# Hydrochloric Acid, 5% v/v

Safety Data Sheet

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## SECTION 1: Identification

### 1.1. Identification

Product form : Mixtures

Product name : Hydrochloric Acid, 5% v/v

Product code : LC15050

### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only.

Recommended use : Laboratory chemicals

Restrictions on use : Not for food, drug or household use

### 1.3. Supplier

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

| | | |
|---|---|---|
| Skin corrosion/irritation Category 1B | H314 | Causes severe skin burns and eye damage |
| Serious eye damage/eye irritation Category 1 | H318 | Causes serious eye damage |

Full text of H statements : see section 16

### 2.2. GHS Label elements, including precautionary statements

**GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) : P260 - Do not breathe mist, vapors, spray
P264 - Wash exposed skin thoroughly after handling
P280 - Wear protective gloves, eye protection, protective clothing, face protection
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
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 poison center or doctor/physician
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container to comply with local, state and federal regulations
If inhaled: Remove person to fresh air and keep comfortable for breathing

### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name | Product identifier | % | GHS-US classification |
|---|---|---|---|
| Water | (CAS-No.) 7732-18-5 | 97.81 | Not classified |
| Hydrochloric Acid, 37% w/w | (CAS-No.) 7647-01-0 | 2.19 | Acute Tox. 4 (Oral), H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>STOT SE 3, H335<br>Aquatic Acute 3, H402 |

Full text of hazard classes and H-statements : see section 16

## 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 : Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : Possible inflammation of the respiratory tract.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Nausea. Vomiting.

Chronic symptoms : Affection/discolouration of the teeth.

### 4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard : Not flammable.

Explosion hazard : Not applicable.

Reactivity : Thermal decomposition generates : Corrosive vapors.

### 5.3. Special protective equipment and precautions for fire-fighters

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

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Not applicable.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Try to stop release. Dike and contain spill.

#### 6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses. Protective clothing. Face-shield.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

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. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mist, vapors, spray.

Hygiene measures : Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

### 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. Keep container closed when not in use.

Incompatible products : metals. cyanides. Strong bases. Strong acids.

Incompatible materials : Direct sunlight.

Packaging materials : Do not store in corrodable metal.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| **Hydrochloric Acid, 37% w/w (7647-01-0)** | | |
|---|---|---|
| ACGIH | ACGIH Ceiling (mg/m³) | 2.98 mg/m³ |
| ACGIH | ACGIH Ceiling (ppm) | 2 ppm |
| OSHA | OSHA PEL (Ceiling) (mg/m³) | 7 mg/m³ |
| OSHA | OSHA PEL (Ceiling) (ppm) | 5 ppm |
| IDLH | US IDLH (ppm) | 50 ppm |
| NIOSH | NIOSH REL (ceiling) (mg/m³) | 7 mg/m³ |
| NIOSH | NIOSH REL (ceiling) (ppm) | 5 ppm |

| **Water (7732-18-5)** |
|---|
| Not applicable |

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

### 8.3. Individual protection measures/Personal protective equipment

**Personal protective equipment:**

Chemical resistant apron. Face shield. Gloves. Safety glasses. Protective clothing.



**Hand protection:**

Wear protective gloves

**Eye protection:**

Chemical goggles or face shield

**Skin and body protection:**

Wear suitable protective clothing

**Respiratory protection:**

Respiratory protection not required in normal conditions

**Other information:**

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Color | : | Colorless |
| Odor | : | Odorless characteristic |
| Odor threshold | : | No data available |
| pH | : | ≤ 0.5 |
| Melting point | : | No data available |
| Freezing point | : | No data available |
| Boiling point | : | No data available |
| Flash point | : | No data available |
| Relative evaporation rate (butyl acetate=1) | : | No data available |
| Flammability (solid, gas) | : | Non flammable. |
| Vapor pressure | : | No data available |
| Relative vapor density at 20 °C | : | No data available |
| Relative density | : | No data available |
| Specific gravity / density | : | 1 - 1.1 |
| Molecular mass | : | 36.46 g/mol |
| Solubility | : | Soluble in water. Soluble in ethanol. Soluble in methanol. |
| Log Pow | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | No data available |
| Explosion limits | : | No data available |
| Explosive properties | : | Not applicable. |
| Oxidizing properties | : | None. |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

### 10.2. Chemical stability

Stable under normal conditions. Not established.

