

MATERIAL SAFETY DATA SHEET



Bayer MaterialScience

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

TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300
For TDI Products, call CANUTEC: (613) 996-6666

NON-TRANSPORTATION

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

1. Product and Company Identification

Product Name: BAYSEAL CC X
Material Number: 84017524
Chemical Family: Polyol System
Product Use: Refer to technical literature.

2. Hazards Identification

Emergency Overview

Warning

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: 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: Tertiary Amine

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

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.

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: 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: Tertiary Amine

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

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. 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: 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: Tertiary Amine

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

For Component: 2-Butoxyethanol

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

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: 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: Tertiary Amine

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

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: 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:

2-Butoxyethanol

IARC - Overall evaluation: 3 Not classifiable as to carcinogenicity to humans.

ACGIH - Hazard Designation: Group A3 Confirmed animal carcinogen with unknown relevance to humans.

3. Composition/Information on Ingredients

Hazardous components

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
5 - 10%	Hydrofluorocarbon	460-73-1
3 - 7%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
1 - 5%	Trans-1,2-Dichloroethylene	156-60-5
1 - 5%	Tertiary Amine	CAS# is a trade secret
1 - 5%	2-Butoxyethanol	111-76-2
0.1 - 1%	Ethylene Glycol	107-21-1

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

Conditions of Flammability

Not Available

Suitable extinguishing media: Carbon dioxide (CO₂), Dry chemical, Foam, water spray for large fires.

Unsuitable extinguishing media Not Available

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.

Flash point: > 100 °C (212 °F) (closed cup)

Lower Flammable Limit Not Available

Upper Flammable Limit Not Available

Auto-ignition temperature Not Available

Hazardous Combustion Products

By Fire and Thermal Decomposition: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke., Chlorine, Hydrogen chloride gas, Hydrogen fluoride, Carbonyl halides, Oxides of phosphorus, Other hazardous decomposition products may be formed.

Sensitivity to Static Discharge Not Available

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

Triethanolamine (102-71-6)

US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 5 mg/m³

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/m³
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/m³
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.

Triethanolamine (102-71-6)

US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 5 mg/m³

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/m³
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/m³
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.

Ethylene Glycol (107-21-1)

US. ACGIH Threshold Limit Values

Ceiling Limit Value: 100 mg/m³ (Aerosol.)

US. ACGIH Threshold Limit Values

Hazard Designation: Group A4 Not classifiable as a human carcinogen.

Dibutyltin diisooctylmaleate (25168-21-2)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 0.1 mg/m³ as Sn

US. ACGIH Threshold Limit Values

Short Term Exposure Limit (STEL): 0.2 mg/m³ as Sn

US. ACGIH Threshold Limit Values

Skin designation: as Sn Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 0.1 mg/m³ as Sn

US. ACGIH Threshold Limit Values

Hazard Designation: Group A4 Not classifiable as a human carcinogen.

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

Form:	liquid
Appearance	Not Available
Color:	Amber
Odor:	slight, Ether, Amine
Odor Threshold:	Not Available
pH:	ca. 10
Freezing Point	Not Available
Boiling point/boiling range	Not Available
Vapour pressure	Not Available
Vapor Density:	Not Available
Density:	1.23 g/cm ³ @ 20 °C (68 °F)
Specific Gravity	Not Available
Decomposition temperature:	Not established

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 (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), 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 BAYSEAL CC X

Toxicity Data for Hydrofluorocarbon

Acute inhalation toxicity

LC50: > 200000 ppm, 4 h (Rat)

Acute dermal toxicity

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

Skin irritation

Non-irritating

Eye irritation

rabbit, Mild eye irritation

Sensitisation

Skin 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 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 skin, Patch Test, Non-irritating

human skin, Patch Test, Non-irritating

Eye irritation

rabbit, OECD Test Guideline 405, Exposure Time: 24 h, Slightly irritating

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)

13 weeks, oral: NOAEL: 2500 ppm, LOAEL: 800 ppm, (Rat, male, daily)

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.

Genetic Toxicity in Vivo:

Micronucleus test: negative (mouse, male/female, intraperitoneal)

negative

Toxicity to Reproduction/Fertility

Other method, inhalation, daily, (rat, male)

Reproductive effects have been observed in animal studies.

