

Material Safety Data Sheet

Hydrochloric Acid (HCl), 2N

Cat. No: 01704

1 Product and Company Identification

- 1.1 Product Name:** Hydrochloric Acid (HCl), 2N
- 1.2 Catalog Number:** 01704
- 1.3 Synonyms:** Anhydrous hydrochloric acid, Chlorohydric acid, Hydrochloride, Hydrogen chloride, Muriatic acid
- 1.4 Product Use:** For laboratory research purposes
- 1.5 Manufacturer/Supplier:** STEMCELL Technologies Inc.
Suite 400, 570 West 7th Avenue
V5Z 1B3
- 1.6 In Case of Emergency Call:** 604-877-0713
- 1.7 Date Effective:** October 24, 2011
- 1.8 Prepared By:** Quality Control

2 Composition / Information on Ingredients

2.1 Component	CAS No.	%W/W
Hydrochloric acid	7647-01-0	7.4%

3 Hazards Identification

- 3.1 Emergency Overview:** Danger; Corrosive; Causes eye and skin burns. Harmful if inhaled or swallowed. Causes respiratory tract irritation. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Avoid contact with eyes, skin and clothes. Wash thoroughly after handling.
- 3.2 Routes of Exposure:** Absorbed through skin, eye contact, inhalation, and ingestion.
- 3.3 Potential Health Effects:**
- 3.3.1 Eye:** Corrosive to eyes.
 - 3.3.2 Skin:** Corrosive to the skin.
 - 3.3.3 Inhalation:** Toxic by inhalation. Irritating to respiratory system.
 - 3.3.4 Ingestion:** Toxic if swallowed. May cause burns to mouth, throat and stomach.
- 3.4 Chronic Effects/Carcinogenicity:** Not Available
- 3.5 OSHA Regulatory Status:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

4 First Aid Measures

- 4.1 Eyes:** In case of contact with eyes, flush thoroughly with water for at least 15 minutes. Call a physician.
- 4.2 Skin:** In case of contact with skin, wash the affected area with soap and copious amounts of water. Remove contaminated clothing. Contact a physician.

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- 4.3 Ingestion:** Give several glasses of milk or water. Vomiting may occur spontaneously but do not induce. Never give anything by mouth to an unconscious person. Call a physician.
- 4.4 Inhalation:** If inhaled, remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and call a physician.
- 4.5 Puncture Wounds:** Wash thoroughly with soap and water. Allow to bleed freely. Call a physician.
- 4.6 Note to Physician:** Not Available
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5 Fire Fighting Measures

- 5.1 Flash Point/Method:** Not Available
- 5.2 Explosive Limits:**
- 5.2.1 Upper:** Not Available
- 5.2.2 Lower:** Not Available
- 5.3 Autoignition Temperature:** Not Available
- 5.4 Hazardous Combustion Products:** Not Available
- 5.5 Conditions of Flammability:** Not Available
- 5.6 Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.
- 5.7 Fire Fighting Procedures:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- 5.8 Explosion Data:**
- 5.8.1 Sensitivity to Mechanical Impact:** Not Available
- 5.8.2 Sensitivity to Static Discharge:** Not Available
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6 Accidental Release Measures

- 6.1 Leak and Spill Procedure:** Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.
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7 Handling and Storage

- 7.1 Handling:** Should be handled by trained personnel observing good laboratory practices. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. May develop pressure. Open carefully.
- 7.2 Storage:** Store at 2-8°C. Keep container tightly closed.
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8 Exposure Controls/Personal Protection

- 8.1 Engineering Controls:** Safety shower and eye bath. Mechanical exhaust or laboratory fumehood required.
- 8.2 Personal Protective Equipment:**
- 8.2.1 Respiratory Protection:** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- 8.2.2 Eye Protection:** Chemical safety goggles.
- 8.2.3 Skin Protection:** Impervious clothing; compatible chemical-resistant gloves.
- 8.3 General Hygiene Considerations:** Wash hands, forearms and face thoroughly after use.
- 8.4 Exposure Limits:**
- 8.4.1 ACGIH TLV-TWA:** CEIL: 2 ppm
- 8.4.2 OSHA PEL-TWA:** CEIL: 7 mg/m³ Form: All forms.
CEIL: 5 ppm Form: All forms

