SAFETY DATA SHEET

1. Identification

Covestro LLC
formerly Bayer MaterialScience LLC
1 Covestro Circle
Pittsburgh, PA 15205
USA

TRANSPORTATION EMERGENCY

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

NON-TRANSPORTATION

Emergency Phone:	Call Chemtrec
Information Phone:	(844) 646-0545

Product Name:	BAYSEAL CC XP
Material Number:	84046095
Chemical Family:	Polyol System
Use:	Polyol components for the production of polyurethanes

2. Hazards Identification

GHS Classification

Skin irritation:	Category 2
Serious eye damage:	Category 1

GHS Label Elements

Hazard pictograms:

Signal word: Danger

Hazard statements:
Causes skin irritation.
Causes serious eye damage.

Precautionary statements:

Prevention:
Wash skin and face thoroughly after handling.
Wear eye and face protection.
Wear protective gloves.

Response:
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a doctor or emergency medical facility (i.e., 911).
If skin irritation occurs: Get medical attention.
Take off contaminated clothing and wash before reuse.

3. Composition/Information on Ingredients

Hazardous Components

Weight Percent	Components	CAS-No.	Classification
5 - 10%	Hydrofluorocarbon	460-73-1	Eye irritation Category 2B. Simple Asphyxiant.
5 - 10%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5	Acute toxicity Category 4 Oral. Eye irritation Category 2B.
1 - 5%	Triethanolamine	102-71-6	Skin irritation Category 2. Eye irritation Category 2A.
1 - 5%	Tertiary Amine	CAS# is a trade secret	Skin corrosion Category 1A. Serious eye damage Category 1.
1 - 5%	Trans-1,2-Dichloroethylene	156-60-5	Acute toxicity Category 4 Oral. Skin irritation Category 2. Eye irritation Category 2A. Specific target organ toxicity - single exposure Category 3 Central nervous system.
1 - 5%	2-Butoxyethanol	111-76-2	Acute toxicity Category 4 Oral. Acute toxicity Category 3 Inhalation. Acute toxicity Category 4 Dermal. Skin irritation Category 2. Eye irritation Category 2A. Flammable liquids Category 4.
0.1 - 1%	Tertiary Amine	CAS# is a trade secret	Acute toxicity Category 4 Oral. Acute toxicity Category 3 Dermal. Skin corrosion Category 1. Serious eye damage Category 1. HNOC - Halo vision.

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

4. First Aid Measures

Most Important Symptom(s)/Effect(s)

Acute: Causes skin irritation with symptoms of reddening, itching, and swelling., May cause allergic skin reaction with symptoms of reddening, itching, swelling, and rash., Causes serious eye damage with symptoms of eye burns, corneal injury, and possible blindness., Vapor can reduce oxygen available for breathing.

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 (CO2), Dry chemical, Foam, water spray for large fires.

Unsuitable Extinguishing Media No Data Available

Fire Fighting Procedure
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.

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

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 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

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.

Storage Period:

3 Months

Storage Temperature
Minimum: 21.11 °C (70 °F)
Maximum: 26.67 °C (80 °F)

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.

Substances to Avoid
Oxidizing agents, Isocyanates

8. Exposure Controls/Personal Protection

Exposure Limits

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/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)
Permissible exposure limit: 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)
Permissible exposure limit: 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.

Any component which is listed in section 3 and is not listed in this section does not have a known ACGIH TLV, OSHA PEL or supplier recommended occupational exposure limit.

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 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

State of Matter:	liquid
Color:	Amber
Odor:	slight, Ether, Amine
Odor Threshold:	No Data Available
pH:	ca. 10
Freezing Point:	No Data Available
Setting Point:	No Data Available
Melting Point:	No Data Available
Boiling Point:	No Data Available
Flash Point:	> 100 °C (212 °F) (closed cup)
Evaporation Rate:	No Data Available
Lower explosion limit:	No Data Available
Upper Explosion Limit:	No Data Available
Vapor Pressure:	No Data Available

Vapor Density:	No Data Available
Density:	1.23 g/cm³
Relative Vapor Density:	No Data Available
Specific Gravity:	No Data Available
Solubility in Water:	No Data Available
Partition Coefficient: n-octanol/water:	No Data Available
Auto-ignition Temperature:	No Data Available
Decomposition Temperature:	No Data Available
Dynamic Viscosity:	No Data Available
Kinematic Viscosity:	No Data Available

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 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 (NOx), dense black smoke., Chlorine, Hydrogen chloride gas, Hydrogen fluoride, Carbonyl halides, Oxides of phosphorus, Other hazardous decomposition products may be formed.

11. Toxicological Information

Likely Routes of Exposure: Inhalation
Eye Contact
Skin Contact

Health Effects and Symptoms

Acute: Causes skin irritation with symptoms of reddening, itching, and swelling., May cause allergic skin reaction with symptoms of reddening, itching, swelling, and rash., Causes serious eye damage with symptoms of eye burns, corneal injury, and possible blindness., Vapor can reduce oxygen available for breathing.

Chronic: Not expected to cause adverse chronic health effects.