Two-generation study, (feeding study) oral, daily, (rat, male/female) NOAEL (parental): 85 mg/kg,

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.

rat, female, oral, gestation, NOAEL (teratogenicity): 1,000 mg/kg, NOAEL (maternal): 1,000 mg/kg,

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, irritating

Eye irritation

Human, 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)

No adverse effects were observed after repeated exposure in animal studies.

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 to Reproduction/Fertility

Fertility Screening, Oral, daily, (rat, male/female) NOAEL (parental): > 1,000 mg/kg, NOAEL (F1): 300 mg/kg,

Developmental Toxicity/Teratogenicity

Rat, Male/Female, oral, daily, NOAEL (maternal): > 1,000 mg/kg,

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

Human, irritating

Repeated dose toxicity

No valid data available. Chronic exposure damages the brain and the central nervous system.

90 days, Inhalation: NOAEL: > 4000 ppm, (rat, male/female, 6 hrs/day 5 days/week)

14 weeks, Oral: (rat, male/female, 6 hrs/day 5 days/week)

Mutagenicity

Genetic Toxicity in Vitro:

Sister Chromatid Exchange: negative (Chinese hamster ovary (CHO) cells, Metabolic Activation: with/without)

In vitro tests did not show mutagenic effects

Bacterial - gene mutation assay: negative (Salmonella typhimurium, Metabolic Activation: with/without)

In vitro tests did not show mutagenic effects

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (mouse, male)
negative

Developmental Toxicity/Teratogenicity

rat, female, inhalation, GD 7-16, 6 hours/day, NOAEL (maternal): < 2000 ppm

Other Relevant Toxicity Information

May cause drowsiness or dizziness.

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, OECD Test Guideline 404, Exposure Time: 4 h, Corrosive

Eye irritation

rabbit, OECD Test Guideline 405, severe irritant

Sensitisation

Maximisation Test (GPMT): negative (guinea pig, OECD Test Guideline 406)

Repeated dose toxicity

35 days, Oral: LOAEL: < 25 mg/kg, (rat, male/female, daily)

Mutagenicity

Genetic Toxicity in Vitro:

Micronucleus test: negative (Chinese hamster ovary (CHO) cells, Metabolic Activation: with/without)

Toxicity to Reproduction/Fertility

Fertility Screening, Oral, daily, (rat, male/female) NOAEL (parental): 100 mg/kg,

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, Exposure Time: 4 h, irritating

Eye irritation

rabbit, OECD Test Guideline 405, irritating

Sensitisation

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

dermal: non-sensitizer (Human, Patch Test)

Skin sensitisation according to Magnusson/Kligmann (maximizing test):: negative (guinea pig, OECD Test Guideline 406)

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)

90 Days, Oral: NOAEL: 0.45 mg/l, (Rat, Male/Female, daily)

14 weeks, inhalation: (Rat, Male/Female, 6 hrs/day 5 days/week)

Mutagenicity

Genetic Toxicity in Vitro:

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

Mammalian cell - gene mutation assay: Negative results were reported in various in vitro studies. (Chinese hamster ovary (CHO) cells, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (mouse,)

negative

Micronucleus Assay: negative (rat, male, intraperitoneal)

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, NOAEL (F2): 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,
rabbit, female, inhalation, gestation, 6 hours/day, NOAEL (maternal): 50 ppm

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

Corrosive

Sensitisation

Skin sensitisation:: sensitizer

Mutagenicity

Genetic Toxicity in Vitro:
Ames test: No indication of mutagenic effects.

12. Ecological information

Ecological Data for BAYSEAL CC X

Additional Ecotoxicological Remarks

No data available for this product.

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 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

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 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)

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 (TDG)

Non-Regulated

15. Regulatory information

DSL Status All components of this product are on the Canadian DSL.

WHMIS Classification:
D2A, D2B Controlled

SNAC Components:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
5 - 10%	Hydrofluorocarbon	460-73-1

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. Other information

Contact person: Product Safety Department
Telephone: (412) 777-2835
MSDS Number: 112000045841
Version Date: 11/10/2014
Report version: 1.0

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge of Bayer MaterialScience LLC. The information in this MSDS relates only to the specific material designated herein. Bayer MaterialScience LLC assumes no legal responsibility for use of or reliance upon the information in this MSDS.