



BTIproductsLP

MATERIAL SAFETY DATA SHEET
Name: MICkit® Pipe Inspection Kit
Components

SECTION I

Manufacturer's Name: BTI Products, LP
Address: 652 Silver Hills Road
 Bayfield, CO 81122
Emergency Phone: (800) 798-4650
Telephone: (970) 884-4629

Revision Date: 04/04/07

SECTION II - Hazardous Ingredients/Identity Information

MSDS for concentrated chemicals as commercially available are attached.

The chemicals and their concentrations (as percent by volume) present in components included in the MICkit® Pipe Inspection Kit are as follows:

| MICkit® Pipe Inspection Kit Identification | MSDS Product Name | CAS No. | Percentage by Volume |
|---|----------------------------------|----------------|-----------------------------|
| Detergent-Chelant, 2% | Citrajet | NA | 100% (vol/vol) |
| 2N HCl | Hydrochloric acid solution 2.0 N | 7647-01-0 | 100% (vol/vol) |

Note: BTI Products, LP disclaims any expressed or implied warranty of merchantability or fitness of its products for any other purpose than described in its technical literature and in no event shall BTI Products, LP be liable for any consequential damages arising from use of this product.

CITRAJET MSDS

Marketed & sold by BTI Products, LP as MICclean™ Chemical 2

Section 1 : MANUFACTURER INFORMATION**Supplier:** Same as manufacturer.**Manufacturer:** Alconox, Inc.
30 Glenn St.
Suite 309
White Plains, NY 10603.**Manufacturer emergency phone number:** 800-255-3924.
813-248-0585 (outside of the United States).**Manufacturer:** Alconox, Inc.
30 Glenn St.
Suite 309
White Plains, NY 10603.**Supplier MSDS date:** 2005/07/13**D.O.T. Classification:** Not regulated.**Section 2 : HAZARDOUS INGREDIENTS**

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|---------|-----------------|-----------------|---------------|--|---------------|
| 77-92-9 | 10-30 | CITRIC ACID | NOT AVAILABLE | 3000 MG/KG RAT ORAL 5040 MG/KG MOUSE ORAL | NOT AVAILABLE |

Section 3 : PHYSICAL / CHEMICAL CHARACTERISTICS**Physical state:** Liquid.**Appearance & odor:** Pale yellow.
Nearly odorless.**Odor threshold (ppm):** Not available.**Vapour pressure @ 20°C (68°F):**
(mmHg): 17**Vapour density (air=1):** >1**Volatiles (%)****By volume:** Not available.**Evaporation rate (butyl acetate = 1):** <1**Boiling point (°C):** 103 (217F)**Freezing point (°C):** Not available.**pH:** 2.5**Specific gravity @ 20 °C:** (water = 1).
1.12**Solubility in water (%):** Complete.**Coefficient of water\oil dist.:** Not available.**VOC:** None

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|---|
| Section 4 : FIRE AND EXPLOSION HAZARD DATA |
|---|

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water
Water fog.

Special procedures: Self-contained breathing apparatus required.
Firefighters should wear the usual protective gear.
Use water spray to cool fire exposed containers.

Auto-ignition temperature: Not available.

Flash point (°C), method: None

Lower flammability limit (% vol): Not applicable.

Upper flammability limit (% vol): Not applicable.

Not available.

Sensitivity to mechanical impact: Not available.

Hazardous combustion products: Oxides of carbon (COx).
Hydrocarbons.
Oxygen.
Hydrogen (H).
Carbon.

Rate of burning: Not available.

Explosive power: Containers may rupture if exposed to heat or fire.

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| Section 5 : REACTIVITY DATA |
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Chemical stability: Product is stable under normal handling and storage conditions.

Conditions of instability: Extreme temperatures.

Hazardous polymerization: Will not occur.

Incompatible substances: Strong alkalis.
Strong oxidizing agents.

Hazardous decomposition products: See hazardous combustion products.

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| Section 6 : HEALTH HAZARD DATA |
|---------------------------------------|

Route of entry: Skin contact, eye contact, inhalation and ingestion.

Effects of Acute Exposure

Eye contact: Irritant.

Skin contact: Slight irritation upon prolonged contact.

Inhalation: May cause slight irritation.

Ingestion: May cause vomiting and diarrhea.
May cause gastric distress.

Effects of chronic exposure: Contains an ingredient which may be corrosive.

LD50 of product, species & route: > 5000 mg/kg rat oral.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Medical conditions aggravated by exposure: Not available.

First Aid

Skin contact: Remove contaminated clothing.
Wash thoroughly with soap and water.
Seek medical attention if irritation persists.

Eye contact: Check for and remove contact lenses.
Flush eyes with clear, running water for 15 minutes while holding eyelids open. If irritation persists, consult a physician.

Inhalation: Remove victim to fresh air.
If irritation persists, seek medical attention.

Ingestion: Do not induce vomiting, seek medical attention.
Dilute with two glasses of water.
Never give anything by mouth to an unconscious person.

Section 7 : PRECAUTIONS FOR SAFE HANDLING AND USE

Leak/Spill: Contain the spill.
Prevent entry into drains, sewers, and other waterways.
Wear appropriate protective equipment.
Soak up with an absorbent material.
Place in appropriate container for disposal.
Flush residue or small spills to sanitary sewer.

