SAFETY DATA SHEET

1. Identification

Covestro LLC
1 Covestro Circle
Pittsburgh, PA 15205
USA

Product Name: BAYSEAL OC
Material Number: 82614401
Chemical Family: Polyol System
Use: Polyol components for the production of polyurethanes

2. Hazards Identification

GHS Classification
Skin corrosion: Category 1A
Serious eye damage: Category 1

GHS Label Elements
Hazard pictograms:

Signal word: Danger
Hazard statements: Causes severe skin burns and eye damage.
Precautionary statements: Prevention:
Wash skin and face thoroughly after handling.
Wear permeation resistant protective gloves and clothing. Wear eye and face protection.
Response:
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
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).

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

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

Material Name: BAYSEAL OC
Material Number: 82614401
Wash contaminated clothing before reuse.

**Storage:**
Store locked up.

**Disposal:**
Dispose of contents and container in accordance with existing federal, state, and local environmental control laws.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:

1 %

### 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>30 - 50%</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>10 - 20%</td>
<td>Surfactant</td>
<td>CAS# is a trade secret</td>
<td>Serious eye damage Category 1.</td>
</tr>
<tr>
<td>5 - 10%</td>
<td>Tertiary Amine</td>
<td>CAS# is a trade secret</td>
<td>Acute toxicity Category 4 Dermal. Skin corrosion Category 1A. Serious eye damage Category 1.</td>
</tr>
<tr>
<td>1 - 5%</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 1A. Serious eye damage Category 1.</td>
</tr>
<tr>
<td>0.1 - 1%</td>
<td>Alkanolamine</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 severe skin burns with symptoms of necrosis and possible scarring. Causes serious eye damage with symptoms of eye burns, corneal injury, and possible blindness. Corrosive to the digestive tract with symptoms of burning and ulceration.

**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, 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**

<table>
<thead>
<tr>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 °C (50 °F)</td>
<td>27 °C (80.6 °F)</td>
</tr>
</tbody>
</table>

Material Name: BAYSEAL OC

Material Number: 82614401
**Storage Conditions**
Store materials between 50°F to 80°F (10°C to 27°C) in a dry and well ventilated area. The transit temperature range is 32°F to 100°F (0°C to 38°C).

**Substances to Avoid**
Oxidizing agents, Isocyanates

### 8. Exposure Controls/Personal Protection

#### Exposure Limits
Country specific exposure limits have not been established or are not applicable.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of Matter</td>
<td>liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>viscous</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Amine, ammoniacal</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No Data Available</td>
</tr>
<tr>
<td>pH</td>
<td>8.5 - 10.5</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>&lt; 0 °C (32 °F)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt; 149 °C (300.2 °F)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 93.33 °C (200 °F)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Upper Explosion Limit</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Density</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Relative Vapor Density</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.08</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Partially soluble</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>165 - 180 cps @ 25 °C (77 °F)</td>
</tr>
<tr>
<td>Kinematic Viscosity</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, Oxides of phosphorus, Other hazardous decomposition products may be formed.

### 11. Toxicological Information

**Likely Routes of Exposure:**

- Inhalation
- Eye Contact

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Material Name: BAYSEAL OC
Material Number: 82614401
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Skin Contact

**Health Effects and Symptoms**

**Acute:** Causes severe skin burns with symptoms of necrosis and possible scarring. Causes serious eye damage with symptoms of eye burns, corneal injury, and possible blindness. Corrosive to the digestive tract with symptoms of burning and ulceration.

**Toxicity Data for: BAYSEAL OC**

**Acute Oral Toxicity**
Acute toxicity estimate: 3110 mg/kg  (Calculation method)

**Acute Dermal Toxicity**
Acute toxicity estimate: 2845 mg/kg (Calculation method)

**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

**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: Surfactant**

**Acute Oral Toxicity**
LD50: > 8000 mg/kg (rat)

**Skin Irritation**
Mild skin irritation

**Eye Irritation**
rabbit, Mild eye irritation

**Sensitization**
dermal: non-sensitizer (Human)

**Repeated Dose Toxicity**
2 years, oral: NOAEL: 40 mg/kg, (Dog, )
2 years, oral: NOAEL: 200 mg/kg, (Rat, )

**Carcinogenicity**
Rat, oral, 2 years, daily Did not show carcinogenic effects in animal experiments.

**Toxicity to Reproduction/Fertility**
Three generation study, oral, (Rat, Male/Female) NOAEL (parental): 200 ppm, NOAEL (F1): 200 ppm, NOAEL (F2): 200 ppm No effects on Reproductive parameters observed at doses tested.Other method, oral, (Rat) NOAEL (parental): 2000 ppm,

**Developmental Toxicity/Teratogenicity**
Rat, oral, NOAEL (teratogenicity): 200 ppm, NOAEL (maternal): 200 ppm Fetotoxicity seen only with maternal toxicity.
No Teratogenic effects observed at doses tested.

