice. Remove to fresh air.
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. If swallowed, do not induce vomiting - seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms: Corrosive effects
Effects: No further information available.

4.3. Indication of any immediate medical attention and special treatment needed
Treatment: Treat symptomatically.

5. Fire Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media: The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media: No information available.

5.2. Special hazards arising from the substance or mixture
Specific hazards during fire fighting: Under fire conditions: Hydrogen chloride gas, Gives off hydrogen by reaction with metals.

5.3. Advice for firefighters
Special protective equipment
for fire-fighters :
Further information :
In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit) Cool closed containers exposed to fire with water spray. Heating will cause a pressure rise - with risk of bursting. Suppress (knock down) gases/vapours/mists with a water spray jet. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Personal precautions :
Use personal protective equipment. Keep people away from and upwind of spill/leak. Provide adequate ventilation. Avoid contact with the skin and the eyes. Do not breathe vapours.

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:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal. Flush away residuals with plenty of water.
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.

7. Handling and Storage

7.1. Precautions for safe handling
Advice on safe handling :
Handle and open container with care. Use personal protective equipment. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist. 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. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers: Keep in an area equipped with acid resistant flooring.
Suitable materials for containers: glass; Polypropylene; polyethylene containers;
Unsuitable materials for containers: Metals
Advice on protection against fire and explosion: The product is not flammable. Gives off hydrogen by reaction with metals. Risk of explosion.
Further information on storage conditions: Keep container tightly closed. Keep in a well-ventilated place.
Advice on common storage: Keep away from food, drink and animal feedingstuffs. Corrosive in contact with metals. Materials to avoid sodium hypochlorite alkalis
German storage class: 8 Corrosive Substances

7.3. Specific end uses
Specific use(s): No information available.

8. Exposure Controls

8.1. Control parameters
Component: hydrochloric acid CAS-No. 7647-01-0
Other OELs
EU ELV, Short Term Exposure Limit (STEL): 10 ppm, 15 mg/m³
Indicative
EU ELV, Time Weighted Average (TWA): 5 ppm, 8 mg/m³
Indicative
EH40 WEL, Time Weighted Average (TWA): 1 ppm, 2 mg/m³
EH40 WEL, Short Term Exposure Limit (STEL): 5 ppm, 8 mg/m³

8.2. Exposure controls
Engineering measures
Refer to protective measures listed in sections 7 and 8.
Personal protective equipment
Respiratory protection
Advice: In case of insufficient ventilation, wear suitable respiratory equipment. Required, if exposure limit is exceeded (e.g. OEL).
Hand protection

Advice:
The glove material has to be impermeable and resistant to the product / the substance / the preparation.
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Protective gloves should be replaced at first signs of wear.

Material:
- butyl-rubber
  - Break through time: $\geq 8$ h
  - Glove thickness: 0.5 mm
- Nitrile rubber
  - Break through time: $\geq 8$ h
- Polychloroprene
  - Break through time: $\geq 8$ h
  - Glove thickness: 0.5 mm
- Fluorinated rubber
  - Break through time: $\geq 8$ h
  - Glove thickness: 0.4 mm
- Polyvinylchloride
  - Break through time: $\geq 8$ h
  - Glove thickness: 0.5 mm

Eye protection

Advice:
Tightly fitting safety goggles

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.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form: liquid
Colour: colourless to yellowish
Odour: stinging
Odour Threshold: Currently we do not have any Information from our supplier about this.
$\text{pH}$: $< 0.1$ (20 °C)
Solidification point: -40 °C
Boiling point/boiling range: ca. 90 °C
Flash point: not applicable
Evaporation rate: Currently we do not have any Information from our supplier about this.
Flammability (solid, gas): does not ignite
Upper explosion limit: Currently we do not have any Information from our supplier about this.
Lower explosion limit: Currently we do not have any Information from our supplier about this.
Vapour pressure: 21.8 hPa (20 °C)
Relative vapour density: Currently we do not have any Information from our supplier about this.
Density: 1.15 - 1.17 g/cm3 (20 °C)
Water solubility: completely miscible
Partition coefficient: n-octanol/water: log Kow -0.25
log Pow
Ignition temperature: Currently we do not have any Information from our supplier about this.
Thermal decomposition: Currently we do not have any Information from our supplier about this.
Viscosity, dynamic: 1.74 mPa.s (20 °C)
Explosivity: Product is not explosive.
Oxidizing properties: Currently we do not have any Information from our supplier about this.

