

# MATERIAL SAFETY DATA SHEET



Bayer MaterialScience

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## TRANSPORTATION EMERGENCY

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

## NON-TRANSPORTATION

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

## 1. Product and Company Identification

**Product Name:** BAYSEAL CC X  
**Material Number:** 84017524  
**Chemical Family:** Polyol System

## 2. Hazards Identification

### Emergency Overview

**Warning Color:** Amber **Form:** liquid **Odor:** slight, Ether, Amine.  
Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Causes respiratory tract irritation. Vapor reduces oxygen available for breathing. May be harmful if inhaled. Causes skin irritation. May be harmful if absorbed through skin. 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. May be harmful if swallowed. May affect nervous system. May cause irregular heartbeat. May cause lung damage. May cause blood disorders. May cause kidney damage. May cause liver damage. May cause adverse reproductive effects.

### Potential Health Effects

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

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

## HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

### Inhalation

#### Acute Inhalation

#### For Component: Hydrofluorocarbon

Overexposure to vapor may produce dizziness, drowsiness, or nausea. May induce cardiac arrhythmia (irregular heartbeat) in some individuals. Vapor can reduce oxygen available for breathing. May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

**For Component: Glycol**

Inhalation is unlikely due to the low vapor pressure. If misted or handled at elevated temperatures, high concentrations may cause respiratory tract irritation.

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

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

**For Component: Triethanolamine**

Inhalation is unlikely due to the low vapor pressure. If misted or handled at elevated temperatures, high concentrations may cause respiratory tract irritation.

**For Component: Trans-1,2-Dichloroethylene**

May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose. Overexposure to vapor may produce dizziness, drowsiness, or nausea.

**For Component: 2-Butoxyethanol**

Expected to be toxic by inhalation. May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion.

**For Component: Tertiary Amine**

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

**For Component: Tertiary Amine**

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

**Chronic Inhalation**

**For Component: Tertiary Amine**

May cause lung damage.

**Skin**

**Acute Skin**

**For Component: Hydrofluorocarbon**

Slightly toxic by skin absorption. May cause slight irritation.

**For Component: Glycol**

May cause irritation with symptoms of reddening and itching.

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

May cause slight irritation.

**For Component: Triethanolamine**

May cause irritation with symptoms of reddening and itching.

**For Component: Trans-1,2-Dichloroethylene**

May cause irritation with symptoms of reddening and itching.

**For Component: 2-Butoxyethanol**

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

**For Component: Tertiary Amine**

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

**For Component: Tertiary Amine**

Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage. Toxic by skin absorption.

**Chronic Skin**

**For Component: 2-Butoxyethanol**

May cause defatting of the skin with symptoms of dryness and cracking. Chronic exposure may cause symptoms similar to those described in chronic inhalation.

**For Component: Tertiary Amine**

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

**Eye**

**Acute Eye**

**For Component: Hydrofluorocarbon**

May cause slight irritation.

**For Component: Glycol**

May cause slight irritation.

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

Not expected to be irritating.

**For Component: Triethanolamine**

May cause irritation with symptoms of reddening, tearing and stinging.

**For Component: Trans-1,2-Dichloroethylene**

May cause irritation with symptoms of reddening, tearing and stinging.

**For Component: 2-Butoxyethanol**

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

**For Component: Tertiary Amine**

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

**For Component: Tertiary Amine**

Vapors can cause temporary corneal edema with symptoms of blurred vision or the appearance of halos around bright objects. Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.

**Chronic Eye**

**For Component: Tertiary Amine**

Prolonged vapor contact may cause conjunctivitis.

**Ingestion**

**Acute Ingestion**

**For Component: Glycol**

May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion.

**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: Triethanolamine**

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

**For Component: Trans-1,2-Dichloroethylene**

May be harmful if swallowed.

**For Component: 2-Butoxyethanol**

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

May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion.

**For Component: Tertiary Amine**

May be harmful if swallowed.

**For Component: Tertiary Amine**

Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs). Corrosive to the digestive tract with symptoms of burning and ulceration.