Toxicity Data for: BAYSEAL CC XP

Acute Oral Toxicity
Acute toxicity estimate: 3388 mg/kg (Calculation method)

Acute Inhalation Toxicity
Acute toxicity estimate: 30.96 mg/l, 4 h, vapour (Calculation method)

Acute Dermal Toxicity
Acute toxicity estimate: > 5000 mg/kg (Calculation method)

Toxicity Data for Hydrofluorocarbon

Acute Inhalation Toxicity
LC50: > 200000 ppm, 4 h, gas(rat)

Acute Dermal Toxicity
LD50: > 2000 mg/kg (rabbit)

LD50: > 2000 mg/kg (rat)

Skin Irritation
Non-irritating

Eye Irritation
rabbit, Mild eye irritation

Sensitization
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: >= 1150 mg/kg (rat)

Acute Inhalation Toxicity
LC50: > 7.14 mg/l, 4 h, dust/mist(rat, 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

Sensitization
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: 6400 mg/kg (rat, male/female) (OECD Test Guideline 401)

Acute Dermal Toxicity
LD50: > 2000 mg/kg (rat)

Skin Irritation
rabbit, Slightly irritating

Human, irritating

Eye Irritation
Human, irritating

Sensitization
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 negativeMouse, Female, dermal, 2 yearspositiveRat, male, dermal, 2 yearsambiguousMouse, male, dermal, 2 yearsambiguousNitrosamines 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 Tertiary Amine
Skin Irritation
rabbit, OECD Test Guideline 404, Exposure Time: 4 h, Corrosive

Eye Irritation
rabbit, OECD Test Guideline 405, severe irritant

Sensitization
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 Trans-1,2-Dichloroethylene
Acute Oral Toxicity
LD50: 1235 mg/kg (rat)

Acute Inhalation Toxicity
LC50: 95.55 mg/l, 4 h, vapour(rat, male/female) (OECD Test Guideline 403)

Acute Dermal Toxicity
LD50: > 5000 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 2-Butoxyethanol
Acute Oral Toxicity
LD50: 1746 mg/kg (rat, male) (OECD Test Guideline 401)

Acute Inhalation Toxicity
LC50: 2.4 mg/l, 4 h, vapour(rat, male) (OECD Test Guideline 403)

LC50: 2.2 mg/l, 4 h, vapour(rat, female) (OECD Test Guideline 403)

Acute Dermal Toxicity
LD50: 2000 mg/kg (rabbit, male/female) (OECD Test Guideline 402)

Skin Irritation
rabbit, Exposure Time: 4 h, irritating

Eye Irritation
rabbit, OECD Test Guideline 405, irritating

Sensitization
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
LD50: 1840 mg/kg (rat, female)

Acute Dermal Toxicity
LD50: 569 mg/kg (rat)

Skin Irritation
In vitro test system, Corrosive

Eye Irritation
Corrosive

Sensitization
Skin sensitisation:: sensitizer

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

Carcinogenicity:

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

12. Ecological Information

Ecological Data for: BAYSEAL CC XP

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 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)

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. Transportation 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
Reportable Quantity:	17247 kg (38023 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
US. Toxic Substances Control Act: Listed on the TSCA Inventory.

No substances are subject to TSCA 12(b) export notification requirements.
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

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 SDS 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:

Weight percent	Components	CAS-No.
>=1%	Polyester Polyol	**CAS# is a trade secret**
7 - 13%	Hydrofluorocarbon	460-73-1
5 - 10%	Tris-(2-chloroisopropyl)-phosphate	13674-84-5
>=1%	Polyether Polyol	**CAS# is a trade secret**
3 - 7%	Triethanolamine	102-71-6
>=1%	Brominated Aromatic Polyalcohol	**CAS# is a trade secret**
1 - 5%	Tertiary Amine	**CAS# is a trade secret**
1 - 5%	Trans-1,2-Dichloroethylene	156-60-5
1 - 5%	2-Butoxyethanol	111-76-2

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

Weight percent	Components	CAS-No.
1 - 5%	Trans-1,2-Dichloroethylene	156-60-5
1 - 5%	2-Butoxyethanol	111-76-2
0.1 - 1%	Ethylene Glycol	107-21-1

Pennsylvania Right to Know Special Hazard Substance List:

Weight percent	Components	CAS-No.
<0.1%	1,4-Dioxane	123-91-1

Massachusetts Right to Know Extraordinarily Hazardous Substance List:

Weight percent	Components	CAS-No.
<0.1%	1,4-Dioxane	123-91-1

California Prop. 65:
Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.

Weight percent	Components	CAS-No.
<0.1%	1,4-Dioxane	123-91-1
0.01 - 0.1%	Diethanolamine	111-42-2

Based on information provided by our suppliers, this product is considered "DRC Conflict Free" as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7-40-10; Date: 2012-08-22).

16. Other Information

The method of hazard communication for Covestro LLC is comprised of Product Labels and Safety Data Sheets.

Contact:	Product Safety Department
Telephone:	(412) 413-2835
SDS Number:	112000045908
Version Date:	09/03/2015
SDS Version:	4.0

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

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