



# MATERIAL SAFETY DATA SHEET

Product Number:  
**044137**  
 DIONEX Corporation  
 1228 Titan Way  
 P.O. Box 3603  
 Sunnyvale, California  
 94088-3603

Product Description:  
**IonPhor Cation Cu Electrolyte Buffer**  
 Emergency Phone:  
 (408) 737-0700 8-5 M - F  
 1-800-424-9300 After Hours  
 Information Phone: (408) 737-0700  
 Date Prepared: February 16, 1993  
 Prepared By:

  
 (Max Ebenhahn)

The following information is believed to be accurate and is currently the best information available to us. However, we make no warranties, express or implied, with respect to the information supplied and we assume no liability resulting from its use.

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## HAZARDOUS INGREDIENTS/IDENTITY INFORMATION (Section II)

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HAZARDOUS COMPONENTS	ACGIH/TLV	PERCENT	CAS NO.
Deionized Water	N/A	99.81	7732-18-5
Copper (II) Sulfate	N/A	0.06	7758-99-8
Formic Acid	5 ppm	0.02	64-18-6
18-Crown-6	N/A	0.11	17455-13-9

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## PHYSICAL/CHEMICAL CHARACTERISTICS (Section III)

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BOILING POINT: 100°C (Note, Approximately 99.81% water)  
 VAPOR PRESSURE (mm Hg): 14 mm HG at 20°C water  
 VAPOR DENSITY (AIR = 1): 0.7 water  
 SPECIFIC GRAVITY (H<sub>2</sub>O = 1): 1  
 MELTING POINT: Approximately 0° C  
 EVAPORATION RATE (BUTYL ACETATE = 1):  
 MOLECULAR WEIGHT: M/A  
 SOLUBILITY IN WATER: Soluble  
 APPEARANCE AND ODOR: Clear Odorless Liquid  
 pH = 3.0

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## FIRE AND EXPLOSION HAZARD DATA (Section IV)

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FLASH POINT (METHOD USED): Nonflammable  
 FLAMMABLE LIMITS:  
 LEL: Unknown  
 UEL: Unknown  
 EXTINGUISHING MEDIA: Carbon Dioxide, Foam, Dry Chemicals, Water  
 SPECIAL FIRE FIGHTING PROCEDURES: Fire fighters subject to products of combustion should wear full protective clothing including self-contained breathing apparatus.  
 UNUSUAL FIRE AND EXPLOSION HAZARDS: Negligible fire hazard when exposed to heat or flame.

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## REACTIVITY DATA (Section V)

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STABILITY: **STABLE: X**  
 CONDITIONS TO AVOID: N/A  
 INCOMPATIBILITY (MATERIALS TO AVOID): Water-reactive materials  
 HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Thermal decomposition may release toxic oxides of carbon, sulfur and copper.  
 HAZARDOUS POLYMERIZATION: **WILL NOT OCCUR: X**  
 CONDITIONS TO AVOID: N/A

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**HEALTH HAZARD DATA (Section VI)**

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HAZARD CLASS: General Chemical  
COMPONENT

NFPA Ratings (Scale 0-4):

Health	Fire	Reactivity
2	0	0

ROUTES OF ENTRY

INHALATION?: X SKIN?: X INGESTION?: X

HEALTH HAZARDS (ACUTE AND CHRONIC):

TOXICITY DATA<sup>1</sup>: Copper (II) Sulfate Reported in the EPA TSCA Inventory, 1980

ipr-mus LD50: 7 mg/kg

ivn-mus LD50: 50 mg/kg

orl-hmn LDLo: 50 mg/kg

orl-hmn TDL0: 11 mg/kg

Formic Acid

Reported in the EPA TSCA Inventory, 1980

ipr-mus LD50: 940 mg/kg

ivn-mus LD50: 145 mg/kg

orl-rat LD50: 1210 mg/kg

orl-mus LD50: 1100 mg/kg

18-Crown-6

Reported in the EPA TSCA Inventory, 1980

orl-mus LD50: 705 gm/kg/64W-C:CAR

Reference #1 DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS

By Irving Sax, 6th Edition, Van Nostrand Reinhold, Inc

CARCINOGENICITY:

NTP?: Unknown

IARC MONOGRAPHS?: Unknown

OSHA REGULATED?: Unknown

SYMPTOMS AND SIGNS OF EXPOSURE: All of the components except water are irritants to eyes, mucous membranes and the upper respiratory tract. None should be taken internally.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Unknown

EMERGENCY AND FIRST AID PROCEDURES: In case of contact, rinse skin with copious amounts of water. Flush eyes with copious amounts of water for at least 15 minutes. If inhaled remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Submit to medical examination.

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**PRECAUTIONS FOR SAFE HANDLING AND USE (Section VII)**

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate protective clothing and eye protection. If the spill is large, wear a self-contained breathing apparatus. Sweep up and store in a suitable waste container. Wash contaminated areas with soap and water.

WASTE DISPOSAL METHOD: Neutralize (Sodium Bicarbonate is effective) and then dispose of according to local, state and federal laws.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Work in an area with adequate ventilation.

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**CONTROL MEASURES (Section VIII)**

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RESPIRATORY PROTECTION (SPECIFY TYPE): For large amounts where sulfuric acid vapors might be a problem, wear an OSHA approved respirator with an acid prefilter.

VENTILATION

LOCAL EXHAUST: Good laboratory ventilation is acceptable.

MECHANICAL (GENERAL): None

SPECIAL: None

OTHER: None

PROTECTIVE GLOVES: Disposable laboratory gloves are adequate.

EYE PROTECTION: Glasses or goggles.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Labcoats

WORK/HYGIENIC PRACTICES: Normal laboratory practice