**Chronic Ingestion**

**For Component: Glycol**

Chronic overexposure to this product may cause effects as noted under acute overexposure. May cause kidney damage. Repeated excessive exposures may cause liver or kidney effects. If ingested the individual should be observed for signs of numbness, incoordination, headache, and confusion.

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

May cause liver damage. May cause kidney damage.

**For Component: Triethanolamine**

May cause liver damage. May cause kidney damage.

**For Component: 2-Butoxyethanol**

May cause blood disorders. May cause kidney damage. May cause liver damage.

**General Effects of Exposure**

**Acute Effects of Exposure**

**For Component: 2-Butoxyethanol**

Absorption may cause acute toxic effects, specifically damage to red blood cells.

**Carcinogenicity:**

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

**3. Composition/Information on Ingredients**

**Hazardous components**

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
5 - 10%	Hydrofluorocarbon	460-73-1
5 - 10%	Glycol	CAS# is a trade secret
5 - 10%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
3 - 7%	Triethanolamine	102-71-6
1 - 5%	Trans-1,2-Dichloroethylene	156-60-5
1 - 5%	2-Butoxyethanol	111-76-2
1 - 5%	Tertiary Amine	CAS# is a trade secret
0.1 - 1%	Tertiary Amine	CAS# is a trade secret

**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. Firefighting 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:**

**minimum:** 21.11 °C (70 °F)

**maximum:** 26.67 °C (80 °F)

**Storage period**

3 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.

**Further Info on Storage Conditions**

Store materials between 70°F to 80°F (21°C to 27°C) in a dry and well ventilated area for a minimum of 48

hours prior to application of material. The transit temperature range is 32°F to 100°F (0°C to 38°C). The pressure in sealed containers can increase under the influence of heat. Protect against heat and direct sunlight.

## 8. Exposure controls/personal protection

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

### Triethanolamine (102-71-6)

US. ACGIH Threshold Limit Values  
Time Weighted Average (TWA): 5 mg/m<sup>3</sup>

### Trans-1,2-Dichloroethylene (156-60-5)

US. ACGIH Threshold Limit Values  
Time Weighted Average (TWA): 200 ppm  
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)  
PEL: 200 ppm, 790 mg/m<sup>3</sup>  
US. ACGIH Threshold Limit Values  
Time Weighted Average (TWA): 200 ppm

### 2-Butoxyethanol (111-76-2)

US. ACGIH Threshold Limit Values  
Time Weighted Average (TWA): 20 ppm  
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)  
PEL: 50 ppm, 240 mg/m<sup>3</sup>  
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)  
Skin designation: Can be absorbed through the skin.  
US. ACGIH Threshold Limit Values  
Hazard Designation: Group A3 Confirmed animal carcinogen with unknown relevance to humans.

### 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>Color:</b>	Amber
<b>Odor:</b>	slight, Ether, Amine
<b>pH:</b>	ca. 10
<b>Flash point:</b>	> 100 °C (212 °F) (closed cup)
<b>Density:</b>	1.23 g/cm <sup>3</sup>

## **10. Stability and reactivity**

### **Hazardous Reactions**

Hazardous polymerisation 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 (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke., Chlorine, Hydrogen chloride gas, Hydrogen fluoride, Carbonyl halides, Oxides of phosphorus, Other hazardous decomposition products may be formed.

## **11. Toxicological information**

### **Toxicity Data for Hydrofluorocarbon**

#### **Acute inhalation toxicity**

LC50: > 200000 ppm, 4 h (Rat)

#### **Acute dermal toxicity**

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

**Skin irritation**

rabbit, Non-irritating

**Eye irritation**

rabbit, Mild eye irritation

**Sensitisation**

non-sensitizer

**Repeated dose toxicity**

28 d, inhalation: NOAEL: 50,000 ppm, (Rat)

90 d, Inhalation: NOAEL: 2000 ppm, (Rat)

**Mutagenicity**

Genetic Toxicity in Vitro:

Cytogenetic assay: ambiguous (human lymphocytes, Metabolic Activation: with/without)

Ames: negative (Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (mouse)

negative

**Developmental Toxicity/Teratogenicity**

No Teratogenic effects observed at doses tested.

