





**Environmental precautions**

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

**7. Handling and storage****Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

**8. Exposure controls/personal protection****Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value	Form
BARIUM SULFATE (CAS 7727-43-7)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
Titanium Dioxide (CAS 13463-67-7)	PEL	15 mg/m <sup>3</sup>	Total dust.
TRIBUTYL PHOSPHATE (CAS 126-73-8)	PEL	5 mg/m <sup>3</sup>	

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
BARIUM SULFATE (CAS 7727-43-7)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.
Ethylene Glycol (CAS 107-21-1)	Ceiling	100 mg/m <sup>3</sup>	Aerosol.
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m <sup>3</sup>	
TRIBUTYL PHOSPHATE (CAS 126-73-8)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction and vapor.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
BARIUM SULFATE (CAS 7727-43-7)	TWA	5 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Total
TRIBUTYL PHOSPHATE (CAS 126-73-8)	TWA	2.5 mg/m <sup>3</sup>	
		0.2 ppm	

**US. Workplace Environmental Exposure Level (WEEL) Guides**

Components	Type	Value	Form
Diethylene Glycol (CAS 111-46-6)	TWA	10 mg/m <sup>3</sup>	
Propylene Glycol (CAS 57-55-6)	TWA	10 mg/m <sup>3</sup>	Aerosol.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

If contact is likely, safety glasses with side shields are recommended.

**Skin protection****Hand protection**

For prolonged or repeated skin contact use suitable protective gloves.

**Other**

Wear suitable protective clothing.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Green.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	11.26 lbs/gal
<b>Flammability class</b>	Not available. <b>Percent volatile</b> 47.98 %
<b>Specific gravity</b>	1.35
<b>VOC</b>	468.815822 g/l Regulatory estimated 422.799904 g/l Material estimated 3.912341 lbs/gal Regulatory estimated 3.528331 lbs/gal Material estimated

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.

**Hazardous decomposition products**

No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause damage to organs through prolonged or repeated exposure by inhalation. Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
Diethylene Glycol (CAS 111-46-6)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	11890 mg/kg
<b>Oral</b>		
LD50	Guinea pig	8700 mg/kg
	Mouse	13.3 g/kg
	Rabbit	26.9 g/kg
	Rat	12565 mg/kg
Ethylene Glycol (CAS 107-21-1)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	9530 mg/kg
<b>Oral</b>		
LD50	Guinea pig	8.2 g/kg
	Mouse	14.6 g/kg
	Rat	5.89 g/kg
Propylene Glycol (CAS 57-55-6)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Guinea pig	18.4 g/kg
	Mouse	23.9 g/kg
	Rabbit	18 g/kg
	Rat	30 g/kg
TRIBUTYL PHOSPHATE (CAS 126-73-8)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 3100 mg/kg
<b>Inhalation</b>		
LC50	Rat	123 mg/l, 6 Hours
<b>Oral</b>		
LD50	Hen	1863 mg/kg
	Mouse	1189 mg/kg

Components	Species	Test Results
	Rat	3 g/kg
* Estimates for product may be based on additional component data not shown.		
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.	
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not available.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	Suspected of causing cancer.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Titanium Dioxide (CAS 13463-67-7)		2B Possibly carcinogenic to humans.
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>		
Not listed.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.	
<b>Aspiration hazard</b>	Not available.	
<b>Chronic effects</b>	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Causes damage to organs through prolonged or repeated exposure.	

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Components	Species	Test Results
BARIUM SULFATE (CAS 7727-43-7)		
<b>Aquatic</b>		
Crustacea	EC50	Tubificid worm (Tubifex tubifex) 28.61 - 38.03 mg/l, 48 hours
Diethylene Glycol (CAS 111-46-6)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish (Gambusia affinis) > 32000 mg/l, 96 hours
Ethylene Glycol (CAS 107-21-1)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow (Pimephales promelas) 8050 mg/l, 96 hours
Propylene Glycol (CAS 57-55-6)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) > 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 710 mg/l, 96 hours
Titanium Dioxide (CAS 13463-67-7)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) > 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus) > 1000 mg/l, 96 hours
TRIBUTYL PHOSPHATE (CAS 126-73-8)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow (Pimephales promelas) 1 - 10 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential**

**Partition coefficient n-octanol / water (log Kow)**

Ethylene Glycol	-1.36
Propylene Glycol	-0.92

**Mobility in soil** No data available.**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.**13. Disposal considerations****Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.**Local disposal regulations** Dispose in accordance with all applicable regulations.**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.**14. Transport information****DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.**15. Regulatory information****US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

BARIUM SULFATE (CAS 7727-43-7) Listed.

Ethylene Glycol (CAS 107-21-1) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****Hazard categories** Immediate Hazard - No  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Ethylene Glycol	107-21-1	5 to <10





## 16. Other information, including date of preparation or last revision

**Revision date** 5/03/2019  
**Version #** 01  
**HMIS® ratings** Health: 1\*  
Flammability: 0  
Physical hazard: 0  
**NFPA ratings** Health: 0  
Flammability: 0  
Instability: 0

**Disclaimer** This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. Siplast cannot anticipate all conditions under which this information and product, or the products of other manufacturers in combination with this product, may be used. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

**Revision Information** Product and Company Identification: Converted to Siplast SDS