

# MATERIAL SAFETY DATA SHEET



Bayer MaterialScience

**Bayer MaterialScience LLC**  
Product Safety & Regulatory Affairs  
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Pittsburgh, PA 15205-9741  
USA

## TRANSPORTATION EMERGENCY

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

## NON-TRANSPORTATION

Bayer Emergency Phone: Call Chemtrec  
Bayer Information Phone: (800) 662-2927

## 1. Product and Company Identification

**Product Name:** BAYSEAL O C  
**Material Number:** 81054763  
**Chemical Family:** Polyol System

## 2. Hazards Identification

### Emergency Overview

**WARNING! 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. Causes respiratory tract irritation. Causes skin irritation.  
Causes eye irritation. May cause a temporary fogging of the eyes. When this product is sprayed, a full-face or hood-type supplied air respirator is required.

### Potential Health Effects

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

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

## HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

### Inhalation

#### Acute Inhalation

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

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

#### **For Component: Surfactant**

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

#### **For Component: Tetramethyliminobispropylamine**

May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest. Causes respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

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### **Chronic Inhalation**

**For Component: Tetramethyliminobispropylamine**

May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest.

### **Skin**

#### **Acute Skin**

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

May cause slight irritation.

**For Component: Surfactant**

May cause irritation with symptoms of reddening and itching. Slightly toxic by skin absorption.

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

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

**For Component: Tetramethyliminobispropylamine**

If sufficient amounts are absorbed, systemic toxicity may occur with symptoms similar to those described in acute inhalation. Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage. May be harmful if absorbed through skin.

### **Chronic Skin**

**For Component: Surfactant**

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

### **Eye**

#### **Acute Eye**

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

Not expected to be irritating.

**For Component: Surfactant**

Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause corneal injury.

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

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

**For Component: Tetramethyliminobispropylamine**

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

### **Chronic Eye**

**For Component: Surfactant**

Prolonged vapor contact may cause conjunctivitis.

**For Component: Tetramethyliminobispropylamine**

Prolonged vapor contact may cause conjunctivitis.

### **Ingestion**

#### **Acute Ingestion**

**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: Surfactant**

Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs). Moderately toxic by ingestion.

**For Component: Tetramethyliminobispropylamine**

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

#### **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**

<b><u>Weight %</u></b>	<b><u>Components</u></b>	<b><u>CAS-No.</u></b>
20 - 30%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
5 - 10%	Surfactant	CAS# is a trade secret
3 - 7%	2-(2-(dimethylamino)ethoxy) Ethanol	1704-62-7
1 - 5%	Tetramethyliminobispropylamine	6711-48-4

### **4. First Aid Measures**

#### **Eye Contact**

In case of contact, flush eyes with plenty of water for at least 15 minutes. Call a physician immediately.

#### **Skin Contact**

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

#### **Inhalation**

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

#### **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.

#### **Unusual Fire/Explosion Hazards**

The reaction of this product with polymeric MDI ("A" side) will release heat (e.g., it is an exothermic reaction). Thus, spraying foam too thickly in a single lift, or not allowing sufficient time between lifts, can result in excessive heat generation to the point where the foam may char, smolder or burn. Refer to the appropriate BaySystems technical datasheet for application instructions.

## 6. Accidental release measures

### Spill and Leak Procedures

Evacuate and keep unnecessary people out of spill area. Remove ignition sources. Notify management. Put on protective equipment. Control source of the leak. Ventilate. Contain the spill. Cover spill with inert material (e.g., dry sand or earth) and collect for proper disposal.

## 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. Do not get on skin or clothing. Do not get in eyes. Do not breathe vapours or spray mist.

## 8. Exposure Controls / Personal Protection

When this product is heated or spray applied, amine vapors can be released.

Country specific exposure limits have not been established or are not applicable

### Industrial Hygiene/Ventilation Measures

When handling this product, ventilation of the work area is recommended.

### Respiratory Protection

When this product is sprayed in combination with polymeric MDI ("A" side), a full-face or hood-type supplied air respirator operated in the positive pressure or continuous flow mode is required. For exterior spray applications where the use of supplied air respiratory protection may create a safety hazard (e.g., roof applications), an air purifying respirator with combination organic vapor/particulate (P100) cartridges may be substituted for a supplied air respirator. When handling the liquid product, particularly if heated or in a confined area, an air purifying respirator with combination organic vapor/particulate (P100) cartridges is recommended. The respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). When APRs are used, (a) the cartridges must be equipped with end-of-service life indicators (ESLI) certified by NIOSH, or (b) a change out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program.

### Hand Protection

When this product is sprayed in combination with polymeric MDI ("A" side), fabric gloves coated in nitrile, neoprene, butyl or PVC are recommended. When handling liquid product, nitrile, neoprene, butyl or PVC gloves are recommended.

### **Eye Protection**

When this product is sprayed in combination with polymeric MDI ("A" side), eye protection will be provided by the full-face or hood-type air supplied respirator as mentioned above in the respiratory protection section. When handling liquid product, chemical safety goggles or safety glasses with side-shields are required.