**Toxicity Data for Glycol**

**Acute oral toxicity**

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

Lowest lethal dose: 1 ml/kg (Human) (Case Report)

**Acute dermal toxicity**

LD50: 11.2 l/kg (rabbit)

**Skin irritation**

rabbit, Draize, Slightly irritating

**Eye irritation**

rabbit, Draize, Slightly irritating

**Repeated dose toxicity**

90 Days, Oral: NOAEL: 200 mg/kg, (Rat, )

6 months, Inhalation: NOAEL: < 0.02 mg/l, (rat, )

**Mutagenicity**

Genetic Toxicity in Vitro:

Ames: Negative results were reported in various in vitro studies. (Salmonella typhimurium, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Cytogenetic assay: (hamster, )

positive

Cytogenetic assay: (hamster, )

negative

**Toxicity to Reproduction/Fertility**

One generation study, oral, (mouse) NOAEL (parental): 3.5%,



Fertility and mating indices were decreased. The survival and growth rates were reduced.

**Developmental Toxicity/Teratogenicity**

mouse, oral, NOAEL (maternal): 1,250 mg/kg,  
Fetotoxicity seen only with maternal toxicity.

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

**Acute oral toxicity**

LD50: 632 mg/kg (rat)

**Acute inhalation toxicity**

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

**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, slight irritant  
rabbit, Draize, Exposure Time: 24 h, slight irritant

**Sensitisation**

dermal: non-sensitizer (guinea pig, Maximization Test)  
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 Triethanolamine**

**Acute oral toxicity**

LD50: 4,190 mg/kg (Rat)

**Acute dermal toxicity**

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

**Skin irritation**

rabbit, Slightly irritating

Human, Slightly irritating

**Eye irritation**

rabbit, Moderately irritating

rabbit, Draize, Severely irritating

**Sensitisation**

dermal: non-sensitizer (Guinea pig, Maximization Test)

**Repeated dose toxicity**

28 days, inhalation: NOAEL: > 0.5 mg/l, (Rat, Male/Female, 6 hrs/day 5 days/week)

13 weeks, dermal: NOAEL: 500 mg/kg, (rat, Male/Female, daily)

**Mutagenicity**

Genetic Toxicity in Vitro:

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

Genetic Toxicity in Vivo:

Drosophila SLRL test: negative (Drosophila melanogaster)

negative

**Carcinogenicity**

rat, female, dermal, 2 years, daily,

negative

mouse, Female, dermal, 2 years,

positive

Rat, male, dermal, 2 years,

ambiguous

mouse, male, dermal, 2 years,

ambiguous

Nitrosamines may be formed with nitrates or nitrous acid under certain conditions . Nitrosamines have shown carcinogenic effects in animal tests.

**Toxicity Data for Trans-1,2-Dichloroethylene****Acute oral toxicity**

LD50: 1,235 mg/kg (rat)

**Acute inhalation toxicity**

LC50: 24100 ppm, 4 h (rat)

**Acute dermal toxicity**

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

**Skin irritation**

rabbit, Exposure Time: 24 h, Moderately irritating

**Eye irritation**

rabbit, Moderately irritating

**Toxicity Data for 2-Butoxyethanol****Acute oral toxicity**

LD50: 470 mg/kg (rat)

LD50: 300 mg/kg (rabbit)

**Acute inhalation toxicity**

LC50: 2.21 - 2.39 mg/l, 4 h (Rat)

**Acute dermal toxicity**

LD50: 220 mg/kg (rabbit)

**Skin irritation**

rabbit, Draize, Mild skin irritation

**Eye irritation**

rabbit, Draize, Moderately irritating

**Sensitisation**

dermal: non-sensitizer (Guinea pig, Maximization Test)

dermal: non-sensitizer (Human, Patch Test)

**Repeated dose toxicity**

90 Days, inhalation: NOAEL: 0.121 mg/kg, (Rat, Male/Female, daily)

30 Days, inhalation: NOAEL: < 0.27 mg/kg, (Rat, Male/Female, daily)

90 days, dermal: NOAEL: 150 mg/kg, (rabbit, Male/Female, daily)

**Mutagenicity**

Genetic Toxicity in Vitro:

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

Activation: with/without)

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (mouse, )

negative

**Carcinogenicity**

mouse, Male/Female, inhalation, 2 years, daily,

Animal experiments showed a statistically significant number of tumours.