**Toxicity Data for: Tertiary Amine**

**Acute Oral Toxicity**
LD50: 2337 mg/kg (rat)

**Acute Dermal Toxicity**
LD50: 1349 mg/kg (rabbit)
assuming density = 0.957 g/cm³

**Skin Irritation**
rabbit, Draize, Corrosive

**Eye Irritation**
rabbit, Corrosive

**Repeated Dose Toxicity**
2 weeks, Inhalation: NOAEL: 11.5 mg/m3, LOAEL: 107 mg/m3, (rat, male, 6 hrs/day 5 days/week)

**Toxicity Data for: Tertiary Amine**

**Acute Oral Toxicity**  
LD50: 1290 mg/kg (rat)

**Acute Dermal Toxicity**  
LD50: 260.71 mg/kg (rabbit)

**Skin Irritation**  
rabbit, Corrosive

**Eye Irritation**  
OECD Test Guideline 405, Corrosive

**Sensitization**  
Skin sensitisation according to Magnusson/Kligmann (maximizing test): negative (OECD Test Guideline 406)

**Mutagenicity**  
Genetic Toxicity in Vitro:  
Ames test: negative

**Toxicity Data for: Alkanolamine**

**Acute Oral Toxicity**  
LD50: 1360 mg/kg (rat)

**Acute Dermal Toxicity**  
LD50: 5700 mg/kg (rabbit)

**Skin Irritation**  
rabbit, Draize, Severely irritating

**Eye Irritation**  
rabbit, Draize, Severely irritating

**Sensitization**  
Buehler Test: non-sensitizer (Guinea pig)

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

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**12. Ecological Information**

**Ecological Data for: BAYSEAL OC**

No data available for this product.

**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 Surfactant
Biochemical Oxygen Demand (BOD)
11 - 23 %

20 Days, 45 - 48 %

Theoretical Biological Oxygen Demand (ThBOD)
2,300 mg/g

Acute and Prolonged Toxicity to Fish
LC50: 5 - 7.3 mg/l (Fathead minnow (Pimephales promelas), 96 h)

Acute Toxicity to Aquatic Invertebrates
LC50: 7.5 - 14.7 mg/l (Water flea (Daphnia magna), 48 h)

Toxicity to Microorganisms
IC50: > 1,000 mg/l, (Other bacteria, 17 h)

Ecological Data for Tertiary Amine
Acute and Prolonged Toxicity to Fish
LC50: 320 mg/l (Leuciscus idus (Golden orfe), 96 h)

Ecological Data for Tertiary Amine
Biodegradation
71.2 %, Exposure time: 28 d, i.e. readily biodegradable

Acute Toxicity to Aquatic Invertebrates
EC50: 24 mg/l (Daphnia magna (Water flea), 48 h)

Toxicity to Aquatic Plants
ErC50: 35 mg/l, (algae, 72 h)

Toxicity to Microorganisms
EC50: > 1,000 mg/l, (activated sludge, 72 h)

**Ecological Data for Alkanolamine Biodegradation**
Not readily biodegradable.

**Acute and Prolonged Toxicity to Fish**
LC50: > 320 mg/l (fish (pisces), 96 h)

**Acute Toxicity to Aquatic Invertebrates**
EC50: 72 mg/l (Daphnia magna (Water flea), 48 h)

**Toxicity to Aquatic Plants**
ErC50: 69.3 mg/l, (Desmodesmus subspicatus (Green algae), 72 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. Transportation Information

**Land transport (DOT)**
Non-Regulated

**Sea transport (IMDG)**
Non-Regulated

**Air transport (ICAO/IATA)**
Non-Regulated

### 15. Regulatory Information

**United States Federal Regulations**

**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:**
None

**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:
None

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>25 - 35%</td>
<td>Tris-(2-chloroisopropyl)-phosphate</td>
<td>13674-84-5</td>
</tr>
<tr>
<td>&gt;=1%</td>
<td>Water</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>&gt;=1%</td>
<td>Polyether Polyol</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>10 - 20%</td>
<td>Surfactant</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>5 - 10%</td>
<td>Tertiary Amine</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Tertiary Amine</td>
<td>CAS# is a trade secret</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>1 - 5 ppm</td>
<td>Ethylene Oxide</td>
<td>75-21-8</td>
</tr>
<tr>
<td>1 - 5 ppm</td>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Weight percent</th>
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</tr>
</thead>
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</tr>
<tr>
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<td>1,4-Dioxane</td>
<td>123-91-1</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.

Contact: Product Safety Department