

**MATERIAL SAFETY DATA SHEET**

MSDS

**Belclene® 650**

MSDS Ref. No: 37971-36-1

Version: US/Canada

Date Approved: 09/03/2004

Revision No: 4

**1. PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME:** Belclene® 650**SYNONYM(s):** PBTC; 2-phosphono-butane-tricarboxylic acid**GENERAL USE:** Scale/deposit control additive**MANUFACTURER**

Bio-Lab, Inc.

BioLab Water Additives Division

P.O. Box 300002

Lawrenceville, GA 30049-1002

**GENERAL INFORMATION:** (800) 600-

4523

**EMERGENCY TELEPHONE NUMBERS:****CHEMTREC (U.S.):** (800) 424-9300**CANUTEC:** (613) 996-6666**EMERGENCY PHONE:** (877) 800-5553 (24-Hour Medical - U.S.A.)**EMERGENCY PHONE:** (303) 623-5716 (24-Hour Medical - All others)**2. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>Chemical Name</u>	<u>CAS#</u>	<u>Wt.%</u>
2-Phosphonobutane-1,2,4-Tricarboxylic Acid	37971-36-1	50
Water	7732-18-5	50

**3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW****IMMEDIATE CONCERNS:** No significant hazard expected. Pale yellow liquid. Corrosive to metals and for transportation purposes.**POTENTIAL HEALTH EFFECTS:** Product is irritating to the eyes.**4. FIRST AID MEASURES****EYES:** Flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.**SKIN:** Remove contaminated clothing and thoroughly wash with soap and water. If irritation occurs and persists, contact a medical doctor.**INGESTION:** If conscious, rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Get medical attention immediately.**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.**5. FIRE FIGHTING MEASURES****FLASH POINT AND METHOD:** Not applicable**FLAMMABLE LIMITS:** Not applicable**AUTOIGNITION TEMPERATURE:** Not applicable

**EXTINGUISHING MEDIA:** Not applicable (aqueous solution)

**FIRE / EXPLOSION HAZARDS:** None

**FIRE FIGHTING PROCEDURES:** Not applicable

**SENSITIVITY TO STATIC DISCHARGE:** Not applicable

**SENSITIVITY TO IMPACT:** Not applicable

**HAZARDOUS DECOMPOSITION PRODUCTS:** Not applicable

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## 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Keep material out of streams and sewers. Absorb spilled material on commercial oil absorbant or sand. Put the contaminated absorbant into a DOT approved container and dispose of according to the methods outlined in the "Disposal Considerations" section.

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## 7. HANDLING AND STORAGE

**HANDLING:** Avoid contact with eyes, skin, and clothing.

**STORAGE:** Store away from nitrites, sulphites and alkaline materials. Do not store in mild steel containers (corrosive). Keep containers tightly closed when not in use and when in transit.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** None established

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Safety glasses or goggles

**RESPIRATORY:** Not required

**PROTECTIVE CLOTHING:** PVC gloves, overalls or apron

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**ODOR:** Slight

**APPEARANCE:** Pale yellow liquid

**pH:** Acidic < 2

**VAPOR PRESSURE:** ~20 MBAR at 20°C

**BOILING POINT:** 101°C to 103°C

**FREEZING POINT:** -15°C

**MELTING POINT:** Not applicable

**POUR POINT:** Not applicable

**SOLUBILITY IN WATER:** Soluble in water in all proportions

**DENSITY:** 1.30 g/cc @ 20°C

**SPECIFIC GRAVITY:** Not applicable

**VISCOSITY:** 15-25 CST @ 25°C mm<sup>2</sup>/sec

**COEFF. OIL/WATER:** Log P(octanol/water) << 3 (est.)

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## 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** Store away from nitrites, sulphites and alkaline materials. Do not store in mild steel containers (corrosive). Keep containers tightly closed when not in use and when in transit.

**STABILITY:** Stable

**POLYMERIZATION:** Will not occur

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**HAZARDOUS DECOMPOSITION PRODUCTS:** None

**INCOMPATIBLE MATERIALS:** Nitrites, sulphites and alkalis.

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## 11. TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** Irritant (rabbit)

**SKIN EFFECTS:** Non-irritant (rabbit)

**ORAL LD<sub>50</sub>:** >5000 mg/kg (rat)

**ACUTE EFFECTS FROM OVEREXPOSURE:** This product has low oral toxicity. It is irritating to the eyes and non-irritating to the skin. 2-phosphono-butane-tricarboxylic acid is moderately irritating to the mucous membranes.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** 2-phosphono-butane-tricarboxylic acid was not mutagenic in the Ames Assay. No significant health effects expected.

