

## Section 1. Identification

<b>GHS product identifier</b>	: Sharpie King and Magnum Marker Ink: Black, Blue, & Red
<b>Product code</b>	: Not available.
<b>Other means of identification</b>	: Not available.
<b>Product type</b>	: Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

<b>Manufacturer</b>	: Sanford, L.P. 6655 Peachtree Dunwoody Road Atlanta, GA 30328 1-800-346-3278
<b>Emergency telephone number (with hours of operation)</b>	: CHEMTREC (U.S. and Canada) 1-800-424-9300

## Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	: FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 19.6%

### GHS label elements

#### Hazard pictograms



<b>Signal word</b>	: Danger
<b>Hazard statements</b>	: Flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation. May cause drowsiness or dizziness.

### Precautionary statements

#### Prevention

: Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

## Section 2. Hazards identification

- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage** : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	%	CAS number
Propan-1-ol	≥25 - ≤50	71-23-8
4-hydroxy-4-methylpentan-2-one	≥10 - ≤25	123-42-2
butan-1-ol	≥10 - ≤25	71-36-3
[4-[4-(diethylamino)-α-[4-(ethylamino)-1-naphthyl]benzylidene]cyclohexa-2,5-dien-1-ylidene]diethylammonium chloride	≤10	2390-60-5
bis(2-ethylhexyl) hydrogen phosphate	≤3	298-07-7
Benzenesulfonic acid, C10-16-alkyl derivs.	≤3	68584-22-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## Section 4. First aid measures

- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes skin irritation.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### **Specific hazards arising from the chemical**

- : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

### **Hazardous thermal decomposition products**

- : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 sulfur oxides  
 phosphorus oxides  
 halogenated compounds  
 metal oxide/oxides

### **Special protective actions for fire-fighters**

- : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

### **Special protective equipment for fire-fighters**

- : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### **For non-emergency personnel**

- : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

#### **For emergency responders**

- : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### **Environmental precautions**

- : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

#### **Small spill**

- : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

#### **Large spill**

- : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

: Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

#### Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
propan-1-ol	<p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      TWA: 200 ppm 8 hours.                      TWA: 500 mg/m<sup>3</sup> 8 hours.                      STEL: 250 ppm 15 minutes.                      STEL: 625 mg/m<sup>3</sup> 15 minutes.</p> <p><b>NIOSH REL (United States, 10/2020).</b>  <b>Absorbed through skin.</b>                      TWA: 200 ppm 10 hours.                      TWA: 500 mg/m<sup>3</sup> 10 hours.                      STEL: 250 ppm 15 minutes.                      STEL: 625 mg/m<sup>3</sup> 15 minutes.</p> <p><b>OSHA PEL (United States, 5/2018).</b>                      TWA: 200 ppm 8 hours.                      TWA: 500 mg/m<sup>3</sup> 8 hours.</p> <p><b>ACGIH TLV (United States, 1/2021).</b>                      TWA: 100 ppm 8 hours.</p>
4-hydroxy-4-methylpentan-2-one	<p><b>ACGIH TLV (United States, 1/2021).</b>                      TWA: 50 ppm 8 hours.                      TWA: 238 mg/m<sup>3</sup> 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      TWA: 50 ppm 8 hours.                      TWA: 240 mg/m<sup>3</sup> 8 hours.</p> <p><b>NIOSH REL (United States, 10/2020).</b>                      TWA: 50 ppm 10 hours.                      TWA: 240 mg/m<sup>3</sup> 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b>                      TWA: 50 ppm 8 hours.                      TWA: 240 mg/m<sup>3</sup> 8 hours.</p>
butan-1-ol	<p><b>ACGIH TLV (United States, 1/2021).</b></p>

## Section 8. Exposure controls/personal protection

<p>[4-[4-(diethylamino)-<math>\alpha</math>-[4-(ethylamino)-1-naphthyl]benzylidene]cyclohexa-2,5-dien-1-ylidene]diethylammonium chloride                  bis(2-ethylhexyl) hydrogen phosphate                  Benzenesulfonic acid, C10-16-alkyl derivs.</p>	<p>TWA: 20 ppm 8 hours.  <b>OSHA PEL 1989 (United States, 3/1989).</b>  <b>Absorbed through skin.</b>                  CEIL: 50 ppm                  CEIL: 150 mg/m<sup>3</sup>  <b>NIOSH REL (United States, 10/2020).</b>  <b>Absorbed through skin.</b>                  CEIL: 50 ppm                  CEIL: 150 mg/m<sup>3</sup>  <b>OSHA PEL (United States, 5/2018).</b>                  TWA: 100 ppm 8 hours.                  TWA: 300 mg/m<sup>3</sup> 8 hours.                  None.                  None.                  None.</p>
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**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

