1. IDENTIFICATION

Product name: Hydrochloric Acid (2mol/L)
Product code: H1203
Product use: For laboratory research purposes.
Restrictions on use: Not for drug or household use.

Company: TCI America
9211 N. Harbogate Street
Portland, OR 97203 U.S.A.
Telephone: +1-800-423-8616 / +1-503-283-1681
Fax: +1-888-520-1075 / +1-503-283-1987
E-mail: sales-US@TCIchemicals.com
www.TCIchemicals.com

2. HAZARD(S) IDENTIFICATION

OSHA Haz Com: CFR 1910.1200: Eye Damage/Irritation [Category 1]
WHMIS 2015: Specific Target Organ Toxicity (Single Exposure) [Category 3]
Corrosive to Metals [Category 1]
Skin Corrosion/Irritation [Category 1C]

Signal word: Danger!

Hazard Statement(s):
May be corrosive to metals
Causes severe skin burns and eye damage
May cause respiratory irritation.

Pictogram(s) or Symbol(s):

Precautionary Statement(s):

[Prevention] Keep only in original container. Do not breathe dusts or mists. Use only outdoors or in a well-ventilated area. Wash hands and face thoroughly after handling. Wear protective gloves, protective clothing, face protection.

[Response] If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a poison center or doctor. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor. If in eyes: 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. Absorb spillage to prevent material damage.

[Storage] Store in corrosive resistant bottle or metal container with a resistant inner liner. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

[Disposal] Dispose of contents and container in accordance with local, regional, national regulations (e.g. US: 40 CFR Part 261, EU:91/156/EEC, JP: Waste Disposal and Cleaning Act, etc.).

Hazards not otherwise classified: [HNOC] None.
3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Mixture
Components: Hydrochloric Acid (2mol/L)
Percent: ....
CAS RN: 7647-01-0
Molecular Weight: 36.46
Chemical Formula: HCl

4. FIRST-AID MEASURES

Description of first aid measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician.

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.

Ingestion: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.

Symptoms/effects:

Delayed: May have effects on the respiratory tract.

Indication of any immediate medical attention:
Not available.

Notes to physician:
No data available

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, foam, water spray, carbon dioxide.

Specific hazards arising from the chemical: Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.

Hazardous combustion products: These products include: Halogenated compounds

Other specific hazards: WARNING: Highly toxic HCl gas is produced during combustion.

Advice for firefighters: Wear self-contained breathing apparatus if possible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions: Prevent product from entering drains.

Methods and materials for containment and cleaning up: Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling: Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated. Avoid contact with skin, eyes and clothing. Use corrosive resistant equipment.

Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store locked up. Store away from incompatible materials such as oxidizing agents.

Packaging material: Comply with laws. Keep only in original container.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits:
JSOH OELs(CL): 2 ppm

Appropriate engineering controls: Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment
Respiratory protection: Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.
Hand protection: Impervious gloves.
Eye protection: Safety goggles. A face-shield, if the situation requires.
Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid
Form: Clear
Colour: Colorless
Odour: No data available
Odour threshold: No data available

Melting point/freezing point: No data available
Boiling point/range: No data available
Decomposition temperature: No data available
Relative density: 1.03
Kinematic viscosity: No data available
Log Pow: No data available

pH: No data available
Vapour pressure: No data available
Vapour density: No data available
Dynamic Viscosity: No data available
Evaporation rate(Butyl Acetate=1): No data available

Flash point: No data available
Autoignition temperature: No data available
Flammability(solid, gas): No data available
Flammability or explosive limits: No data available
Lower: No data available
Upper: No data available

Solubility(ies):
[Water] No data available
[Other solvents] No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical stability: Stable under proper conditions.
Possibility of hazardous reactions: No special reactivity has been reported.
Incompatible materials: Bases, Metals, Amines
Hazardous decomposition products: Hydrogen chloride
11. TOXICOLOGICAL INFORMATION

RTECS Number: MW4025000

Acute Toxicity:
No data available

Skin corrosion/irritation:
No data available

Serious eye damage/irritation:
No data available

Respiratory or skin sensitization:
No data available

Germ cell mutagenicity:
No data available

Carcinogenicity:
No data available

<table>
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<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
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<tr>
<td>Group 3 (Not classifiable as carcinogenic to humans).</td>
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Reproductive toxicity:
No data available

Target organ(s):
May cause respiratory irritation.

12. ECOLOGICAL INFORMATION

Ecotoxicity:
- Fish: No data available
- Crustacea: No data available
- Algae: No data available

Persistence / degradability:
No data available

Bioaccumulative potential (BCF):
No data available

Mobility in soil:
- Log Pow: No data available
- Soil adsorption (Koc): No data available
- Henry’s Law (PaM$^3$/mol): No data available

13. DISPOSAL CONSIDERATIONS

Disposal of product:
Recycle to process if possible. It is the generator’s responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil.

Disposal of container:
Dispose of as unused product. Do not re-use empty containers.

Other considerations:
Observe all federal, state and local regulations when disposing of the substance.
14. TRANSPORT INFORMATION

**DOT (US)**

<table>
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<th>Proper Shipping Name:</th>
<th>Class or Division:</th>
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**IATA**

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**IMDG**

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</tbody>
</table>

**EmS number:** F-A, S-B

**Reportable Quantity:** 5000 Pounds (2270 Kilograms)

15. REGULATORY INFORMATION

**Toxic Substance Control Act (TSCA 8b.):**

This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.

**US Federal Regulations**

**CERCLA Hazardous substance and Reportable Quantity:**

- SARA 313: Listed
- SARA 302: Listed

**State Regulations**

**State Right-to-Know**

- Massachusetts: Listed
- New Jersey: Listed
- Pennsylvania: Listed

**California Proposition 65:** Not Listed

**Other Information**

<table>
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<th>NFPA Rating:</th>
<th>HMIS Classification:</th>
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<tr>
<td>Health:</td>
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<tr>
<td>Flammability</td>
<td>Flammability</td>
</tr>
<tr>
<td>Instability</td>
<td>Physical:</td>
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</table>

- Health: 2
- Flammability: 0
- Instability: 0
- Physical: 0

**International Inventories**

- Canada: DSL: On DSL
- EC-No: 231-595-7

16. OTHER INFORMATION

**Revision date:** 07/06/2018

**Revision number:** 1

TCI chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.