### 10.3. Possibility of hazardous reactions

Reacts violently with (some) bases: release of heat.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

metals. cyanides. Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Hydrogen chloride. Thermal decomposition generates : Corrosive vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact

Acute toxicity : Not classified

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|---|---|
| LD50 oral rat | 700 mg/kg |
| LD50 dermal rabbit | 5010 mg/kg |
| ATE US (oral) | 700 mg/kg body weight |
| ATE US (dermal) | 5010 mg/kg body weight |

| Water (7732-18-5) | |
|---|---|
| LD50 oral rat | ≥ 90000 mg/kg |
| ATE US (oral) | 90000 mg/kg body weight |

Skin corrosion/irritation : Causes severe skin burns and eye damage.
pH: ≤ 0.5

Serious eye damage/irritation : Causes serious eye damage.
pH: ≤ 0.5

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified
Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|---|---|
| IARC group | 3 - Not classifiable |

Reproductive toxicity : Not classified
Based on available data, the classification criteria are not met

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects after inhalation : Possible inflammation of the respiratory tract.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Nausea. Vomiting.

Chronic symptoms : Affection/discolouration of the teeth.

## SECTION 12: Ecological information

### 12.1. Toxicity

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|---|---|
| LC50 fish 1 | 282 mg/l (LC50; 96 h) |
| EC50 Daphnia 1 | < 56 mg/l (EC50; 72 h) |

### 12.2. Persistence and degradability

| Hydrochloric Acid, 5% v/v | |
|---|---|
| Persistence and degradability | Not established. |

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|---|---|
| Persistence and degradability | Biodegradability: not applicable. No test data on mobility of the components available. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

| Water (7732-18-5) | |
|---|---|
| Persistence and degradability | Not established. |

### 12.3. Bioaccumulative potential

| Hydrochloric Acid, 5% v/v | |
|---|---|
| Bioaccumulative potential | Not established. |

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|---|---|
| Log Pow | 0.25 (QSAR) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| Water (7732-18-5) | |
|---|---|
| Bioaccumulative potential | Not established. |

### 12.4. Mobility in soil

| Hydrochloric Acid, 37% w/w (7647-01-0) | |
|---|---|
| Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |

### 12.5. Other adverse effects

Effect on the global warming : No known effects from this product.
GWPmix comment : No known effects from this product.

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

Transport document description : UN1789 Hydrochloric acid, 8, II

UN-No.(DOT) : UN1789
Proper Shipping Name (DOT) : Hydrochloric acid
Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : II - Medium Danger
Hazard labels (DOT) : 8 - Corrosive




DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242

| | | |
|---|---|---|
| DOT Special Provisions (49 CFR 172.102) | : | A3 - For combination packaging, if glass inner packaging (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging.<br>A6 - For combination packaging, if plastic inner packaging are used, they must be packed in tightly closed metal receptacles before packing in outer packaging.<br>B3 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks and DOT 57 portable tanks are not authorized.<br>B15 - Packaging must be protected with non-metallic linings impervious to the lading or have a suitable corrosion allowance.<br>IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.<br>N41 - Metal construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.<br>T8 - 4 178.274(d)(2) Normal..... Prohibited<br>TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.<br>TP12 - This material is considered highly corrosive to steel. |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : | 154 |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : | 1 L |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : | 30 L |
| DOT Vessel Stowage Location | : | C - The material must be stowed ‘‘on deck only’’ on a cargo vessel and on a passenger vessel. |
| Other information | : | No supplementary information available. |

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| **Hydrochloric Acid, 5% v/v** | |
|---|---|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

| | | |
|---|---|---|
| Hydrochloric Acid, 37% w/w | CAS-No. 7647-01-0 | 2.19% |

| **Hydrochloric Acid, 37% w/w (7647-01-0)** | |
|---|---|
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 5000 lb |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 500 lb |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |

### 15.2. International regulations

**CANADA**
No additional information available

**EU-Regulations**
No additional information available

**National regulations**
No additional information available

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

Revision date : 10/24/2017

Other information : None.

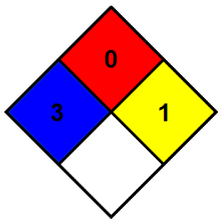
Full text of H-phrases: see section 16:

| | |
|---|---|
| H302 | Harmful if swallowed |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |
| H335 | May cause respiratory irritation |
| H402 | Harmful to aquatic life |

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.




Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal protection : C

C - Safety glasses, Gloves, Synthetic apron

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