9 Physical/Chemical Properties:

- 9.1 Appearance:** Clear colorless liquid
- 9.2 Odor:** Not Available
- 9.3 Physical State:** Liquid
- 9.4 pH:** Not Available
- 9.5 Boiling Point:** Not Available
- 9.6 Melting Point:** Not Available
- 9.7 Freezing Point:** Not Available
- 9.8 Vapor Pressure:** Not Available
- 9.9 Vapor Density:** Not Available
- 9.10 Specific Gravity:** ~ 1 g/cm³
- 9.11 Evaporation Rate:** Not Available
- 9.12 Solubility in Water:** Soluble
- 9.13 Odor Threshold:** Not Available
- 9.14 Coefficient of Water/Oil Distribution:** Not Available

10 Stability/Reactivity:

- 10.1 Chemical Stability:** Stable
- 10.2 Conditions to Avoid:** Avoid light

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10.3 Incompatibility (Material to Avoid):	Bases, amines alkali metals, metals, halides, ammonia, phosphates
10.4 Hazardous Decomposition/By-Products:	Hydrogen chloride gas, chlorine
10.5 Hazardous Polymerization:	Will not occur under normal conditions.

11 Toxicological Information

11.1 Effects of Short-Term Exposure:	LD50 Oral – rabbit – 900 mg/kg LD50 Intraperitoneal – mouse 40,142 µg/kg LC50 Inhalation – mouse – 1 h – 1,108 ppm LC50 Inhalation – rat – 3,124 ppm
11.2 Effects of Long-Term Exposure:	Not Available
11.3 Irritancy of Product:	Eye irritation – rabbit – 5 mg – 30 s; rinsed
11.4 Sensitization to Product:	Not Available
11.5 Carcinogenicity:	No known significant effects or critical hazards.
11.6 Reproductive Toxicity:	No known significant effects or critical hazards.
11.7 Teratogenicity and Embryotoxicity:	Inhalation – rat – 450 mg/m ³ /h; exposure time – 1 day; Result: Specific developmental abnormalities – homeostasis Effects on embryo or fetus: fetotoxicity (except death, e.g. stunted fetus)
11.8 Mutagenicity (germ cell):	Lung – hamster – 30 mmol/L – cytogenetic analysis Ovary – hamster – 8 mmol/L – cytogenetic analysis
11.9 Name of Toxicologically Synergistic Products:	Not Available
11.10 LD50 (specify species and route):	LD50 Oral – rabbit – 900 mg/kg LD50 Intraperitoneal – mouse 40,142 µg/kg
11.11 LC50 (specify species):	LC50 Inhalation – mouse – 1 h – 1,108 ppm LC50 Inhalation – rat – 3,124 ppm

12 Ecological Information

12.1 Not Available

13 Disposal Considerations

13.1 Waste Disposal Method: Disposal should be in accordance with existing practices at your institution. Observe all Federal, Provincial/State and Local Laws.

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14 Transport Information

14.1 Transport Canada

14.1.1 PIN No.: Not Available

14.2 U.S. Department of Transportation:

14.2.1 Proper Shipping Name: Hydrochloric acid

14.2.2 Hazard Class: 8

14.2.3 ID. Number: UN #1789

14.2.4 Packing Group: III

14.2.5 Label Statement: Corrosive

15 Regulatory Information

15.1 WHMIS Classification: D1A, E

15.2 Note: This MSDS was prepared according to the Canadian Controlled Products Regulation and contains all the information required by those regulations.

16 Other Information

16.1 Preparation Information: Refer to PIS No. 01700

16.2 This MSDS has been revised in the following section(s): Not applicable

16.3 Original Issue Date: October 24, 2011

16.4 Notice: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StemCell Technologies Inc., shall not be held liable for any damage resulting from handling or from contact with the product. The information contained in this Material Safety Data Sheet (MSDS) is current as of the Date Prepared shown in Section 1.7 of this document and may be subject to ammendment by StemCell Technologies Inc.

16.5 Disclaimer: **THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT USED FOR DIAGNOSTIC OR THERAPEUTIC APPLICATIONS.**