SECTION 1: Identification

1.1 Product identifier

Trade Name: PyroVex® B-110 Diol

CAS-No.: 77098-07-8

Chemical Name: 2-(2-hydroxyethoxy)ethyl 2-hydroxypropyl 3,4,5,6-tetrabromophthalate

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant identified uses:
- Formulation flame retardant preparation
- PU foam production for insulation

1.2.2 Uses advised against:
- No specific uses advised against have been identified.

1.3 Details of the supplier of the safety data sheet

Velsicol Chemical LLC.
10400 W. Higgins Road, Suite 303
Rosemont, Illinois 60018 USA
Phone: (847) 813-7888
Fax: (847) 768-3227
www.velsicol.com

1.4 Emergency telephone number

Outside the continental U.S.A. call CHEMTREC 1-800-424-9300 (24 hours)
In the continental U.S.A. call CHEMTREC 703-527-3887 (24 hours)

SECTION 2: Hazards Identification

2.1 Hazard classification and Hazard statement(s):

Human Effects: Not expected to be acutely toxic. Not expected to be an irritant.
Environmental Effects: None known
Other Effects: None known

Not classified under GSH.

2.2 Precautionary statements:

Not classified. Handle in accordance with good industrial hygiene and safety practice.

2.3 Signal Word:

2.4 Pictograms:

2.5 Other hazards:

No data available

2.6 Additional Information:

No data available
SECTION 3: Composition/information on ingredients:

### 3.1 Substances:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(2-hydroxyethoxy)ethyl 2-hydroxypropyl 3,4,5,6-tetrabromophthalate</td>
<td>Diester/ether diol of tetrabromophthalic anhydride; Diol ester of tetrabromophthalic anhydride (TBPA Diol).</td>
<td>77098-07-8 20566-35-2</td>
<td>&gt;98</td>
</tr>
</tbody>
</table>

Formula: C15H16Br4O7

### 3.2 Impurities and stabilizing additives:
No data available

SECTION 4: First-Aid Measures

#### 4.1 Description of first aid measures

**4.1.1 General information:**
Viscous liquid. Not expected to be acutely toxic. Not expected to be an irritant.

**4.1.2 Following inhalation:**
Immediately leave the contaminated area; take deep breaths of fresh air.

**4.1.3 Following skin contact:**
Immediately wash skin with soap and plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse.

**4.1.4 Following eye contact:**
First check the victim for contact lenses and remove if present. Flush victim's eyes with water for 15 or more minutes. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician.

**4.1.5 Following ingestion:**
Give 500 ml water to drink. Do not induce vomiting.

**4.1.6 Self-protection of the first aider:**
Wear protective gloves/protective clothing/eye protection. Do not get in eyes, on skin, or on clothing.

**4.1.7 Notes for the doctor:**
Not available

#### 4.2 Most important symptoms and effects, both acute and delayed
Not available

#### 4.3 Indication of any immediate medical attention and special treatments needed
Not available.

SECTION 5: Fire-Fighting Measures

**5.1 Extinguishing media**
- Flammability Properties: No flammable.
- Flash Point: 221 °F (105 °C)
- Suitable extinguishing media: Carbon dioxide, dry chemicals, foam, water spray (mist).
**PyroVex® B-110 Diol**

- Unsuitable extinguishing media: DO NOT use water jet.

### 5.2 Special hazards arising from the substance or mixture

Releases hydrogen bromide, bromine and oxides of carbon.

### 5.3 Advice for fire fighters

Firefighters and others who may be exposed to products of combustion should wear full firefighting turnout gear and self-contained breathing apparatus (MSHA-NIOSH approved).

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### SECTION 6: Accidental Release Measures

**6.1 Personal precautions, protective equipment and emergency procedures**

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing; provision of sufficient ventilation.

**6.2 Environmental precautions**

Do not allow to enter sewers / surface or ground water. Do not let this chemical enter the environment. Contain any spill with dikes or absorbents to prevent migration and entry into sewers or streams.

**6.3 Methods and materials for containment and clearing up**

Stop the leak if possible. Ventilate area of spill. Take up small spills with dry chemical absorbent. Large spills may be taken up with pump or vacuum and finished off with dry chemical absorbent.

**6.4 References to other sections**

See sections 8 and 13 for further advice.

---

### SECTION 7: Handling and Storage

**7.1 Precautions for safe handling**

Local exhaust is needed at source of vapours. Mechanical ventilation is recommended. Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing. Avoid release to the environment.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a well-ventilated area away from extreme heat and away from strong oxidizing agents.

