

# MATERIAL SAFETY DATA SHEET



BaySystems NorthAmerica

**Baysystems North America**  
Product Safety & Regulatory Affairs  
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USA

**TRANSPORTATION EMERGENCY**  
CALL CHEMTREC: (800) 424-9300  
INTERNATIONAL: (703) 527-3887

**NON-TRANSPORTATION**  
Bayer Emergency Phone: (412) 923-1800  
Bayer Information Phone: (800) 662-2927

## 1. Product and Company Identification

**Product Name:** BAYSEAL OC  
**Material Number:** 81054763

## 2. Hazards Identification

### Emergency Overview

**CAUTION! Color:** Yellow **Form:** liquid viscous **Odor:** Amine, ammoniacal.  
Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.  
May cause nausea or dizziness. Water runoff from fire fighting may be corrosive.  
Causes respiratory tract burns. Causes skin burns. May cause a temporary fogging of the eyes. Causes eye burns.

### Potential Health Effects

**Primary Routes of Entry:** Skin Contact, Eye Contact

**Medical Conditions Aggravated by Exposure:** Eye disorders, Respiratory disorders, Skin disorders

### HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

#### Inhalation

##### Acute Inhalation

**For Component: Surfactant**

May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

**For Component: Tris-(2-chloroisopropyl)-phosphate**

May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

**For Component: Bis(2-dimethylaminoethyl)ether (BDMAEE)**

Causes respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

##### Chronic Inhalation

**For Component: Bis(2-dimethylaminoethyl)ether (BDMAEE)**

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May cause lung damage.

### **Skin**

#### **Acute Skin**

**For Component: Surfactant**

Causes irritation with symptoms of reddening, itching, and swelling. Essentially non-toxic by skin absorption.

**For Component: Tris-(2-chloroisopropyl)-phosphate**

May cause slight irritation.

**For Component: Bis(2-dimethylaminoethyl)ether (BDMAEE)**

Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.

**For Component: 2-(2-(dimethylamino)ethoxy) Ethanol**

Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.

#### **Chronic Skin**

**For Component: Surfactant**

Prolonged or repeated skin contact may cause dermatitis with symptoms of red, itchy, dry skin.

**For Component: Bis(2-dimethylaminoethyl)ether (BDMAEE)**

Prolonged or repeated skin contact may cause dermatitis with symptoms of red, itchy, dry skin.

### **Eye**

#### **Acute Eye**

**For Component: Surfactant**

Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

**For Component: Tris-(2-chloroisopropyl)-phosphate**

Not expected to be irritating.

**For Component: Bis(2-dimethylaminoethyl)ether (BDMAEE)**

Vapors can cause temporary corneal edema with symptoms of blurred vision or the appearance of halos around bright objects.

**For Component: 2-(2-(dimethylamino)ethoxy) Ethanol**

Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.

#### **Chronic Eye**

**For Component: Bis(2-dimethylaminoethyl)ether (BDMAEE)**

Prolonged vapor contact may cause conjunctivitis.

### **Ingestion**

#### **Acute Ingestion**

**For Component: Surfactant**

Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea.

**For Component: Tris-(2-chloroisopropyl)-phosphate**

May be harmful if swallowed. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Moderately toxic by ingestion.

**For Component: Bis(2-dimethylaminoethyl)ether (BDMAEE)**

Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs).

#### **Chronic Ingestion**

**For Component: Tris-(2-chloroisopropyl)-phosphate**

May cause liver damage. May cause kidney damage.

**Carcinogenicity:**

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

**3. Composition/Information on Ingredients**

**Hazardous Components**

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
10 - 20%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
10 - 20%	Surfactant	CAS# is a trade secret
1 - 5%	Bis(2-dimethylaminoethyl)ether (BDMAEE)	3033-62-3
1 - 5%	2-(2-(dimethylamino)ethoxy) Ethanol	1704-62-7

**4. First Aid Measures**

**Eye Contact**

In case of contact, flush eyes with plenty of lukewarm water. Get medical attention if irritation develops.

**Skin Contact**

In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention if irritation develops.

**Inhalation**

If inhaled, remove to fresh air. Get medical attention if irritation develops.

**Ingestion**

If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

**5. Fire-Fighting Measures**

**Suitable Extinguishing Media:** carbon dioxide (CO<sub>2</sub>), dry chemical, foam, water spray for large fires.

**Special Fire Fighting Procedures**

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

**6. Accidental release measures**

**Spill and Leak Procedures**

Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal. Use appropriate personal protective equipment during clean up. Evacuate and keep unnecessary people out of spill area.

