## 1. Identification

<table>
<thead>
<tr>
<th>Covestro LLC</th>
<th>CALL CHEMTREC:</th>
<th>(800) 424-9300</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Covestro Circle</td>
<td>INTERNATIONAL:</td>
<td>(703) 527-3887</td>
</tr>
<tr>
<td>Pittsburgh, PA 15205</td>
<td>NON-TRANSPORTATION</td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>Emergency Phone:</td>
<td>Call Chemtrec</td>
</tr>
<tr>
<td></td>
<td>Information Phone:</td>
<td>(844) 646-0545</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>ECOBAY CC POLAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Number:</td>
<td>83352362</td>
</tr>
<tr>
<td>Chemical Family:</td>
<td>Polyl System</td>
</tr>
<tr>
<td>Use:</td>
<td>Polyl components for the production of polyurethanes</td>
</tr>
</tbody>
</table>

## 2. Hazards Identification

**GHS Classification**
- Skin irritation: Category 2
- Serious eye damage: Category 1

**GHS Label Elements**
- Hazard pictograms: ![](danger.png)
  - 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 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 ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse.
The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 55 %

### 3. Composition/Information on Ingredients

#### Hazardous Components

<table>
<thead>
<tr>
<th>Weight Percent</th>
<th>Components</th>
<th>CAS-No.</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 - 40%</td>
<td>Polymer</td>
<td>CAS# is a trade secret</td>
<td>Acute toxicity Category 4 Oral. Skin irritation Category 2. Serious eye damage Category 1.</td>
</tr>
<tr>
<td>7 - 13%</td>
<td>Hydrofluorocarbon</td>
<td>460-73-1</td>
<td>Eye irritation Category 2B. Simple Asphyxiant.</td>
</tr>
<tr>
<td>3 - 7%</td>
<td>Tris-(2-chloroisopropyl)-phosphate</td>
<td>13674-84-5</td>
<td>Acute toxicity Category 4 Oral. Eye irritation Category 2B.</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Polyether Polyol</td>
<td>CAS# is a trade secret</td>
<td>Skin irritation Category 2. Eye irritation Category 2A.</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>2-Butoxyethanol</td>
<td>111-76-2</td>
<td>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.</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Tertiary Amine</td>
<td>CAS# is a trade secret</td>
<td>Skin corrosion Category 1A. Serious eye damage Category 1.</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Ester derivative</td>
<td>CAS# is a trade secret</td>
<td></td>
</tr>
<tr>
<td>0.1 - 1%</td>
<td>Amine</td>
<td>CAS# is a trade secret</td>
<td>Acute toxicity Category 4 Oral. Skin irritation Category 2. Serious eye damage Category 1. Flammable liquids Category 4.</td>
</tr>
<tr>
<td>0.1 - 1%</td>
<td>Tertiary Amine</td>
<td>CAS# is a trade secret</td>
<td>Acute toxicity Category 4 Oral. Acute toxicity Category 3 Dermal. Skin corrosion Category 1. Serious eye damage Category 1. HNOC - Halo vision.</td>
</tr>
<tr>
<td>0.1 - 1%</td>
<td>Tin Catalyst</td>
<td>CAS# is a trade secret</td>
<td>Acute toxicity Category 4 Oral. Skin irritation Category 2. Serious eye damage Category 1.</td>
</tr>
</tbody>
</table>

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 serious eye damage with symptoms of eye burns, corneal injury, and possible blindness.,
Causes skin irritation with symptoms of reddening, itching, and swelling., May cause defatting of the
skin with symptoms of dryness and cracking.

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: High volume water jet

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., Hydrogen chloride gas, Hydrogen fluoride, Carbyonal 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:
6 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.

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**
Chemical resistant goggles must be worn.