### CARCINOGENICITY:

**IARC:** Not listed

**NTP:** Not listed

**OSHA:** Not listed

**OTHER:** ACGIH: Not listed

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## 12. ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION:** 96 hour LC50 (Rainbow trout) > 1000 mg/l 48 hour EC50 (Daphnia) > 300 mg/l 72 hour EC50 (Algae) > 1000 mg/l Eliminated from waste water plants by precipitation with Ferric and Aluminum Salts.

**CHEMICAL FATE INFORMATION:** No data available for the product.

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## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Absorb spillage onto sand or other absorbent material and dispose of as solid waste as per local regulations (e.g. incineration). Surplus product can be incinerated. If the product was supplied in a single use container, care should be taken to dispose of the container in a responsible manner and in accordance with applicable regulations. Label precautions should be followed for any residual material in the container. Whenever possible, our company encourages recycling of containers.

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## 14. TRANSPORT INFORMATION

### U.S. DEPARTMENT OF TRANSPORTATION (DOT)

**PROPER SHIPPING NAME:** Corrosive liquid, acidic, organic, N.O.S. (contains 2-Phosphonobutane-1,2,4-Tricarboxylic Acid)

**PRIMARY HAZARD CLASS/DIVISION:** 8 (Corrosive)

**UN/NA NUMBER:** UN 3265

**PACKING GROUP:** III

**PLACARDS:** Corrosive

**LABEL:** Corrosive

**OTHER SHIPPING INFORMATION:** DOT Marking: Corrosive liquid, Acidic, Organic, N.O.S. (contains 2-Phosphonobutane-1,2,4-Tricarboxylic Acid) UN 3265 Hazardous Substance/RQ: Not applicable 49 STCC Number: No rail shipments of this material

### CANADA TRANSPORT OF DANGEROUS GOODS

**PROPER SHIPPING NAME:** Corrosive liquid, acidic, organic, N.O.S. (contains 2-Phosphonobutane-1,2,4-Tricarboxylic Acid)

**PRIMARY HAZARD CLASS/DIVISION:** 8 (Corrosive)

**UN/NA NUMBER:** UN3265

**PACKING GROUP:** III

**SPECIAL SHIPPING NOTES:** IMDG: Corrosive Liquid, Acidic, Organic, N.O.S. (contains 2-Phosphonobutane-1,2,4-Tricarboxylic Acid)

IATA: Corrosive Liquid, Acedic, Organic, N.O.S. (contains 2-Phosphonobutane-1,2,4-Tricarboxylic Acid) Keep container tightly closed. Protect against physical damage.

**15. REGULATORY INFORMATION**

**UNITED STATES**

**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

**SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):** Not applicable

**SECTION 311 HAZARD CATEGORY (40 CFR 370):** Acute (immediate) health hazard

**SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):** 10,000 lbs.

**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):** Not listed

**CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)**

**CERCLA REGULATORY (40 CFR 302.4):** Not applicable

**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

**TSCA STATUS (40 CFR 710):** Listed

**STATE REGULATIONS**

**PROPOSITION 65:** This product does not contain any substance(s) which are defined by the state of California to cause cancer, birth defects, or other reproductive effects.

**CANADA**

**WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):** Product Identification No.: Not applicable Hazard Classification: Not applicable Ingredient Disclosure List: Not Listed Domestic Substance List: Listed

**16. OTHER INFORMATION**

**REVISION SUMMARY** Revision #: 4 This MSDS replaces the August 04, 2004 MSDS. Any changes in information are as follows: In Section 1 [ ] Print CHEMTREC Phone Number 24 Hour Emergency Phone Numbers In Section 14 TDG Secondary Hazard Class/Division TDG UN/NA Number TDG Proper Shipping Name

**HMIS RATING**

<b>HEALTH:</b>		1
<b>FLAMMABILITY</b>		1
<b>PHYSICAL HAZARD:</b>		0
<b>PERSONAL PROTECTION:</b>		C

**NFPA RATING**

<b>HEALTH:</b>	1
<b>FLAMMABILITY</b>	1
<b>REACTIVITY:</b>	0
<b>SPECIAL:</b>	None

**Key**

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal

**HMIS RATINGS NOTES:** Protection = C (Safety glasses, gloves, apron)

The contents and format of this MSDS are in accordance with OSHA Hazard Communication Standard and Canada's Workplace Hazardous Information System (WHMIS). National Fire Protection Association (NFPA) Hazardous Materials Identification System (HMIS)