



H315 - Causes skin irritation.  
 H319 - Causes serious eye irritation.  
 H332 - Harmful if inhaled.  
 H351 - Suspected of causing cancer.  
 H411 - Toxic to aquatic life with long lasting effects.

**Precautionary Statements - EU (§28, 1272/2008)**

P322 - Specific measures (see Sections 4 and 8).  
 P321 - Specific treatment (see Section 4).  
 P281 - Use personal protective equipment as required.

**Precautionary Statements**

P270 - Do not eat, drink or smoke when using this product.  
 P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P330 - Rinse mouth.  
 P363 - Wash contaminated clothing before reuse.  
 P302+P350 - IF ON SKIN: Gently wash with plenty of soap and water.  
 P322 - Specific measures (see supplemental first aid instructions on this label).  
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell.  
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
 P321 - Specific treatment (see supplemental first aid instructions on this label).  
 P332+P313 - If skin irritation occurs: Get medical advice/attention.  
 P362 - Take off contaminated clothing and wash before reuse.  
 P264 - Wash face, hands and any exposed skin thoroughly after handling.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337+P313 - If eye irritation persists: Get medical advice/attention.  
 P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P281 - Use personal protective equipment as required.  
 P308+P313 - IF exposed or concerned: Get medical advice/attention.  
 P405 - Store locked up.  
 P273 - Avoid release to the environment.  
 P501 - Dispose of contents/container to an approved waste disposal plant.  
 P391 - Collect spillage.

**Other Hazards**

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

**Mixture**

Chemical Name	EC No	CAS No	Weight - %	Classification According to Directive 67/548/EEC or 1999/45/EC	Classification According to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
2-Butoxyethanol	Present	111-76-2	70 – 80	Xn; R20/21/22 Xi; R36/38	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available
Tributyl Phosphate	Present	126-73-8	20 - 30	Xn; R22 Xi; R38 Carc.Cat.3; R40	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Carc. 2 (H351)	No data available

**Full Text of R-Phrases** See Section 16

**Full Text of H- and EUH-Phrases** See Section 16

**Section 4: FIRST AID MEASURES****Description of First Aid Measures****General Advice**

Immediate medical attention is required.

**Inhalation**

Remove to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

**Skin Contact**

Immediately remove contaminated clothing and shoes. Flush skin thoroughly with cool water for at least 15 minutes. Wash skin with soap and water. Wash clothing. If irritation persists, get medical attention.

**Eye Contact**

Immediately flush eyes in a directed stream of water for at least 15 minutes while lifting the upper and lower eyelids intermittently to ensure complete irrigation. Get medical attention immediately.

**Ingestion**

If conscious and alert, rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Self-Protection of the First Aider**

Use personal protective equipment as required.

**Most Important Symptoms and Effects, Both Acute and Delayed Symptoms**

May cause irritation of respiratory tract. Prolonged skin contact may cause redness and irritation. Causes eye irritation and possible eye injury. Harmful if swallowed.

**Indication of Any Immediate Medical Attention and Special Treatment Needed****Note to Physicians**

Keep victim under observation. Treat symptomatically.

**Section 5: FIREFIGHTING MEASURES****Extinguishing Media****Suitable Extinguishing Media**

Use extinguishing material suitable for surrounding fire. Water spray, foam, dry chemical or carbon dioxide.

**Unsuitable Extinguishing Media**

No information available.

**Special Hazards Arising from the Substance or Mixture**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. If involved in a fire, product may generate irritating and toxic gases. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Advice for Firefighters**

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece when fighting chemical fires. Move containers from fire area if it can be done without risk.

**Section 6: ACCIDENTAL RELEASE MEASURES****Personal Precautions, Protective Equipment and Emergency Procedures****Personal Precautions**

Use personal protective equipment as required. Do not touch or walk through spilled material. Avoid contact with skin, eyes and inhalation of vapors.

**For Emergency Responders**

Use personal protection recommended in Section 8.

**Environmental Precautions**

Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Should not be released into the environment.

**Methods and Material for Containment and Cleanup**

**Methods for Containment**

Prevent entry into waterways, sewers, basements or confined areas. Prevent further leakage or spillage if safe to do so.

**Methods for Cleanup**

Ventilate area. Eliminate ignition sources. Wear protective equipment. Contain spillage, then absorb spill with inert absorbent and place in a DOT-approved container for disposal. Comply with all local, state and federal regulations.

**Reference to Other Sections**

**Other Information**

See Section 12: Ecological Information.

**Section 7: HANDLING and STORAGE**

**Precautions for Safe Handling**

**Advice on Safe Handling**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Add product slowly to avoid splashing. Do not cut, drill, grind, weld or perform similar operations on or near empty containers.