**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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State of Matter:</strong></td>
<td>liquid</td>
</tr>
<tr>
<td><strong>Color:</strong></td>
<td>Teal</td>
</tr>
<tr>
<td><strong>Odor:</strong></td>
<td>slight, Ether, Amine</td>
</tr>
<tr>
<td><strong>Odor Threshold:</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>pH:</strong></td>
<td>Approximately 8.5 - 10.5</td>
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<tr>
<td><strong>Freezing Point:</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Setting Point:</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Melting Point:</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Boiling Point:</strong></td>
<td>&gt; 93.34 °C (200.01 °F)</td>
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<tr>
<td><strong>Flash Point:</strong></td>
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<tr>
<td><strong>Evaporation Rate:</strong></td>
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<tr>
<td><strong>Lower explosion limit:</strong></td>
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<tr>
<td><strong>Upper Explosion Limit:</strong></td>
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<td><strong>Vapor Pressure:</strong></td>
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<tr>
<td><strong>Vapor Density:</strong></td>
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<tr>
<td><strong>Density:</strong></td>
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<tr>
<td><strong>Relative Vapor Density:</strong></td>
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<tr>
<td><strong>Specific Gravity:</strong></td>
<td>1.14 - 1.16</td>
</tr>
<tr>
<td><strong>Solubility in Water:</strong></td>
<td>Partially soluble</td>
</tr>
<tr>
<td><strong>Partition Coefficient: n-octanol/water:</strong></td>
<td>No Data Available</td>
</tr>
</tbody>
</table>
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, 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 serious eye damage with symptoms of eye burns, corneal injury, and possible blindness. Causes skin irritation with symptoms of redness, itching, and swelling. May cause defatting of the skin with symptoms of dryness and cracking.

**Chronic:** Not expected to cause adverse chronic health effects.

**Toxicity Data for: ECOBAY CC POLAR**

No data available for this product.

Please find the data available for the components.

**Acute Oral Toxicity**
Acute toxicity estimate: 2026 mg/kg  (Calculation method)

**Acute Inhalation Toxicity**
Acute toxicity estimate: 28.63 mg/l, 4 h, vapour  (Calculation method)

Acute toxicity estimate: 28.67 mg/l, 4 h, vapour  (Calculation method)

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

Acute toxicity estimate: > 5000 mg/kg  (Calculation method)
Toxicity Data for: Polymer

Toxicity Note
Toxicity data is based on a similar product.

Acute Oral Toxicity
LD50: 1370 mg/kg (rat)

Acute Dermal Toxicity
LD50: 12800 mg/kg (rabbit)

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)
Amet: 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: Polyether Polyol

Toxicity Note
No data available for this component.

Acute Oral Toxicity

no data available

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**

**Skin Irritation**
rabbit, OECD Test Guideline 404, Exposure Time: 4 h, Corrosive

**Eye Irritation**
rabbit, OECD Test Guideline 405, severe irritant

**Sensitization**
Maximisation Test: 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: Ester derivative**

**Acute Oral Toxicity**
LD50: > 5000 mg/kg (rat, female) (OECD Test Guideline 423)

**Acute Inhalation Toxicity**
LC50: > 11 mg/l, 4 h, aerosol (rat) (OECD Test Guideline 403)

**Acute Dermal Toxicity**
LD50: > 2000 mg/kg (rat) (OECD Test Guideline 402)

**Skin Irritation**
OECD Test Guideline 404, Non-irritating

**Eye Irritation**
rabbit, slight irritant

**Sensitization**
non-sensitizer (Guinea pig)

Skin sensitization (local lymph node assay (LLNA)): negative (Mouse, OECD Test Guideline 429)

**Repeated Dose Toxicity**
Inhalation: NOAEL: < 0.16 mg/l, (Rat, Male/Female)

2 weeks, dermal: NOAEL: 1,000 mg/kg, (Rat, Male/Female, 6 hrs/day 7 days/week)

**Mutagenicity**
Genetic Toxicity in Vitro:
Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)
Chromosome aberration test in vitro: negative (Metabolic Activation: with/without)
In vitro mammalian cell gene mutation test: positive (Human lymphocytes, Metabolic Activation: with)
In vitro mammalian cell gene mutation test: negative (Human lymphocytes, Metabolic Activation: without)

Genetic Toxicity in Vivo:
Micronucleus Assay: negative (Mouse, Male/Female, inhalation)

Toxicity to Reproduction/Fertility
One generation study, inhalation, (rat, Male/Female) NOAEL (parental): 1 mg/l, NOAEL (F1): 0.4 mg/l,

Developmental Toxicity/Teratogenicity
rat, female, inhalation, NOAEL (teratogenicity): 1 mg/l, NOAEL (maternal): 0.16 mg/l, No fetotoxicity observed at doses tested.

Toxicity Data for: Amine

Acute Oral Toxicity
LD50: 1300 mg/kg (rat)

Skin Irritation
irritating

Eye Irritation
severe irritant

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.

