

## SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

## Safety Data Sheet

Date Effective: February 7, 2018

SPI Catalog # 02621-AB

SPI-Chem™ s-Collidine Buffer Kit,

2.0 N Hydrochloric Acid component

### Section 1.1: Identification

Chemical Name/Synonyms ..... Hydrochloric Acid, 2.0 N

Product or Trade Name ..... Hydrochloric Acid, 2.0 N

CAS #'s ..... 7647-01-0; 7732-18-5

Chemical Formula..... HCl in H<sub>2</sub>O

### Section 1.2: Relevant Uses/Restrictions

Laboratory chemical used in buffers in the microscopy laboratory.

### Section 1.3: Supplier of the Safety Data Sheet

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### Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

### Section 2: Hazard Identification

#### 2.1 Classification of the substance

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Corrosive to metals (Category 1)  
Skin Corrosion/ Irritation (Category 2)  
Serious Eye Damage/ Eye Irritation (Category 2)  
STOT – single exposure (Category 3) (Respiratory System)

## 2.2 Label elements

### Pictogram



**Signal Word:** Warning

### Hazard statements:

H290 May be corrosive to metals  
H315 Causes skin irritation  
H319 Causes serious eye irritation  
H335 May cause respiratory irritation

### Precautionary statements:

P264 Wash face, hands and any exposed skin thoroughly after handling  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection  
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray  
P314 Get medical attention/advice if you feel unwell  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P304 + P312 Call a POISON CENTER or doctor/physician if you feel unwell  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water  
P332 + P313 If skin irritation occurs: Get medical advice / attention  
P361 Take off contaminated clothing and wash before reuse  
P305 + P315 + P338 + P315 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/physician.  
P391 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 polypropylene container with a resistant inliner  
P402 Store in a dry place  
P501 Dispose of contents/container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC):** None identified

## 2.3 Other Hazards:

### Hazardous Material Information System USA (estimated)

Health ..... 2  
Fire Hazard ..... 0  
Reactivity ..... 1  
Personal Protection .....

**NFPA Rating (estimated)**

Health ..... 2  
Flammability..... 0  
Reactivity ..... 1

**Section 3: Composition****3.1 Substances:****3.2 Mixtures:**

Component	CAS Number	EINECS	Weight Percent
Water	7732-18-5	231-791-2	92.71
Hydrochloric acid	7647-01-0	231-595-7	7.29

**Section 4: First Aid Measures****4.1 Description of first aid measures:**

**General advice:** If symptoms persist, call a physician.

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.

**Skin Contact:** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Eye Contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Ingestion:** Do not induce vomiting. Obtain medical attention.

**Self-protection of the first aider:** No further relevant information available.

**4.2 Most important symptoms and effects, both acute and delayed:**

May cause skin irritation and/or dermatitis.

**4.3 Indication of any immediate medical attention and special treatment needed:**

Notes to physician: Treat symptomatically.

**Section 5: Fire Fighting Measures****5.1 Extinguishing media:**

Substance is nonflammable; use an agent most appropriate to extinguish the surrounding fire.

**5.2 Special hazards arising from the substance or mixture:**

Thermal decomposition can lead to release of irritating gases and vapors.

In the event of fire and/or explosion, do not breathe fumes.

**Hazardous combustion products:** Hydrogen chloride gas.

**5.3 Advice for firefighters:**

**Special protective equipment and precautions for firefighters:**

As in any fire, wear self-contained breathing apparatus with pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## **Section 6: Accidental Release Measures**

### **6.1 Personal precautions:**

Use personal protective equipment.  
Ensure adequate ventilation.  
Avoid contact with skin, eyes, and clothing.

### **6.2 Environmental precautions:**

Avoid release to the environment.  
See Section 12 for additional ecological information.

### **6.3 Methods and material for containment and cleaning up:**

Soak up with inert absorbent material.  
Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections:**

See Section 13 for disposal information.

## **Section 7: Handling and Storage**

### **7.1 Precautions for safe handling:**

#### **Protective measures:**

Wear personal protective equipment.  
Ensure adequate ventilation.  
Do not get in eyes, on skin, or on clothing.  
Avoid ingestion and inhalation.