**Toxicity to Reproduction/Fertility**

Other method, oral, daily, (Rat, Male/Female) NOAEL (parental): 304 mg/kg,

Reproductive effects have been observed in animal studies.

Two generation study, oral, (mouse, Male/Female) NOAEL (parental): 720 mg/kg, NOAEL (F1): < 720 mg/kg,

**Developmental Toxicity/Teratogenicity**

Rat, female, inhalation, gestation, daily, NOAEL (teratogenicity): 0.97 mg/kg, NOAEL (maternal): 0.24 mg/kg,

Teratogenic effects seen only with maternal toxicity.

rabbit, female, gestation, daily, NOAEL (teratogenicity): 0.97 mg/kg, NOAEL (maternal): 0.48 mg/kg,

Rat, Female, dermal, gestation, daily, NOAEL (teratogenicity): 5,400 mg/kg, NOAEL (maternal): < 1,800 mg/kg,

**Toxicity Data for Tertiary Amine****Acute oral toxicity**

LD50: 1,340 mg/kg (rat)

**Acute dermal toxicity**

LD50: 3,570 mg/kg (rabbit)

**Skin irritation**

rabbit, Corrosive

**Eye irritation**

rabbit, severe irritant

**Toxicity Data for Tertiary Amine****Acute oral toxicity**

1,900 mg/kg (Rat)

**Acute dermal toxicity**

569 mg/kg (rabbit)

**Skin irritation**

Severely irritating

**Eye irritation**

Severely irritating

**12. Ecological information****Ecological Data for Hydrofluorocarbon****Acute and Prolonged Toxicity to Fish**

LC50: > 81.8 mg/l (Rainbow trout (*Salmo gairdneri*), 48 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: > 97.9 mg/l (Water flea (*Daphnia magna*), 96 h)

**Ecological Data for Glycol****Biochemical Oxygen Demand (BOD)**

5 Days, 4 %

20 Days, 53 %

**Acute and Prolonged Toxicity to Fish**

LC50: > 10,000 mg/l (Fathead minnow (*Pimephales promelas*), 48 h)

LC0: > 1,000 mg/l (Bluegill (*Lepomis macrochirus*), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: > 10,000 mg/l (Water flea (*Daphnia magna*), 24 h)

**Toxicity to Aquatic Plants**

NOEC: 100 mg/l, End Point: growth (*Pseudokirchneriella subcapitata*, 7 d)

**Toxicity to Microorganisms**

> 10,000 mg/l, (Other bacteria)

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

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

**Bioaccumulation**

*Cyprinus carpio* (Carp), Exposure time: 42 Days, ca. 0.8 - 2.8 BCF

**Acute and Prolonged Toxicity to Fish**

LC50: ca. 84 mg/l (Bluegill (*Lepomis macrochirus*), 96 h)

LC50: 51 mg/l (Fathead minnow (*Pimephales promelas*), 96 h)  
LC50: 30 mg/l (Guppy (*Poecilia reticulata*), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: ca. 131 mg/l (Water flea (*Daphnia magna*), 48 h)

**Toxicity to Aquatic Plants**

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

**Ecological Data for Triethanolamine**

**Biodegradation**

Aerobic, 82 %, Exposure time: 8 Days  
Inherently biodegradable.

**Biochemical Oxygen Demand (BOD)**

5 Days, 0.17 mg/l

**Chemical Oxygen Demand (COD)**

0.5 mg/g

**Theoretical Biological Oxygen Demand (ThBOD)**

1.61 - 2.04 mg/g

**Bioaccumulation**

*Cyprinus carpio* (Carp), Exposure time: 42 Days, < 0.4 BCF

**Acute and Prolonged Toxicity to Fish**

LC50: > 5,000 mg/l (Fathead minnow (*Pimephales promelas*), 96 h)  
LC50: 450 mg/l (Bluegill (*Lepomis macrochirus*), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: 1,386 mg/l (Water flea (*Daphnia magna*), 24 h)

**Toxicity to Aquatic Plants**

EC50: 216 - 750 mg/l, End Point: growth (Green algae (*Scenedesmus subspicatus*), 72 h)