Toxicity Data for: Tin Catalyst

Acute Oral Toxicity
LD50: 1690 mg/kg (rat)

Acute Dermal Toxicity
LD50: 3197 mg/kg (rabbit)
Skin Irritation
Severely irritating

Eye Irritation
Severely irritating

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

12. Ecological Information

Ecological Data for: ECOBAY CC POLAR

No data available for this product. Please find the data available for the components.

Ecological Data for Polymer
Additional Ecotoxicological Remarks
No data available for this component.

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 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 Ester derivative

Biodegradation
aerobic, 75 %, Exposure time: 28 d, i.e. readily biodegradable

Acute and Prolonged Toxicity to Fish
LC50: 33.6 mg/l (Fathead minnow (Pimephales promelas), 96 h)

Acute Toxicity to Aquatic Invertebrates
EC50: 122.1 - 163.5 mg/l (Water flea (Daphnia magna), 48 h)

Toxicity to Microorganisms
EC10: 62.5 mg/l, (Pseudomonas putida, 18 h)
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)
Non-Regulated

Sea transport (IMDG)
Non-Regulated

Air transport (ICAO/IATA)
Proper Shipping Name: Aviation regulated liquid, n.o.s. (contains Hydrofluorocarbon)
Hazard Class or Division: 9
UN number: UN3334
Packaging Group: III
Hazard Label(s): MISCELLANEOUS

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:
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:
2-Butoxyethanol

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:**

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=1%</td>
<td>Polyester Polyol</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>15 - 25%</td>
<td>Polymer</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>7 - 13%</td>
<td>Hydrofluorocarbon</td>
<td>460-73-1</td>
</tr>
<tr>
<td>3 - 7%</td>
<td>Chlorinated Phosphate Ester</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>&gt;=1%</td>
<td>Polyether Polyol</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Polyether Polyol</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>2-Butoxyethanol</td>
<td>111-76-2</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>1-(bis(3-(Dimethylamino)propyl)amino)-2-propanol</td>
<td>67151-63-7</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Ester derivative</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>0.1 - 1%</td>
<td>Tertiary Amine</td>
<td>3855-32-1</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 5%</td>
<td>2-Butoxyethanol</td>
<td>111-76-2</td>
</tr>
<tr>
<td>0.1 - 1%</td>
<td>Ethylene Glycol</td>
<td>107-21-1</td>
</tr>
</tbody>
</table>

**Pennsylvania Right to Know Special Hazard Substance List:**

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.1%</td>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
</tr>
<tr>
<td>&lt;0.1%</td>
<td>Formaldehyde</td>
<td>50-00-0</td>
</tr>
</tbody>
</table>

**Massachusetts Right to Know Extraordinarily Hazardous Substance List:**

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.1%</td>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
</tr>
<tr>
<td>&lt;0.1%</td>
<td>Formaldehyde</td>
<td>50-00-0</td>
</tr>
</tbody>
</table>

**California Prop. 65:**

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic. Developmental toxin.

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 - 1%</td>
<td>Ethylene Glycol</td>
<td>107-21-1</td>
</tr>
<tr>
<td>&lt;0.1%</td>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
</tr>
<tr>
<td>&lt;0.1%</td>
<td>Diethanolamine</td>
<td>111-42-2</td>
</tr>
<tr>
<td>&lt;0.1%</td>
<td>Formaldehyde</td>
<td>50-00-0</td>
</tr>
</tbody>
</table>

**CFATS (Chemical Facility Anti-Terrorism Standards) Chemicals**

To the best of our knowledge, this product does not contain Appendix A Chemicals of Interest (COI), at or above the Screening Threshold Quantity (STQ), as defined by the Department of Homeland Security Chemical Facility Anti-terrorism Standard (CFATS, 6 CFR Part 27).

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. Safety data sheets for all of our products and general product declarations are available for download at www.productsafetyfirst.covestro.com.

<table>
<thead>
<tr>
<th>Contact:</th>
<th>Product Safety Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone:</td>
<td>(412) 413-2835</td>
</tr>
<tr>
<td>SDS Number:</td>
<td>112000042597</td>
</tr>
<tr>
<td>Version Date:</td>
<td>06/07/2016</td>
</tr>
<tr>
<td>SDS Version:</td>
<td>6.0</td>
</tr>
</tbody>
</table>

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.