### **Skin and body protection**

When this product is sprayed in combination with polymeric MDI ("A" side), a disposable full body suit (e.g., Tyvek, Kleenguard, etc.) with attached hood and disposable over-boots are required. When handling liquid product, wear cloth work clothing including long pants and long-sleeved shirts. If the potential for splash to the body exists, impermeable protective clothing is recommended.

### **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**

<b>Form:</b>	liquid
<b>Appearance:</b>	viscous
<b>Color:</b>	Yellow
<b>Odor:</b>	Amine, ammoniacal
<b>pH:</b>	8.5 - 10.5
<b>Freezing Point:</b>	Less than 0 °C (32 °F)
<b>Boiling Point/Range:</b>	Greater than 149 °C (300.2 °F)
<b>Flash Point:</b>	> 93.33 °C (> 200 °F)
<b>Specific Gravity:</b>	1.11 - 1.13
<b>Solubility in Water:</b>	Partially soluble
<b>Viscosity, Dynamic:</b>	165 - 180 cP @ 25 °C (77 °F)

## **10. Stability and Reactivity**

### **Hazardous Reactions**

Hazardous polymerization does not occur. The reaction of this product with polymeric MDI ("A" side) will release heat (e.g., it is an exothermic reaction). Thus, spraying foam too thickly in a single lift, or not allowing sufficient time between lifts, can result in excessive heat generation to the point where the foam may char, smolder or burn. Refer to the appropriate BaySystems technical datasheet for application instructions.

### **Stability**

Stable

### **Materials to avoid**

oxidizing agents, Isocyanates

### **Hazardous decomposition products**

By Fire and Thermal Decomposition: Carbon Dioxide; Carbon Monoxide; Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke, other potentially toxic fumes

## **11. Toxicological Information**

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

Material Name: BAYSEAL O C

Article Number: 81054763

**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 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 Surfactant**

**Acute Oral Toxicity**

LD50: 1,000 - 1,700 mg/kg (Rat)

LD50: 2,380 mg/kg (Rat)

**Acute dermal toxicity**

LD50: 1.4 - 3 ml/kg (rabbit)

**Skin Irritation**

rabbit, Mild skin irritation

**Eye Irritation**

rabbit, Severely irritating

**Sensitization**

dermal: non-sensitizer (Human)

**Repeated Dose Toxicity**

2 years, oral: NOAEL: 40 mg/kg, (Dog, )

2 years, oral: NOAEL: 200 mg/kg, (Rat, )

**Carcinogenicity**

Rat, oral, 2 years, daily

Did not show carcinogenic effects in animal experiments.

**Toxicity to Reproduction/Fertility**

Three generation study, oral, (Rat, Male/Female) NOAEL (parental): 200 ppm, NOAEL (F1): 200 ppm,

NOAEL (F2): 200 ppm

No effects on Reproductive parameters observed at doses tested.

Other method, oral, (Rat) NOAEL (parental): 2000 ppm,

**Developmental Toxicity/Teratogenicity**

Rat, oral, NOAEL (teratogenicity): 200 ppm, NOAEL (maternal): 200 ppm

Fetotoxicity seen only with maternal toxicity. 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 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 Tetramethyliminobispropylamine**

**Acute Oral Toxicity**

LD50: 1,290 mg/kg (Rat)

**Acute Inhalation Toxicity**

LC50: > 2.63 mg/l, 1 hrs (Rat)

**Acute dermal toxicity**

LD50: 310 mg/kg (rabbit)

**Skin Irritation**

rabbit, Corrosive

**Eye Irritation**

rabbit, Corrosive

**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 Tetrabromophthalate Diol**

**Acute and Prolonged Toxicity to Fish**

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

**Ecological Data for Surfactant**

**Biological Oxygen Demand (BOD)**

11 - 23 %

20 Days, 45 - 48 %

**Theoretical Biological Oxygen Demand (ThBOD)**

2,300 mg/g

**Acute and Prolonged Toxicity to Fish**

LC50: 5 - 7.3 mg/l (Fathead minnow (Pimephales promelas), 96 hrs)

**Acute Toxicity to Aquatic Invertebrates**

LC50: 7.5 - 14.7 mg/l (Water flea (Daphnia magna), 48 hrs)

**Toxicity to Microorganisms**

IC50: > 1,000 mg/l, (Other bacteria, 17 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.

**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, Chronic 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>
20 - 30%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
>=1%	Trade secret component	CAS# is a trade secret
>=1%	Polyether Polyol	CAS# is a trade secret
>=1%	Tetrabromophthalate Diol	77098-07-8
5 - 10%	Surfactant	CAS# is a trade secret

**California Prop. 65:**

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

**16. Other Information**

**NFPA 704M Rating**

<b>Health</b>	2
<b>Flammability</b>	1
<b>Reactivity</b>	0

Material Name: BAYSEAL O C

Article Number: 81054763

<b>Other</b>	
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0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

**HMIS Rating**

<b>Health</b>	2*
<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 Bayer MaterialScience LLC is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Bayer MaterialScience LLC as a customer service.

Contact Person: Product Safety Department  
Telephone: (412) 777-2835  
MSDS Number: 000000008790  
Version Date: 02/18/2009  
Report Version: 5.3

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|| Changes since the last version will be highlighted in the margin. This version replaces all previous versions.