<b>Physical state</b>	: Liquid.
<b>Color</b>	: Not available.
<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>Boiling point, initial boiling point, and boiling range</b>	: Not available.
<b>Flash point</b>	: Closed cup: 23 to 37.8°C (73.4 to 100°F)
<b>Evaporation rate</b>	: Not available.
<b>Flammability</b>	: Not available.
<b>Lower and upper explosion limit/flammability limit</b>	: Not available.
<b>Vapor pressure</b>	: Not available.
<b>Relative vapor density</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Solubility in water</b>	: Not available.
<b>VOC</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>Flow time (ISO 2431)</b>	: Not available.
<b>Particle characteristics</b>	
<b>Median particle size</b>	: Not applicable.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
propan-1-ol	LD50 Dermal	Rabbit	5040 mg/kg	-
	LD50 Oral	Rat	1870 mg/kg	-
4-hydroxy-4-methylpentan-2-one	LD50 Dermal	Rabbit	13500 mg/kg	-
	LD50 Oral	Rat	2520 mg/kg	-
butan-1-ol	LC50 Inhalation Vapor	Rat	24000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
bis(2-ethylhexyl) hydrogen phosphate	LD50 Oral	Rat	4940 mg/kg	-
	LD50 Dermal	Rabbit	2000 mg/kg	-
Benzenesulfonic acid, C10-16-alkyl derivs.	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	775 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
propan-1-ol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Mild irritant	Human	-	47 hours 100 %	-
	Skin - Mild irritant	Human	-	24 hours 100 %	-
4-hydroxy-4-methylpentan-2-one	Skin - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 100 uL	-
butan-1-ol	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Severe irritant	Rabbit	-	0.005 MI	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
bis(2-ethylhexyl) hydrogen phosphate	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Moderate irritant	Rabbit	-	5 mg	-
	Eyes - Severe irritant	Rabbit	-	100 uL	-
	Eyes - Severe irritant	Rabbit	-	24 hours 250 ug	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Severe irritant	Rabbit	-	500 uL	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

## Section 11. Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
propan-1-ol	Category 3	-	Narcotic effects
butan-1-ol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes skin irritation.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

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

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.

## Section 11. Toxicological information

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Sharpie King and Magnum Marker Ink: Black, Blue, & Red	944.2	15875.0	N/A	N/A	N/A
propan-1-ol	1870	5040	N/A	N/A	N/A
4-hydroxy-4-methylpentan-2-one	2520	13500	N/A	N/A	N/A
butan-1-ol	790	3400	N/A	24	N/A
[4-[4-(diethylamino)- $\alpha$ -[4-(ethylamino)-1-naphthyl]benzylidene]cyclohexa-2,5-dien-1-ylidene]diethylammonium chloride	100	N/A	N/A	N/A	N/A
bis(2-ethylhexyl) hydrogen phosphate	4940	N/A	N/A	N/A	N/A
Benzenesulfonic acid, C10-16-alkyl derivs.	775	2000	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
propan-1-ol	Acute EC50 4480000 $\mu\text{g/l}$ Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 1000000 $\mu\text{g/l}$ Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 2950000 $\mu\text{g/l}$ Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 3800000 $\mu\text{g/l}$ Marine water	Fish - Alburnus alburnus	96 hours
	Acute LC50 420000 $\mu\text{g/l}$ Marine water	Fish - Menidia beryllina	96 hours
4-hydroxy-4-methylpentan-2-one	Acute EC50 1983 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 $\mu\text{g/l}$ Fresh water	Fish - Pimephales promelas	96 hours
butan-1-ol	Acute EC50 60700 $\mu\text{g/l}$ Fresh water	Daphnia - Daphnia magna - Young	48 hours
	Acute LC50 20 mg/dm <sup>3</sup> Fresh water	Fish - Oncorhynchus mykiss - Fry	96 hours
bis(2-ethylhexyl) hydrogen phosphate	Acute EC50 5.65 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
propan-1-ol	0.2	-	low
4-hydroxy-4-methylpentan-2-one	-0.14 to 1.03	-	low
butan-1-ol	1	-	low
bis(2-ethylhexyl) hydrogen phosphate	2.67	2.7 to 6	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

## Section 12. Ecological information

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
1-Butanol (l)	71-36-3	Listed	U031

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
<b>UN number</b>	UN3175	UN3175	UN3175	UN3175	UN3175
<b>UN proper shipping name</b>	Solids containing flammable liquid, n.o.s. (butan-1-ol)	Solids containing flammable liquid, n.o.s. (butan-1-ol)	Solids containing flammable liquid, n.o.s. (butan-1-ol)	Solids containing flammable liquid, n.o.s. (butan-1-ol)	Solids containing flammable liquid, n.o.s. (butan-1-ol)
<b>Transport hazard class(es)</b>	4.1 	4.1  	4.1 	4.1  	4.1 
<b>Packing group</b>	II	II	II	II	II
<b>Environmental hazards</b>	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.