9.2. Other information
No further information available.

10. Stability and Reactivity

10.1. Reactivity
Advice: No decomposition if stored and applied as directed.

10.2. Chemical stability
Advice: Stable under normal conditions.

10.3. Possibility of hazardous reactions
Hazardous reactions: Hydrogen, by reaction with metals Explosive properties May develop chlorine if mixed with sodium hypochlorite or oxidizing agents (e.g. potassium permanganate, magnesium oxide and hydrogen peroxide).

10.4. Conditions to avoid
Conditions to avoid: No information available.

10.5. Incompatible materials
Materials to avoid: Metals, sodium hypochlorite, Amines, fluorine, Strong oxidizing agents, Chlorite, Cyanides, alkalines

10.6. Hazardous decomposition products
Hazardous decomposition products: Hydrogen chloride gas

11. Toxicological Information
11.1. Information on toxicological effects

Irritation

Skin
Result: corrosive effects (rabbit)

Eyes
Result: corrosive effects (rabbit)

Risk of serious damage to eyes.

Sensitisation
Result: not sensitizing (guinea pig) (Maximisation Test)

Further information

Other relevant toxicity information: All numerical values for acute toxicity are calculated on the pure substances.

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

Acute toxicity

Dermal
LD50: > 5010 mg/kg (rabbit)

12. Ecological Information

12.1. Toxicty

Component: hydrochloric acid

Acute toxicity

Fish
LC50: 7.45 mg/l (Oncorhynchus mykiss; 96 h)
LC50: 24.6 mg/l (Lepomis macrochirus; 96 h)

Toxicity to daphnia and other aquatic invertebrates.
EC50: 0.492 mg/l (Daphnia magna; 48 h)

algae
EC50: 0.78 mg/l (Pseudokirchneriella subcapitata; 72 h)

12.2. Persistence and degradability

Component: hydrochloric acid

Persistence and degradability

Biodegradability
Result: Inorganic product which is not removable from water by biological processes.

12.3. Bioaccumulative potential

Component: hydrochloric acid

Bioaccumulation
Result: Bioaccumulation is not expected.
log Pow < 1

12.4. Mobility in soil

Component: hydrochloric acid

Mobility: Not expected to adsorb on soil.
12.5. Results of PBT and vPvB assessment

Component: hydrochloric acid

Results of PBT and vPvB assessment

Result: Non-classified vPvB substance, Non-classified PBT substance

12.6. Other adverse effects

Additional ecological information

Result: All numerical values for ecotoxicity effects are calculated on the pure substances. Harmful effects to aquatic organisms due to pH-shift. Neutralization is normally necessary before waste water is discharged into water treatment plants. Do not flush into surface water or sanitary sewer system.

13. Disposal Considerations

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.

Contaminated packaging: Empty remaining contents. Packagings that cannot be cleaned are to be disposed of in the same manner as the product. Dispose of in accordance 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.

14. Transportation Information

14.1. UN 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; 8; C1; 80; (E)
Hazard identification No; Tunnel restriction code)

RID-Class 8
(Labels; Classification Code; 8; C1; 80)
14.4. Packaging group
ADR : II
RID : II
IMDG : II

14.5. Environmental hazards
Labeling according to 5.2.1.8 ADR : no
Labeling according to 5.2.1.8 RID : no
Labeling according to 5.2.1.6.3 IMDG : no
Classification as environmentally hazardous according to 2.9.3 IMDG : no
Classified as “P” according to 2.10 IMDG : no

14.6. Special precautions for user
Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
IMDG : Not applicable.

15. Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
UK ISR : hydrochloric acid: Annual reporting level threshold: 10,000 kg

Notification status
hydrochloric acid:

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<tr>
<th>Regulatory List</th>
<th>Notification</th>
<th>Notification number</th>
</tr>
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<tbody>
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<tr>
<td>DSL</td>
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<td>TSCA</td>
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<td>EINECS</td>
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<td>KECI (KR)</td>
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<td>YES</td>
<td>KE-20189</td>
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<td>PICCS (PH)</td>
<td>YES</td>
<td></td>
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</tbody>
</table>

15.2. Chemical Safety Assessment
Currently we do not have any information from our supplier about this.
16. Other Information

Full text of R-phrases referred to under sections 2 and 3.
R34 Causes burns.
R37 Irritating to respiratory system.

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.
H335 May cause respiratory irritation.

Further information
Other information: Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use.
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication, however no guarantee is made to its accuracy. The information given is prepared only as guidance for safe handling, use, processing, storage, transportation, disposal and release and should not be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material when used in combination with any other materials or in any process, unless specified in this Safety Data Sheet.
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