

MATERIAL SAFETY DATA SHEET



BaySystems NorthAmerica

Baysystems North America
Product Safety & Regulatory Affairs
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NON-TRANSPORTATION
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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)

Material Name: BAYSEAL OC

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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 (CO₂), 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 (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), 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

Health	1
Flammability	1
Reactivity	0
Other	

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

HMIS Rating

Health	1
Flammability	1
Physical Hazard	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
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