## 7. Handling and Storage

**Storage Temperature:**  
maximum: 50 °C (122 °F)

**Storage Period**  
6 Months

### Handling/Storage Precautions

Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Keep container closed when not in use. Material is hygroscopic and may absorb small amounts of atmospheric moisture. If contamination with isocyanates is suspected, do not reseal containers. Avoid breathing dust, vapor, or mist. Avoid contact with eyes. Avoid contact with skin or clothing.

## 8. Exposure Controls / Personal Protection

### Bis(2-dimethylaminoethyl)ether (BDMAEE) (3033-62-3)

US. ACGIH Threshold Limit Values  
Time Weighted Average (TWA): 0.05 ppm  
US. ACGIH Threshold Limit Values  
Short Term Exposure Limit (STEL): 0.15 ppm  
US. ACGIH Threshold Limit Values  
Skin designation: Can be absorbed through the skin.

### Industrial Hygiene/Ventilation Measures

Under normal conditions of use, special ventilation is not required.

### Respiratory Protection

None required under normal conditions of use.

### Hand Protection

Permeation resistant gloves.

### Eye Protection

Chemical safety goggles or safety glasses with side-shields.

### Skin and body protection

Wear cloth work clothing including long pants and long-sleeved shirts.

### Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

## 9. Physical and chemical properties

**Form:** liquid  
**Appearance:** viscous  
**Color:** Yellow  
**Odor:** Amine, ammoniacal  
**pH:** 8.5 - 10.5  
**Freezing Point:** Less than 0 °C (32 °F)

**Boiling Point/Range:** Greater than 149 °C (300.2 °F)  
**Flash Point:** Greater than 93.33 °C (200 °F) (Pensky-Martens Closed Cup (ASTM D-93))  
**Specific Gravity:** 1.11 - 1.13  
**Solubility in Water:** Partially soluble  
**Viscosity, Dynamic:** 165 - 180 cP @ 25 °C (77 °F)

## 10. Stability and Reactivity

### Hazardous Reactions

Hazardous polymerization does not occur.

### Stability

Stable

### Materials to avoid

oxidizing agents, Isocyanates

### Hazardous decomposition products

By Fire and Thermal Decomposition: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke

## 11. Toxicological Information

### Toxicity Data for Tris-(2-chloroisopropyl)-phosphate

#### Acute Oral Toxicity

LD50: 632 mg/kg (Rat)

#### Acute Inhalation Toxicity

LC50: > 17,800 mg/l, aerosol, 1 hrs (rat, Male/Female)

#### Acute dermal toxicity

LD50: > 5,000 mg/kg (rabbit, Male/Female)

#### Skin Irritation

Human, Patch Test, No skin irritation

rabbit, No skin irritation

#### Eye Irritation

rabbit, Draize, Exposure Time: 24 hrs, Mild eye irritation

rabbit, No eye irritation

#### Sensitization

dermal: non-sensitizer (guinea pig, Maximisation Test (GPMT))

dermal: non-sensitizer (Human, Patch Test)

#### Repeated Dose Toxicity

90 Days, oral: NOAEL: 36 mg/kg, (Rat, male)

#### Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Positive and negative results were reported.

Mammalian cell - gene mutation assay: positive (Mouse lymphoma cells (L5178Y/TK), Metabolic

Activation: with)  
Positive and negative results were reported.

**Toxicity to Reproduction/Fertility**

Other method, inhalation, daily, (rat, male)  
Reproductive effects have been observed in animal studies.

**Developmental Toxicity/Teratogenicity**

rat, female, oral, gestation, daily, NOAEL (teratogenicity): > 1%, NOAEL (maternal): > 1%  
No Teratogenic effects observed at doses tested. No fetotoxicity observed at doses tested.

**Toxicity Data for Surfactant**

**Acute Oral Toxicity**

LD50: 3,310 mg/kg (Rat)

**Acute Inhalation Toxicity**

LC50: > 200 mg/l, 1 hrs (Rat)

**Acute dermal toxicity**

LD50: > 2,000 mg/kg (Rat)

**Skin Irritation**

rabbit, Draize, Slightly irritating

**Eye Irritation**

rabbit, Draize, Severely irritating

**Sensitization**

dermal: non-sensitizer (Human, Patch Test)

**Mutagenicity**

Genetic Toxicity in Vitro:  
DNA damage and repair: negative (other mammalian cell line)  
HGPRT Assay: negative (other mammalian cell line)

**Toxicity Data for Tetrabromophthalate Diol**

**Acute Oral Toxicity**

LD50: > 10,000 mg/kg (Rat)