Waste disposal: In accordance with local and federal regulations.

Handling procedures and equipment: Protect against physical damage.
Avoid breathing vapors/mists.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Keep out of reach of children.
Avoid contact with skin, eyes and clothing.
Avoid extreme temperatures.
Launder contaminated clothing prior to reuse.

Storage requirements: Store away from incompatible materials.
Keep containers closed when not in use.

Section 8 : CONTROL MEASURES

Precautionary Measures

Gloves/Type:



Neoprene or rubber gloves.

Respiratory/Type: None required under normal use.
If exposed to misting.
NIOSH approved respirator for vapours and mists.

Eye/Type:



Chemical safety goggles with side-shields.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type: As required to prevent skin contact.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Local exhaust at points of emission.

SIGMA-ALDRICH

MATERIAL SAFETY DATA SHEET

Date Printed: 04/03/2007

Date Updated: 04/11/2006

Version 1.8

Section 1 - Product and Company Information

Product Name HYDROCHLORIC ACID SOLUTION 2.0 N
 Product Number H3037
 Brand SIGMA

Company Sigma-Aldrich
 Address 3050 Spruce Street
 SAINT LOUIS MO 63103 US
 Technical Phone: 800-325-5832
 Fax: 800-325-5052
 Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

| Substance Name | CAS # | SARA 313 |
|---|-----------|----------|
| HYDROCHLORIC ACID SOLUTION, >=5% - <10% | 7647-01-0 | No |

| Ingredient Name | CAS # | Percent | SARA 313 |
|-------------------|-----------|---------------|----------|
| WATER | 7732-18-5 | >= 90 < 95 | No |
| HYDROCHLORIC ACID | 7647-01-0 | >= 5 < 10 | |

Formula HCl
 Synonyms Acide chlorhydrique (French) * Acido cloridrico (Italian) * Anhydrous hydrochloric acid * Chloorwaterstof (Dutch) * Chlorohydric acid * Chlorowodor (Polish) * Chlorwasserstoff (German) * Hydrochloride * Hydrogen chloride (ACGIH:OSHA) * Muriatic acid * Spirits of salt
 RTECS Number: MW4025000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Irritant.
 Irritating to eyes, respiratory system and skin.

HMIS RATING

HEALTH: 2
 FLAMMABILITY: 0
 REACTIVITY: 0

NFPA RATING

HEALTH: 2
 FLAMMABILITY: 0
 REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing.

STORAGE

Suitable: Keep tightly closed.

SPECIAL REQUIREMENTS

May develop pressure. Open carefully.

| | |
|---------------------|-----|
| Decomposition Temp. | N/A |
| Flash Point | N/A |
| Explosion Limits | N/A |
| Flammability | N/A |
| Autoignition Temp | N/A |
| Refractive Index | N/A |
| Optical Rotation | N/A |
| Miscellaneous Data | N/A |
| Solubility | N/A |

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Bases, Amines, Alkali metals, Metals.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

TOXICITY DATA

Oral

Man

2.857 mg/kg

LDLO

Remarks: Lungs, Thorax, or Respiration: Respiratory depression.

Gastrointestinal: Changes in structure or function of esophagus.

Vascular: BP lowering not characterized in autonomic section.

Oral

Woman

420 UL/KG

LDLO

Remarks: Behavioral: Excitement. Cardiac: Pulse rate. Kidney,

Ureter, Bladder: Hematuria.

Inhalation

Human

1,300 ppm
LCLO

Inhalation
Human
3,000 ppm
LCLO

Inhalation
Rat
3,124 ppm
LC50
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Iritis.

Inhalation
Mouse
1,108 ppm
LC50
Remarks: Lungs, Thorax, or Respiration:Respiratory stimulation. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other. Skin and Appendages:Skin: After systemic exposure: Dermatitis, other

Intraperitoneal
Mouse
40142 UG/KG
LD50

Oral
Rabbit
900 mg/kg
LD50

IRRITATION DATA

Eyes
Rabbit
5 mg
30S
Remarks: Rinsed

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC CARCINOGEN LIST

Rating: Group 3

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 450 MG/M3/1H
Route of Application: Inhalation
Exposure Time: (1D PRE)
Result: Specific Developmental Abnormalities: Homeostasis
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

CHRONIC EXPOSURE - MUTAGEN

Species: Hamster
Dose: 30 MMOL/L
Cell Type: lung
Mutation test: Cytogenetic analysis

Species: Hamster
Dose: 8 MMOL/L
Cell Type: ovary
Mutation test: Cytogenetic analysis

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Hydrochloric acid
UN#: 1789
Class: 8
Packing Group: Packing Group III
Hazard Label: Corrosive
PIH: Not PIH

IATA

Proper Shipping Name: Hydrochloric acid
IATA UN Number: 1789
Hazard Class: 8
Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xi
Indication of Danger: Irritant.
R: 36/37/38
Risk Statements: Irritating to eyes, respiratory system and skin.
S: 26
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Irritant.
Risk Statements: Irritating to eyes, respiratory system and skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in

accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.