**General Hygiene Considerations**

Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

**Conditions for Safe Storage, Including Any Incompatibilities**

**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

**Specific End Use(s)**

**Risk Management Measures**

The information required is contained in this Safety Data Sheet (SDS).

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
2-Butoxyethanol 111-76-2	TWA: 20 ppm	TWA: 50 ppm TWA: 240 mg/m <sup>3</sup> (vacated) TWA: 25 ppm (vacated) TWA: 120 mg/m <sup>3</sup> (vacated) S*	IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m <sup>3</sup>
Tributyl Phosphate 126-73-8	TWA: 5 mg/m <sup>3</sup> inhalable fraction and vapor	TWA: 5 mg/m <sup>3</sup> (vacated) TWA: 0.2 ppm (vacated) TWA: 2.5 mg/m <sup>3</sup>	IDLH: 30 ppm TWA: 0.2 ppm TWA: 2.5 mg/m <sup>3</sup>

*ACGIH TLV Threshold Limit Value.*

*OSHA PEL Permissible Exposure Limit.*

*NIOSH IDLH Immediately Dangerous to Life or Health.*

**Exposure Guidelines**

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Engineering Controls**

Showers. Eyewash stations. A system of local and/or general exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

**Personal Protective Equipment (PPE)**

**Eye/Face Protection**

Tight sealing safety goggles. It is generally recognized that contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury.

**Skin Protection**

Wear chemical resistant gloves such as butyl rubber, natural rubber, neoprene or nitrile.

**Respiratory Protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**

Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

**Section 9: PHYSICAL and CHEMICAL PROPERTIES**

**Information on Basic Physical and Chemical Properties**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear colorless to slight yellow
<b>Odor</b>	Mild odor
<b>Odor Threshold</b>	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
<b>pH</b>	Approx. 7.5	
<b>Melting Point/Freezing Point</b>	Not established	
<b>Boiling Point/Boiling Range</b>	Not established	
<b>Flash Point</b>	F.P. for 2-Butoxyethanol is 143°F.	Tag Closed Cup
<b>Evaporation Rate</b>	Not established	
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limits in Air</b>		
<b>Upper Flammability Limit</b>	Not established	
<b>Lower Flammability Limit</b>	Not established	
<b>Vapor Pressure</b>	Not established	
<b>Vapor Density</b>	Not established	
<b>Specific Gravity</b>	0.90 - 0.95	
<b>Water Solubility</b>	Completely soluble	
<b>Solubility(ies)</b>	No information available	
<b>Partition Coefficient</b>		
<b>(n-octanol/water)</b>	No information available	
<b>Auto-Ignition Temperature</b>	Not applicable	
<b>Decomposition Temperature</b>	Not applicable	
<b>Kinematic Viscosity</b>	No information available	
<b>Dynamic Viscosity</b>	No information available	
<b><u>Other Information</u></b>		
<b>VOC Content (%)</b>	70-80% w/w	

**Section 10: STABILITY and REACTIVITY**

**Reactivity**

Stable at normal temperatures and pressure.

**Chemical Stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to Avoid**

Avoid storage with incompatible materials, freezing temperatures and excessive heat. Flammable vapors may be released at elevated temperatures.

**Incompatible Materials**

Oxidizing materials. Strong oxidizing agents. Strong bases. Strong reducing agents.

**Hazardous Decomposition Products**

Thermal decomposition may generate carbon monoxide and carbon dioxide. oxides of phosphorus. smoke and fumes.

**Section 11: TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

**Product Information**

**Inhalation**

May cause irritation of the respiratory tract, headache, coughing, dizziness, drowsiness and nausea. Excessive inhalation exposure may cause blood and kidney effects.

**Eye Contact**

Will result in severe irritation and possible corneal injury. Vapors may irritate eyes.

**Skin Contact**

May cause redness and moderate skin irritation. Repeated skin exposure may result in absorption of harmful amounts.

**Ingestion**

May cause irritation to the mouth, throat, esophagus and stomach. Will cause headache, dizziness, drowsiness and intoxication. Ingestion of large amounts may cause blood and kidney effects.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
2-Butoxyethanol	470 mg/kg (Rat)	= 220 mg/kg (Rabbit)	= 450 ppm (Rat) 4 h
Tributyl Phosphate	3 g/kg (Rat)	> 3100 mg/kg (Rabbit)	= 28 g/m <sup>3</sup> (Rat) 1 h

**Chronic Toxicity**

Prolonged or repeated contact may result in kidney damage and blood effects. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
2-Butoxyethanol	A3	Group 3		
Tributyl Phosphate	A3			

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen with Unknown Relevance to Humans.