**Acute Inhalation Toxicity**

LC50: > 0.008 mg/l, (rat)

**Acute dermal toxicity**

LD50: > 20,000 mg/kg (Rat)

**Skin Irritation**

rabbit, Mild skin irritation

**Eye Irritation**

rabbit, Mild eye irritation

**Mutagenicity**

Genetic Toxicity in Vitro:  
Ames: negative

**Toxicity Data for Polyether Polyol**

**Acute Oral Toxicity**

LD50: approximately 4,000 mg/kg (rat)

**Acute Inhalation Toxicity**

LC50: Greater than 200 mg/l, 1 h (rat)

Estimated Value

**Acute dermal toxicity**

LD50: Greater than 2,000 mg/kg (rabbit)

Estimated Value

**Skin Irritation**

Non-irritating

**Eye Irritation**

Non-irritating

**Toxicity Data for Bis(2-dimethylaminoethyl)ether (BDMAEE)**

**Acute Oral Toxicity**

LD50: 571 mg/kg (Rat)

**Acute Inhalation Toxicity**

LC50: 117 ppm, 6 hrs (Rat)

**Acute dermal toxicity**

LD50: 280 uL/kg (rabbit)

LD50: 238 - 750 mg/kg (rabbit)

**Skin Irritation**

rabbit, Draize, Exposure Time: 24 hrs, Severely irritating

**Eye Irritation**

rabbit, Draize, Severely irritating

**Developmental Toxicity/Teratogenicity**

rabbit, Female, dermal,

No Teratogenic effects observed at doses tested.

**Toxicity Data for 2-(2-(dimethylamino)ethoxy) Ethanol**

**Acute Oral Toxicity**

LD50: 2,000 - 5,000 mg/kg (rat)

**Acute dermal toxicity**

LD50: 1,000 - 2,000 mg/kg (rabbit)

**Skin Irritation**

rabbit, Corrosive

**Eye Irritation**

rabbit, Corrosive

**Toxicity Data for Dipropylene Glycol**

**Acute Oral Toxicity**

LD50: > 5,000 mg/kg (Rat)

**Acute Inhalation Toxicity**

LC0: 6 - 8 mg/l, aerosol, 8 hrs (rat)

**Acute dermal toxicity**

LD50: > 5,000 mg/kg (rabbit)

**Skin Irritation**

rabbit, Exposure Time: 24 hrs, Slightly irritating

**Eye Irritation**

rabbit, Non-irritating

**Sensitization**

dermal: non-sensitizer (Human, Magnusson/Kligmann (Maximization Test))

**Repeated Dose Toxicity**

77 Days, Oral: NOAEL: 5 %, (rat, )

**Mutagenicity**

Genetic Toxicity in Vitro:

Ames: Negative results were reported in various in vitro studies. (Salmonella typhimurium, Metabolic

Activation: with/without)

**Toxicity to Reproduction/Fertility**

Fertility Screening, oral, daily, (rabbit, female) NOAEL (parental): 1,200 mg/kg,

No effects on Reproductive parameters observed at doses tested.

**Developmental Toxicity/Teratogenicity**

rat, female, oral, gestation, daily, NOAEL (teratogenicity): 5,000 mg/kg, NOAEL (maternal): 800 mg/kg,  
No Teratogenic effects observed at doses tested.

rabbit, female, oral, gestation, daily, NOAEL (teratogenicity): 1,200 mg/kg, NOAEL (maternal): 1,200  
mg/kg,

No fetotoxicity observed at doses tested.

**12. Ecological Information****Ecological Data for Tris-(2-chloroisopropyl)-phosphate****Biodegradation**

Aerobic, 0 %, Exposure time: 28 Days, Not readily biodegradable.

**Bioaccumulation**

Carp, Exposure time: 42 Days, approximately 0.8 - 2.8 BCF

**Acute and Prolonged Toxicity to Fish**

LC50: approximately 84 mg/l (Bluegill (*Lepomis macrochirus*), 96 hrs)

LC50: 51 mg/l (Fathead minnow (*Pimephales promelas*), 96 hrs)

LC50: 30 mg/l (Guppy (*Poecilia reticulata*), 96 hrs)

**Acute Toxicity to Aquatic Invertebrates**

EC50: approximately 131 mg/l (Water flea (*Daphnia magna*), 48 hrs)

**Toxicity to Aquatic Plants**

EC50: 45 mg/l, End Point: biomass (Green algae (*Scenedesmus subspicatus*), 72 hrs)

