

# Simulating the Effects of Acid Rain

## Neo/Sci Kit 20-1493

### Material Safety Data Sheet

May be used to comply with  
OSHA's Hazard Communication Standard  
29 CFR 1910.1200. Standard must be  
consulted for specific requirements.

### U.S. Department of Labor

Occupational Safety and Health Administration  
(Non-Mandatory Form)  
Form Approved  
OMB No. 1218-0072



IDENTITY **Hydrochloric Acid Soln 1%** Part# 95-0810  
MSDS# 96-3010

Note: Blank spaces are not permitted. If any item is not applicable, or no  
information is available, the space must be marked to indicate that.

#### Section I

Manufacturer's Name <b>Neo/SCI (Delta Education, LLC)</b>	Emergency Telephone Number <b>1-800-526-6689</b>
Address (Number, Street, City, State, and ZIP Code) <b>80 Northwest Blvd,</b>	Telephone Number for Information <b>1-800-526-6689</b>
	Date Prepared <b>2/10/2009</b>
Nashua, NH Zip 03063	Signature of Preparer <b>Kenneth G. Rainis</b> REV 2

#### Section II - Hazardous Ingredients/Identity Information

	OSHA PEL	ACGIH TLV	Other Limits Recommended	%
<b>Hydrochloric Acid Soln (1%) (CAS No. 7647-01-0)</b>	N/A	5ppm	N/A	1.0
<b>Water (CAS No 7732-18-5)</b>				99.0

**WARNING! IRRITANT TO EYES AND MUCOUS MEMBRANES. HARMFUL IF SWALLOWED.**

#### Section III - Physical/Chemical Characteristics

Boiling Point Approx. 100C (212F)	Specific Gravity (H <sub>2</sub> O = 1)	1
Vapor Pressure (mm Hg) 14 (water)	Melting Point	0C (32F)
Vapor Density (AIR = 1) 0.7 (water)	Evaporation rate	Slightly < 1
Solubility in Water Complete		
Appearance and Odor Clear, colorless liquid; may have a slightly acid odor.		

#### Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) Non-flammable (N/A)	Flammable Limits in air % by volume N/A	LEL ---	UEL ---
Extinguishing Media Use best for surrounding fire.			
Special Firefighting Procedures None			
Unusual Fire and Explosion Hazards Non-combustible; contact with metals may produce very small amounts of hydrogen gas.			

DOT: Not regulated. See 49CFR, 173.4 Small Quantity Exclusion

#### Section V - Reactivity Data

Stability	Unstable	Conditions to Avoid None expected.
	Stable	
	X	
Incompatibility (Materials to Avoid) Reacts with most metals to produce hydrogen gas; reacts with alkalis, and strong oxidants. AVOID excess heat.		
Hazardous Decomposition or Byproducts None expected.		
Hazardous Polymerization	May Occur	Conditions to Avoid N/A
	Will Not Occur	
	X	

## Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	No	Yes	Yes
Health Hazards (Acute and Chronic) May irritate skin and mucous membranes upon prolonged contact.			
THRESHOLD LIMIT VALUE: Hydrogen chloride as gas 5ppm (TWA); 7mg/m <sup>3</sup> (AIR) (ACGIH 2007)			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	No	No	No
Signs and Symptoms of Exposure Contact may cause irritation to skin and eye. Exercise appropriate procedures to minimize these hazards.			

### Medical Conditions

Generally aggravated by exposure.

### Emergency and First Aid Procedure

Inhalation: Not a inhalation hazard in the form provided.

Eyes: Flush thoroughly with water, lifting lower and upper eyelids occasionally. Get medical attention.

Skin: Flush thoroughly with soap and water. If irritation develops seek medical attention.

Ingestion: If swallowed, if conscious, give one or two glasses of water to drink.

Get medical attention if symptoms persist. Do NOT induce vomiting.

## Section VII - Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled

Neutralize large volume spill acid spill using 1N soda ash or sodium bicarbonate. Absorb small spills with an inert dry material, sweep up and dispose.

### Waste Disposal Method

Dispose small quantities to sanitary sewer.

Dispose in accordance with federal, state and local regulations.

### Precautions to be Taken in Handling and Storage

Store in a cool place. Wash hands thoroughly after handling.

### Other Precautions:

For lab use only. Not for drug, food, or cosmetic use. Keep out of reach of children.

## Section VIII - Control Measures

Respiratory Protection (Specify Type)

None needed in normal laboratory setting.

Ventilation	Local Exhaust	Special
	Not required	No
	Mechanical (General)	Other
		Not required

### Protective Gloves

Polyethylene Gloves (for sensitive skin).

Other Protective Clothing or Equipment

Chemical safety goggles, lab coat, apron, eye wash station in close proximity, within 15 sec. of work station.

### Work/Hygenic Practices

Wear protective equipment. Wash hands with soap and water following the handling of this material.

Use under direct supervision of a qualified individual knowledgeable in all aspects of laboratory safety. This product is intended for lab use only. Not for drug, food, or cosmetic use.

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