**IARC (International Agency for Research on Cancer)**

Group 3 - Unclassifiable as to Carcinogenicity in Humans

**Target Organ Effects**

Blood, Eyes, Kidney, Liver, Respiratory system, Skin, Central nervous system, hematopoietic system

**Section 12: ECOLOGICAL INFORMATION**

**Toxicity**

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
2-Butoxyethanol		1490: 96 h Lepomis macrochirus mg/L LC50 static 2950: 96 h Lepomis macrochirus mg/L LC50	1698 - 1940: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50
Tributyl Phosphate	4.4: 96 h Pseudokirchneriella subcapitata mg/L EC50 1.1: 72 h Desmodesmus subspicatus mg/L EC50	4.2: 96 h Oncorhynchus mykiss mg/L LC50 static 13: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 7.66 - 8.74: 96 h Pimephales promelas mg/L LC50 flow-through 1.0 - 10.0: 96 h Pimephales promelas mg/L LC50 static 8.18: 96 h Pimephales promelas mg/L LC50 4.5: 96 h Oryzias latipes mg/L LC50 9.6: 96 h Oryzias latipes mg/L LC50 static	1.58 - 8.43: 48 h Daphnia magna mg/L EC50 Static

**Persistence and Degradability**

No information available.

**Bio-Accumulative Potential**

Chemical Name	Partition coefficient
2-Butoxyethanol	0.81
Tributyl Phosphate	2.5

**Mobility in Soil**

No information available.

**Results of PBT and vPvB Assessment**

No information available.

**Other Adverse Effects**

No information available

**Section 13: DISPOSAL CONSIDERATIONS**

**Waste Treatment Methods**

**Waste from Residues/Unused**

Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures. Do not discharge into waterways or sewer systems. Disposal will depend on the nature of waste material.

**Contaminated Packaging**

Empty containers retain product residues, all labeled hazardous precautions must be observed. Do not repack product. Do not reuse container.

**Waste Codes/Waste Designations According to EWC/AVV**

Waste codes should be assigned by the user based on the application for which the product was used.

**Section 14: TRANSPORT INFORMATION**

**DOT (US)**

Not regulated

**IMDG**

Not regulated

**IATA**

Not regulated

**Section 15: REGULATORY INFORMATION**

**International Inventories**

All of the components in this product are on or exempt from the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Japan (ENCS), China (IECSC), Korea (ECL), Philippines (PICCS), Australia (AICS)

**International Inventory Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	CAS No	Weight %	SARA 313 – Threshold Values %
2-Butoxyethanol	111-76-2	70-80	1.0

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazards</b>	No
<b>Reactive Hazard</b>	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CAA (Clean Air Act), Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act.

Chemical Name	CAS No	Weight %	CAA (Clean Air Act), Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)	Volatile Organic Compounds (VOC) - Clean Air Act	Class 1 Ozone Depletors	Class 2 Ozone Depletors
2-Butoxyethanol	111-76-2	70-80	X	Present		

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.



**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**US State Right-to-Know Regulations**

Chemical Name	Massachusetts	New Jersey	Pennsylvania
2-Butoxyethanol	X	X	X
Tributyl Phosphate	X	X	X

**International Regulations**

Chemical Name	Carcinogenicity	Exposure Limits
2-Butoxyethanol		Mexico: TWA 26 ppm Mexico: TWA 120 mg/m <sup>3</sup> Mexico: STEL 75 ppm Mexico: STEL 360 mg/m <sup>3</sup>
Tributyl Phosphate		Mexico: TWA 0.2 ppm Mexico: TWA 2.5 mg/m <sup>3</sup> Mexico: STEL 0.4 ppm Mexico: STEL 5 mg/m <sup>3</sup>

**CANADA**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the Safety Data Sheet (SDS) contains all the information required by the CPR.

**Section 16: OTHER INFORMATION**

**Full Text of R-Phrases Referred to Under Sections 2 and 3**

- R40 - Limited evidence of a carcinogenic effect
- R38 - Irritating to skin
- R22 - Harmful if swallowed
- R36/38 - Irritating to eyes and skin
- R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

**Full Text of H-Statements Referred to Under Sections 2 and 3**

- H302 - Harmful if swallowed
- H312 - Harmful in contact with skin
- H332 - Harmful if inhaled
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H351 - Suspected of causing cancer if inhaled

**Issue Date** 06-May-2015  
**Revision Date and Note** Not Applicable

**This Safety Data Sheet (SDS) complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

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