EC50: 41 - 55 mg/l, End Point: biomass (Green algae (*Selenastrum capricornutum*), 96 h)

**Toxicity to Microorganisms**

EC50: 295 mg/l, (Photobacterium phosphoreum, 30 min)

EC50: 784 mg/l, (Activated sludge microorganisms, 3 hrs)

**Ecological Data for Surfactant**

**Biodegradation**

aerobic, 98 %, Exposure time: 30 Days

**Biological Oxygen Demand (BOD)**

5 Days, approximately 7 mg/g

28 Days, approximately 75 mg/g

**Chemical Oxygen Demand (COD)**

approximately 252 mg/g

**Theoretical Biological Oxygen Demand (ThBOD)**

approximately 117 mg/g

**Bioaccumulation**

Carp, < 1.4 BCF

**Acute and Prolonged Toxicity to Fish**

LC50: 29 mg/l (Fathead minnow (*Pimephales promelas*), 96 hrs)

**Acute Toxicity to Aquatic Invertebrates**

LC50: 170 mg/l (Water flea (*Daphnia magna*), 48 hrs)

**Toxicity to Aquatic Plants**

500 mg/l, End Point: growth (Green algae (*Selenastrum capricornutum*), 3 hrs)

**Ecological Data for Tetrabromophthalate Diol**

**Acute and Prolonged Toxicity to Fish**

LC50: 12 mg/l (Bluegill (*Lepomis macrochirus*), 96 hrs)

**Ecological Data for Polyether Polyol**

**Acute and Prolonged Toxicity to Fish**

LC50: Greater than 100 mg/l (Other fish, 96 h)

Based on a similar product.

**Ecological Data for Dipropylene Glycol**

**Biodegradation**

aerobic, 16 %, Exposure time: 28 Days

aerobic, 100 %, Exposure time: 1 Days

**Biological Oxygen Demand (BOD)**

5 Days, 92,268 mg/l

**Chemical Oxygen Demand (COD)**

1,840 mg/g

**Theoretical Biological Oxygen Demand (ThBOD)**

0.49

**Bioaccumulation**

Carp, Exposure time: 42 Days, 0.3 - 1.4 BCF

**Acute and Prolonged Toxicity to Fish**

LC50: > 5,000 mg/l (Goldfish (*Carassius auratus*), 24 hrs)

### **Toxicity to Microorganisms**

EC10: 15,400 mg/l, (Pseudomonas putida, 16 hrs)

## **13. Disposal considerations**

### **Waste Disposal Method**

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

### **Empty Container Precautions**

Recondition or dispose of empty container in accordance with governmental regulations.

## **14. Transportation information**

### **Land transport (DOT)**

Non-Regulated

### **Sea transport (IMDG)**

Non-Regulated

### **Air transport (ICAO/IATA)**

Non-Regulated

## **15. Regulatory Information**

### **United States Federal Regulations**

**OSHA Hazcom Standard Rating:** Hazardous

**US. Toxic Substances Control Act:** Listed on the TSCA Inventory.

**US. EPA CERCLA Hazardous Substances (40 CFR 302):**

#### **Components**

None

**SARA Section 311/312 Hazard Categories:**

Acute Health Hazard

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III  
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):**

#### **Components**

None

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III  
Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:**

#### **Components**

None

**US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):**

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

**State Right-To-Know Information**

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

**Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:**

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Polyether Polyol	CAS# is a trade secret
>=1%	Water	7732-18-5
10 - 20%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
10 - 20%	Surfactant	CAS# is a trade secret
>=1%	Tetrabromophthalate Diol	77098-07-8
>=1%	Dipropylene Glycol	25265-71-8

**MA Right to Know Extraordinarily Hazardous Substance List:**

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<20 ppm	Propylene Oxide	75-56-9

**California Prop. 65:**

**Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.**

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<0.05%	2,2'-Dichlorodiisopropyl ether	108-60-1
<20 ppm	Propylene Oxide	75-56-9

**16. Other Information**

**NFPA 704M Rating**

<b>Health</b>	1
<b>Flammability</b>	1
<b>Reactivity</b>	0
<b>Other</b>	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

**HMIS Rating**

<b>Health</b>	1
<b>Flammability</b>	1
<b>Physical Hazard</b>	0

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

\* = Chronic Health Hazard

The method of hazard communication for Baysystems North America is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Baysystems North America as a customer service.

Contact Person: Product Safety Department  
Telephone: (412) 777-2835  
MSDS Number: 000000008790  
Version Date: 04/10/2008  
Report Version: 1.2

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