### **7.2 Conditions for safe storage, including any incompatibilities:**

Keep containers tightly closed in a dry, cool, and well-ventilated place.  
Store in corrosives area.

### **7.3 Specific end uses:**

Laboratory chemical used in buffers in the microscopy laboratory.  
This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

## **Section 8: Exposure Controls and Personal Protection**

### **8.1 Control parameter and Personal Protection:**

#### **Workplace exposure limits:**

Component: Hydrochloric acid

ACGIH TLV: Ceiling: 2 ppm

OSHA PEL: Ceiling: 5 ppm  
Ceiling: 7 mg/m<sup>3</sup>

NIOSH IDLH: IDLH: 50 ppm  
Ceiling: 5 ppm  
Ceiling: 7 mg/m<sup>3</sup>

Mexico OEL (TWA): Ceiling: 5 ppm  
Ceiling: 7 mg/m<sup>3</sup>

**Biological limit values:** No additional relevant information available.

## **8.2 Exposure controls:**

### **8.2.1 Appropriate engineering controls:**

Ensure adequate ventilation, especially in confined areas.  
Ensure that eyewash stations and safety showers are close to the workstation location.  
Wash hands before breaks and after work.

### **8.2.2 Individual protection measures:**

**Eye/face Protection:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.134 or European Standard EN166.

**Skin and body protection:** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.135 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice.

### **8.2.3 Environmental exposure controls:**

No additional relevant information available.

## **Section 9: Physical and Chemical Properties**

### **9.1 Information on basic physical and chemical properties:**

**Appearance:** Clear liquid

**Odor:** Pungent

**Odor threshold:** No data available

**pH:** ~ -0.3

**Melting point/Freezing point:** -17 °C (1.4 °F)

**Boiling point/Boiling point range:** 81.5-110 °C (178.7-230 °F) @ 760 mm Hg

**Flash Point:** Not applicable

**Evaporation rate:** >1 (Butyl acetate = 1)

**Flammability (solid, gas):** No data available

**Upper/lower flammability or explosive limits:** No data available

**Vapor Pressure:** 160 mm Hg @ 20 °C

**Vapor density:** 1.26 (Air = 1)

**Specific Gravity:** 1.16 (H<sub>2</sub>O = 1)

**Solubility:** Soluble in water

**Partition coefficient (n-octanol/water):** No data available

**Auto-ignition temperature:** No data available  
**Decomposition temperature:** No data available  
**Viscosity:** No data available  
**Molecular formula:** HCl  
**Molecular weight of HCl:** 36.46

**9.2 Other information:** No additional relevant information available.

## **Section 10: Stability and Reactivity**

**10.1 Reactivity:** No data available.  
**10.2 Chemical Stability:** Stable under normal conditions.  
**10.3 Possibility of Hazardous Reactions:** The generally known reaction partners of water.  
**10.4 Conditions to avoid:** Incompatible products. Excess heat.  
**10.5 Incompatible materials:** Metals, Oxidizing agents, Reducing agents, Aldehydes.  
**10.6 Hazardous decomposition products:** None under normal processing.

## **Section 11: Toxicological Information**

**Information on the likely routes of exposure:**

### **11.1 Information on toxicological effects**

#### **A. Acute toxicity:**

Hydrochloric acid:

LD50 Oral 238-277 mg/kg (Rat)  
LD50 Dermal >5010 mg/kg (Rabbit)  
LC50 Inhalation 1.68 mg/L (Rat) 1 hour

**B. Skin corrosion/irritation:** Irritating to the skin.

**C. Serious eye damage/irritation:** Irritating to the eyes.

**D. Respiratory system:** Irritating to the respiratory system.  
No information available on sensitization.

**E. Germ cell mutagenicity:** No information available.

#### **F. Carcinogenicity:**

Water ( CAS # 7732-18-5): Not listed by IARC, NTP, ACGIH, OSHA, MEXICO.  
HCl (CAS # 7647-01-0): Not listed by IARC, NTP, ACGIH, OSHA, MEXICO.