### Additional information

**DOT Classification** : **Reportable quantity** 24330.9 lbs / 11046.2 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.20-2.22 (Class 4), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

## Section 14. Transport information

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 4(a) final test rules:** octamethylcyclotetrasiloxane  
**TSCA 8(a) PAIR:** 4-hydroxy-4-methylpentan-2-one; bis(2-ethylhexyl) hydrogen phosphate; diphenylamine; 4-tert-butylphenol; octamethylcyclotetrasiloxane  
**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**Clean Water Act (CWA) 307:** nitrobenzene; ethylbenzene; phenol  
**Clean Water Act (CWA) 311:** sulphuric acid; aniline; xylene; nitrobenzene; ethylbenzene; phenol; Formaldehyde, solution

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
sulphuric acid	≤0.1	Yes.	1000	66.3	1000	66.3
aniline	<0.1	Yes.	1000	117.6	5000	587.9
nitrobenzene	<0.1	Yes.	10000	999.5	1000	99.9
phenol	≤0.1	Yes.	500 / 10000	-	1000	-
formaldehyde	<0.1	Yes.	500	73.9	100	14.8

**SARA 304 RQ** : 5333333.3 lbs / 2421333.3 kg

**SARA 311/312**

**Classification** : FLAMMABLE LIQUIDS - Category 3  
 ACUTE TOXICITY (oral) - Category 4  
 SKIN IRRITATION - Category 2  
 SERIOUS EYE DAMAGE - Category 1  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Composition/information on ingredients

## Section 15. Regulatory information

Name	%	Classification
propan-1-ol	≥50 - ≤75	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
4-hydroxy-4-methylpentan-2-one	≥10 - ≤25	FLAMMABLE LIQUIDS - Category 3 EYE IRRITATION - Category 2A
butan-1-ol	≥10 - ≤25	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
[4-[4-(diethylamino)-α-[4-(ethylamino)-1-naphthyl]benzylidene]cyclohexa-2,5-dien-1-ylidene]diethylammonium chloride	≤10	ACUTE TOXICITY (oral) - Category 3 SERIOUS EYE DAMAGE - Category 1
bis(2-ethylhexyl) hydrogen phosphate	≤3	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A
Benzenesulfonic acid, C10-16-alkyl derivs.	≤3	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	butan-1-ol	71-36-3	≥10 - ≤25
<b>Supplier notification</b>	butan-1-ol	71-36-3	≥10 - ≤25

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

- Massachusetts** : The following components are listed: PROPYL ALCOHOL; DIACETONE ALCOHOL; N-BUTYL ALCOHOL
- New York** : The following components are listed: Butyl alcohol
- New Jersey** : The following components are listed: PROPYL ALCOHOL; DIACETONE ALCOHOL; n-BUTYL ALCOHOL; DI (2-ETHYLHEXYL)PHOSPHORIC ACID
- Pennsylvania** : The following components are listed: 1-PROPANOL; 2-PENTANONE, 4-HYDROXY-4-METHYL-; 1-BUTANOL

### California Prop. 65

**⚠ WARNING:** This product can expose you to chemicals including Nitrobenzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Strong inorganic acid mists containing sulfuric acid, Aniline, Ethylbenzene and Formaldehyde, which are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Strong inorganic acid mists containing sulfuric acid	-	-
Aniline	Yes.	-
Nitrobenzene	-	-
Ethylbenzene	Yes.	-
Formaldehyde	Yes.	-

### International regulations

#### [Chemical Weapon Convention List Schedules I, II & III Chemicals](#)

## Section 15. Regulatory information

Not listed.

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: At least one component is not listed.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory</b> : Not determined.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : At least one component is not listed. <b>Japan inventory (ISHL)</b> : At least one component is not listed.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: At least one component is not listed.
<b>Republic of Korea</b>	: At least one component is not listed.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	/	3
Flammability		3
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)



### Procedure used to derive the classification

## Section 16. Other information

Classification	Justification
FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method

### History

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### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 UN = United Nations

### References

: Not available.

📌 Indicates information that has changed from previously issued version.

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