



BTIproductsLP

# MATERIAL SAFETY DATA SHEET

Name: BTI-LNB Media

## 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:** 01/27/06

**PAGE 1 of 1**

## SECTION II - Hazardous Ingredients/Identity Information

This material is not hazardous as defined by OSHA 1910.1200

## SECTION III - Physical/Chemical Composition

Boiling Point: NA	Specific Gravity (H <sub>2</sub> O = 1): NA	Vapor Pressure (mm Hg): NA
Melting Point: NA	Vapor Density (Air = 1): NA	Evaporation Rate (Butyl Acetate): NA
Solubility in Water: NA	Appearance and Odor: Almost colorless liquid	

## SECTION IV - Fire and Explosion Hazard Data

Flash Point: NA	Flammable Limits: NA	Extinguishing Media: NA
Special Fire Fighting Procedures: NA	Unusual Fire and Explosion Hazards: NA	

## SECTION V - Reactivity Data

Stability: NA	Unstable: NA	Stable: NA	Conditions to Avoid: NA
Hazardous Polymerization: NA	May Occur: NA	Will Not Occur: NA	Conditions to Avoid: NA
Incompatibility (Materials to Avoid): NA		Hazardous Decomposition or By-products: NA	

## SECTION VI - Health Hazard Data

Routes of Entry:	Inhalation? NA	Skin? NA	Ingestion? NA
Carcinogenicity: NA	NTP? NA	IARC Monographs? NA	OSHA Regulated? NA
Health Hazards (Acute and Chronic): NA		Signs and Symptoms of Exposure: NA	
Medical Conditions Generally Aggravated by Exposure: NA		Emergency and First Aid Procedures: NA	

## SECTION VII - Precautions for Safe Handling and Use

Waste Disposal Method: NA	Handling and Storing Precautions: NA	Other Precautions: NA
Steps to be Taken in Case Material is Released or Spilled: Wipe up with absorbent material.		

## SECTION VIII - Control Measures

Respiratory Protection: NA	Ventilation: NA	Local Exhaust: NA
Special: NA	Protective Gloves: NA	Mechanical: NA
Other: NA	Other Protective Clothing or Equipment: NA	Work/Hygienic Practices: NA

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BTIproductsLP

**MATERIAL SAFETY DATA SHEET****Name: BTI-APB Media****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:** 01/27/06**PAGE 1 of 1****SECTION II - Hazardous Ingredients/Identity Information**

This material is not hazardous as defined by OSHA 1910.1200

**SECTION III - Physical/Chemical Composition**

Boiling Point: 93°C	Specific Gravity (H <sub>2</sub> O = 1): NA	Vapor Pressure (mm Hg): NA
Melting Point: NA	Vapor Density (Air = 1): NA	Evaporation Rate (Butyl Acetate): NA
Solubility in Water: NA	Appearance and Odor: Red/orange liquid	

**SECTION IV - Fire and Explosion Hazard Data**

Flash Point: NA	Flammable Limits: NA	Extinguishing Media: NA
Special Fire Fighting Procedures: NA	Unusual Fire and Explosion Hazards: NA	

**SECTION V - Reactivity Data**

Stability: NA	Unstable: NA	Stable: NA	Conditions to Avoid: NA
Hazardous Polymerization: NA	May Occur: NA	Will Not Occur: NA	Conditions to Avoid: NA
Incompatibility (Materials to Avoid): NA		Hazardous Decomposition or By-products: NA	

**SECTION VI - Health Hazard Data**

Routes of Entry:	Inhalation? NA	Skin? NA	Ingestion? NA
Carcinogenicity: NA	NTP? NA	IARC Monographs? NA	OSHA Regulated? NA
Health Hazards (Acute and Chronic): NA		Signs and Symptoms of Exposure: NA	
Medical Conditions Generally Aggravated by Exposure: NA		Emergency and First Aid Procedures: NA	

**SECTION VII - Precautions for Safe Handling and Use**

Waste Disposal Method: NA	Handling and Storing Precautions: NA	Other Precautions: NA
Steps to be Taken in Case Material is Released or Spilled: Wipe up with absorbent material.		

**SECTION VIII - Control Measures**

Respiratory Protection: NA	Ventilation: NA	Local Exhaust: NA
Special: NA	Protective Gloves: NA	Mechanical: NA
Other: NA	Other Protective Clothing or Equipment: NA	Work/Hygienic Practices: NA

**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.

**CHEMetrics, Inc.**  
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**Fax (540) 788-4856 E-mail technical@chemetrics.com**

**24 Hour Emergency Numbers: (703) 590-9204**  
**(540) 439-3860**  
**Creation Date: 11/03/88 (1071-18)**  
**Revision Date: 10/30/06**

## MATERIAL SAFETY DATA SHEET

### I. CHEMICAL IDENTIFICATION

TRADE NAME: DISSOLVED OXYGEN CHEMets®

CATALOG NO.: R-7512

DESCRIPTION: Reagent ampoules for the determination of dissolved oxygen in water. Each CHEMet™ contains approximately 0.50 mL of liquid reagent sealed under vacuum.