**G. Reproductive toxicity:** No information available.

**H. STOT-single exposure:** Respiratory system.

**I.. STOT-repeated exposure:** None known.

**J. Aspiration hazard:** No information available.

**Endocrine Disruptor Information:** No information available.

**Other Adverse Effects:** The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

## **Section 12: Ecological Information**

### **12.1 Toxicity:**

Hydrochloric acid:

Freshwater Fish	LC50: 282 mg/L, 96 h	Gambusia affinis
Water Flea	EC50: 50 mg/L, 72 h	Daphnia

**12.2 Persistence and degradability:** No information available.

**12.3 Bio-accumulative potential:** No information available.

**12.4 Mobility in soil:** No information available.

**12.5 Results of PBT and vPvB assessment:** No information available.

**12.6 Other adverse effects:** No information available.

## **Section 13: Disposal Considerations**

### **13.1 Waste treatment methods:**

Dispose of in accordance with all local, state, and national hazardous waste regulations. Dispose of contaminated packagings in the same manner as the product.

## **Section 14: Transport Information**

### **DOT:**

UN Number:	UN1789
Proper Shipping Name:	HYDROCHLORIC ACID SOLUTION
Hazard Class:	8
Packing Group:	III

### **IATA:**

UN Number:	UN1789
Proper Shipping Name:	HYDROCHLORIC ACID SOLUTION
Hazard Class:	8
Packing Group:	III

### **IMDG:**

UN Number:	UN1789
Proper Shipping Name:	HYDROCHLORIC ACID SOLUTION
Hazard Class:	8
Packing Group:	III

## **Section 15: Regulatory Information**

### **15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture**

#### **TSCA:**

Water, CAS # 7732-18-5, is listed.  
Hydrochloric acid, CAS # 7647-01-0, is listed.

#### **SARA 313:**

Hydrochloric acid, CAS # 7647-01-0, Weight % 7.29, Threshold Value: 1.0 %

#### **SARA 311/312 Hazard Categories:**

Acute Health Hazard: Yes  
Chronic Health Hazard: No  
Fire Hazard: No  
Sudden Release of Pressure Hazard: No  
Reactive Hazard: No

**CWA (Clean Water Act):** Hydrochloric acid is listed as a Hazardous Substance.

Hydrochloric acid – CWA Reportable Quantity: 5000 lb.

**CWA (Clean Water Act):** Hydrochloric acid is listed as a Hazardous Air Pollutant Substance.

#### **OSHA Occupational Safety and Health Administration:**

Hydrochloric acid – Highly hazardous chemical – TQ: 5000 lb.

#### **CERCLA:**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Hydrochloric acid      Hazardous Substances RQ: 5000 lb.      CERCLA EHS RQ: 5000 lb.

**California Proposition 65:** This product does not contain any Proposition 65 chemicals.

#### **US State Right-to-Know:**

Hydrochloric acid is on the Massachusetts, New Jersey, Pennsylvania, Rhode Island and Illinois lists.  
Water is on the Pennsylvania list.

#### **US Department of Transportation:**

Reportable Quantity (RQ): yes  
DOT Marine Pollutant: no  
DOT Severe Marine Pollutant: no

#### **US Department of Homeland Security:**

This product contains the following DHS chemicals:

Hydrochloric acid  
0 lb. STQ (anhydrous)  
11250 lb. STQ (37% concentration or greater)

**15.2 Chemical Safety Assessment:** No data available

**Date of Preparation:** 07 February 2018

#### **Abbreviations and acronyms**

IMDG: International Maritime Code for Dangerous Goods



DOT: US Department of Transportation  
CMRG: Chemical Manufacturer's Recommended Guidelines  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
AIHA: American Industrial Hygiene Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bio-accumulative and Toxicological  
vPvB: very Persistent and very Bio-accumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety Health  
ATE: Acute Toxicity Estimates  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
STEL: Short Term Exposure Limit  
CEIL: Ceiling

## **Section 16: Other Information**

### **Disclaimer of Liability:**

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

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