

# Material Safety Data Sheet

## Tris(2-butoxyethyl)phosphate 98%

ACC# 01017

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Tris(2-butoxyethyl)phosphate 98%

**Catalog Numbers:** AC157240000, AC157240050, AC157241000

**Synonyms:** 2-Butoxyethanol, phosphate; Phosphoric acid, tris(2-butoxyethyl)ester; Tri(2-butoxyethanol)phosphate; TBEP; Tributyl cellosolve phosphate

**Company Identification:**

Acros Organics N.V.  
One Reagent Lane  
Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

| CAS#    | Chemical Name                 | Percent | EINECS/ELINCS |
|---------|-------------------------------|---------|---------------|
| 78-51-3 | Tris(2-butoxyethyl) phosphate | 98      | 201-122-9     |

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: colorless liquid.

**Warning!** Irritant. Causes respiratory tract irritation. Causes eye and skin irritation. May cause digestive tract irritation. The toxicological properties of this material have not been fully investigated.

**Target Organs:** None.

#### Potential Health Effects

**Eye:** Causes mild eye irritation.

**Skin:** Causes mild skin irritation.

**Ingestion:** May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.

**Inhalation:** The toxicological properties of this substance have not been fully investigated. Causes severe respiratory tract irritation.

**Chronic:** No information found.

### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**Flash Point:** > 112 deg C (> 233.60 deg F)

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 1; Instability: 0

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

**Storage:** Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

| Chemical Name                 | ACGIH       | NIOSH       | OSHA - Final PELs |
|-------------------------------|-------------|-------------|-------------------|
| Tris(2-butoxyethyl) phosphate | none listed | none listed | none listed       |

**OSHA Vacated PELs:** Tris(2-butoxyethyl) phosphate: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** colorless

**Odor:** butyl-like

**pH:** Not available.

**Vapor Pressure:** 0.03 mmHg @ 150

**Vapor Density:** 13.7

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 215.0 - 228.0 deg C @ 4.00mmH

**Freezing/Melting Point:** -70 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Soluble.

**Specific Gravity/Density:** 1.0060g/cm<sup>3</sup>

**Molecular Formula:** C<sub>18</sub>H<sub>39</sub>O<sub>7</sub>P

**Molecular Weight:** 398.47

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, strong oxidants.

**Incompatibilities with Other Materials:** Strong oxidizing agents - strong bases.

**Hazardous Decomposition Products:** Phosphine, carbon monoxide, oxides of phosphorus, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

### RTECS#:

**CAS#** 78-51-3: KJ9800000

### LD50/LC50:

**CAS#** 78-51-3:

Draize test, rabbit, eye: 500 mg/24H Mild;

Draize test, rabbit, skin: 500 mg/24H Mild;

Oral, rat: LD50 = 3 gm/kg;

Skin, rabbit: LD50 = >16 mL/kg;

### Carcinogenicity:

**CAS#** 78-51-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Mutagenicity:** No information available.

**Neurotoxicity:** No information available.

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. Estimated BDF value = 350. Based on analogy to other phosphate esters, aquatic organisms can accumulate Tris(2-butoxyethyl)phosphate from exposure to cotaminated waters and from their diet. Estimated Koc value = 2,300. This value indicates that TBEP will have slight soil mobility.

**Environmental:** No information available.

**Physical:** No information available.

**Other:** No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

|                       | US DOT                                | Canada TDG                |
|-----------------------|---------------------------------------|---------------------------|
| <b>Shipping Name:</b> | Not regulated as a hazardous material | No information available. |
| <b>Hazard Class:</b>  |                                       |                           |
| <b>UN Number:</b>     |                                       |                           |
| <b>Packing Group:</b> |                                       |                           |

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 78-51-3 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 78-51-3 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

XI

#### Risk Phrases:

R 36/37/38 Irritating to eyes, respiratory system and skin.

#### Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

#### WGK (Water Danger/Protection)

CAS# 78-51-3: 1

#### Canada - DSL/NDL

CAS# 78-51-3 is listed on Canada's DSL List.

#### Canada - WHMIS

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

|                                            |
|--------------------------------------------|
| <b>Section 16 - Additional Information</b> |
|--------------------------------------------|

**MSDS Creation Date:** 2/04/1999

**Revision #3 Date:** 10/03/2005

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*