**Toxicity to Microorganisms**

EC10: 7,650 mg/l, (*Pseudomonas putida*, 16 h)  
EC50: 525 mg/l, (*Photobacterium phosphoreum*, 30 min)

**Ecological Data for Trans-1,2-Dichloroethylene**

**Biodegradation**

0 %, Exposure time: 28 d, i.e. not readily degradable

**Ecological Data for 2-Butoxyethanol**

**Biodegradation**

aerobic, 100 %, Exposure time: 28 Days

**Biochemical Oxygen Demand (BOD)**

5 Days, 1,300 mg/g  
20 Days, 1,800 mg/g

**Chemical Oxygen Demand (COD)**

2,180 mg/g

**Theoretical Biological Oxygen Demand (ThBOD)**

2,300 mg/g

**Bioaccumulation**

ca. 2.5 BCF

**Acute and Prolonged Toxicity to Fish**

LC50: 1,490 mg/l (Bluegill (*Lepomis macrochirus*), 96 h)

1,250 mg/l (Silverside Minnow (*Menidia peninsulae*), 96 h)

LC50: 2,137 mg/l (Fathead minnow (*Pimephales promelas*), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: 1,720 - 1,850 mg/l (Water flea (*Daphnia magna*), 24 h)

LC50: 800 mg/l (Common shrimp (*Crangon crangon*), 48 h)

**Toxicity to Aquatic Plants**

EC50: > 1,000 mg/l, (Green algae (*Selenastrum capricornutum*), 7 Days)

**Toxicity to Microorganisms**

IC50: > 1,000 mg/l, (Activated sludge microorganisms, 16 h)

**Ecological Data for Tertiary Amine****Biodegradation**

60 %, Exposure time: 28 d, i.e. not readily degradable

**Acute and Prolonged Toxicity to Fish**

LC50: 148 mg/l (fish (pisces), 96 h)

**Ecological Data for Tertiary Amine****Additional Ecotoxicological Remarks**

No data available for this component.

**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. Transport information****Land transport (DOT)****Proper shipping name:**

Other regulated substances, liquid, n.o.s. (contains  
Hydrofluorocarbon, trans-Dichloroethylene)

**Hazard Class or Division:**

9

**UN/NA Number:**

NA3082

**Packaging group:**

III

**Hazard Label(s):**

Class 9

**RSPA/DOT Regulated Components:**

Trans-1,2-Dichloroethylene

**Reportable Quantity:** 18155 kg (40025 lb)

**Sea transport (IMDG)**

**Non-Regulated**

**Air transport (ICAO/IATA)**

**Proper shipping name:** Aviation regulated liquid, n.o.s. (contains Hydrofluorocarbon, trans-Dichloroethylene)

**Hazard Class or Division:** 9

**UN number:** UN3334

**Packaging group:** III

**Hazard Label(s):** MISCELLANEOUS

**Additional Transportation Information**

For ground, vessel, rail, when in quantities less than the RQ, this product ships 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**

Trans-1,2-Dichloroethylene

Reportable quantity: 1000 lbs

2-Butoxyethanol

Included in the regulation but with no data values. See regulation for further details

**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**

Trans-1,2-Dichloroethylene

2-Butoxyethanol

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

Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

**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 percent</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Aromatic Polyester Polyol	CAS# is a trade secret
5 - 10%	Hydrofluorocarbon	460-73-1
5 - 10%	Glycol	CAS# is a trade secret
5 - 10%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
>=1%	Polyether Polyol	CAS# is a trade secret
3 - 7%	Triethanolamine	102-71-6
>=1%	Non-halogenated flame retardant	CAS# is a trade secret
>=1%	Modifier	CAS# is a trade secret
1 - 5%	Trans-1,2-Dichloroethylene	156-60-5
1 - 5%	2-Butoxyethanol	111-76-2
1 - 5%	Tertiary Amine	CAS# is a trade secret

**New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:**

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
1 - 5%	Trans-1,2-Dichloroethylene	156-60-5
1 - 5%	2-Butoxyethanol	111-76-2

**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
<b>Other</b>	

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



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