NFPA RATINGS: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

### II. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT: Indigo Carmine  
 CAS NO.: 860-22-0 PERCENT: < 0.1

COMPONENT: Potassium Hydrogen Phthalate  
 CAS NO.: 877-24-7 PERCENT: 1.0

COMPONENT: Diethylene Glycol  
 CAS NO.: 111-46-6 PERCENT: 22.0

COMPONENT: Deionized Water  
 CAS NO.: 7732-18-5 PERCENT: > 76

COMPONENT: Other components  
 CAS NO.: N/A PERCENT: < 1.0

Any component of this mixture not specifically listed (e.g. "other components") is not considered to present a carcinogen hazard.

### III. HAZARDS IDENTIFICATION

May be harmful if swallowed.

ACUTE TOXICITY: Irritation, nausea, diarrhea

CHRONIC TOXICITY: Ingestion of large amounts of diethylene glycol can cause liver or kidney lesions.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: liver or kidney disorders

### IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Immediately flush eyes and skin with water for 15 minutes.

INGESTION: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Seek medical attention.

INHALATION: Remove individual to fresh air.

### V. FIRE FIGHTING MEASURES

FLASH POINT: N/A AUTOIGNITION POINT: N/A  
 FLAMMABILITY LIMITS: UPPER: N/A LOWER: N/A  
 EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, water spray or foam

### VI. ACCIDENTAL RELEASE MEASURES

Take up with absorbent material. Place in small containers for disposal.

### VII. HANDLING AND STORAGE

**Always wear eye protection when working with these ampoules.**

**WARNING:** Do not break the tip of the ampoule unless it is completely immersed in your sample. Breaking the tip in the air may cause the glass ampoule to shatter.

If this product is used as directed, the user will not come in contact with or be exposed to any of its chemical components.

Wash thoroughly after handling. Avoid contact with eyes.

Fragile. Liquid in glass. Handle with care.

Exposure of this product to temperatures up to 120°F (49°C) or even below 32°F (0°C) will not create a safety hazard. For optimum analytical accuracy, the product should be stored in the dark and at room temperature.

### VIII. EXPOSURE CONTROLS/ PERSONAL PROTECTION

OSHA PEL & ACGIH TLV: None listed.

PROTECTIVE EQUIPMENT: Safety glasses

### IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Liquid APPEARANCE: Yellow ODOR: None

SOLUBILITY IN WATER: Complete pH: 4

BOILING POINT: 110°C MELTING POINT: -1°C

VAPOR PRESSURE: N/A SPECIFIC GRAVITY: 1.01

VAPOR DENSITY: N/A

### X. STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to decomposition, oxides of carbon and potassium may be emitted. Stable under normal conditions.

### XI. TOXICOLOGICAL INFORMATION

Carcinogen Status: None

No other data available at this time.

### XII. ECOLOGICAL INFORMATION

Diethylene glycol has a low bioconcentration potential and is practically non-toxic to aquatic organisms.

No other data available at this time.

### XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State and Local Regulations.

### XIV. TRANSPORT INFORMATION

Not regulated.

### XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

EU Symbols: None

Risk Phrases: None

Safety Phrases: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

CANADIAN INFORMATION:

WHMIS Classification: D2A

All chemical components of this product are listed on Canada's DSL.

U.S. INFORMATION:

All chemical components of this product are listed on the TSCA Inventory.

### XVI. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. ALL PRODUCTS ARE OFFERED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCTION SPECIFICATIONS AND ARE INTENDED SOLELY FOR USE IN ANALYTICAL TESTING. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE RESULTING FROM THE HANDLING, USE OR MISUSE OF THESE PRODUCTS.

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## 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

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**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.

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**Section 5 - Fire Fighting Measures**

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**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.

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**Section 6 - Accidental Release Measures**

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**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.

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**Section 7 - Handling and Storage**

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**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.

## Section 8 - Exposure Controls / PPE

## ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

## PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.  
 Hand: Compatible chemical-resistant gloves.  
 Eye: Chemical safety goggles.

## GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Discard contaminated shoes. Wash contaminated clothing before reuse.

## EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	Ceiling co2	PPM
USA	MSHA Standard	Ceiling co5	PPM (7 MG/M3)
USA	OSHA.	PEL	CL 5 PPM (7 MG/M3)
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH	Ceiling co5	PPM

## EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	5
Poland		NDSCh	10
Poland		NDSP	-

## Section 9 - Physical/Chemical Properties

Appearance Physical State: Liquid  
 Color: Colorless  
 Form: Clear liquid

Property	Value	At Temperature or Pressure
Molecular Weight	36.46 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	1.033 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	

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

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## Section 10 - Stability and Reactivity

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### 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

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## Section 11 - Toxicological Information

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### 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

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Section 12 - Ecological Information

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No data available.

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Section 13 - Disposal Considerations

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## 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.

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Section 14 - Transport Information

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## 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

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Section 15 - Regulatory Information

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## 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

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Section 16 - Other Information

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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.