**Specific incompatibilities:** No information available.

**7.3 Specific end uses(s):** No information available.

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### SECTION 8. Exposure Controls/Personal Protection

**8.1 Control parameters**

<table>
<thead>
<tr>
<th>DNEL/DMEL &amp; PNEC Values</th>
<th>Exposure Route</th>
<th>Units</th>
<th>Exposure Frequency</th>
<th>Industrial Worker</th>
<th>Professional Worker</th>
<th>General Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>kg/kg</td>
<td>Short-term</td>
<td>NA*</td>
<td>NA*</td>
<td>NA*</td>
<td>NA*</td>
</tr>
<tr>
<td>Oral</td>
<td>kg/kg bw/d</td>
<td>Long-term, repeated</td>
<td>NA*</td>
<td>NA*</td>
<td>NA*</td>
<td>NA*</td>
</tr>
<tr>
<td>Dermal</td>
<td>kg/kg</td>
<td>Short-term</td>
<td>1600</td>
<td>1600</td>
<td>NA*</td>
<td>NA*</td>
</tr>
<tr>
<td>Dermal</td>
<td>kg/kg bw/d</td>
<td>Long-term, repeated</td>
<td>89</td>
<td>89</td>
<td>NA*</td>
<td>NA*</td>
</tr>
<tr>
<td>Inhalation</td>
<td>mg/m³</td>
<td>Short-term</td>
<td>NA*</td>
<td>NA*</td>
<td>NA*</td>
<td>NA*</td>
</tr>
<tr>
<td>Inhalation</td>
<td>mg/m³</td>
<td>Long-term, repeated</td>
<td>47</td>
<td>47</td>
<td>NA*</td>
<td>NA*</td>
</tr>
</tbody>
</table>
8.2 Exposure controls
Ventilation must be adequate to maintain the ambient workplace atmosphere.

8.2.1 Appropriate engineering controls:
Provide ventilation if necessary to minimize exposure. Ensure that eyewash station and safety shower is proximal to the work-station location. Establish a patent airway.

8.2.2 Personal protective measures:
Remove all contaminated clothing. Wash hands before breaks and at the end of work.

Respiratory protection
Approved organic vapour respirator.

Hand Protection
Wear suitable gloves resistant to chemical penetration. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

Eye and face protection
Safety goggles should be worn when handling this substance.

Skin protection
Wear protective gloves/clothing.

8.2.3 Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties
Form: Viscous liquid
Color: Amber
Odor: Mild
Odor threshold: Not known
pH: No data available
Melting point: No data available
Boiling point: No data available
Flashpoint (TCC): 105 °C (211 °F)
Evaporation rate: No data available
**Flammability:** No data available  
**Vapor pressure:** No data available  
**Vapor density:** No data available  
**Specific Gravity:** 1.8 at 20°C  
**Particle size distribution:** Not applicable  
**Solubility in water:** < 0.1 % (25°C) (0.057 mg/l (estimated))  
**Solubility in other solvents:** soluble in Toluene, Dichloromethane, Methyl Ethyl Ketone  
**Surface tension:** No data available  
**Partition coefficient:** log Kow = 3.825(calculated)  
**Auto ignition temperature:** No data available  
**Decomposition temperature:** Not available  
**Viscosity:** 1400-2100 cps (60°C)  
**Explosive properties:** No data available  
**Oxidizing properties:** No data available  
**Dissociation Constant:** No data available  
**Molecular Weight:** 627.5

**SECTION 10: Stability and Reactivity**

10.1 **Reactivity**  
Not a reactive substance and no reactive hazards are expected.  
No hazardous reaction when handled and stored according to provisions.

10.2 **Chemical stability**  
This material is stable if stored under proper conditions. (See Section 7 for instructions)

10.3 **Others**  
**Possibility of hazardous reactions:**  
No hazardous reactions expected under normal conditions of use.

**Conditions to avoid:**  
Temperatures above 210°C.

**Incompatible materials:**  
Incompatible with oxidizing agents.

**Hazardous decomposition products:**  
Hydrobromic acid, bromine and oxides of carbon.

**SECTION 11: Toxicological Information**

11.1 **Information on toxicological effects**

**Acute toxicity**  
This substance is not classified as acute toxic for all exposure route listed below:

<table>
<thead>
<tr>
<th>Acute Toxicity</th>
<th>Effect Dos /Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Oral Toxicity</td>
<td>LD50: &gt;2000mg/kg bw (rat)</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>LD50: &gt;2000 mg/kg bw (Rabbit)</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>LD50: &gt;Saturated vapour concentration (1hr, Rat)</td>
</tr>
</tbody>
</table>
**PyroVex® B-110 Diol**

**Skin corrosion/irritation**: No skin irritation.

**Serious eye damage/irritation**: No eye irritation. (rabbit)

**Respiratory/skin sensitisation**: Not expected to be a sensitizer.

**Germ cell mutagenicity**: Not mutagenic in AMES Test.

**Carcinogenicity**: Not classified

**Reproductive toxicity**: Neither prenatal developmental toxicity nor effects on reproductive organs was seen.

**Repeated dose toxicity**: Information given is based on data obtained from similar substances.

Repeated dose (28 days) toxicity NOAEL (No Observed Adverse Effect Level):
- Oral (Rat): 2000 ppm
- Dermal (rabbit): 500 mg/kg bw/d

**Aspiration hazard**: Not classified

**Other Toxicological Information** No information available

### SECTION 12: Ecological Information

#### 12.1. Toxicity

No data is available on the product itself. Information given is based on data obtained from similar substances.

- LC50 LC50/96h/fish: 12mg/L > Solubility in water
- EC50 EC50/48h/Daphnia: 10.8 mg/L (estimated by calculation) > Solubility in water
- EC50 EC50/72h/algae: 0.9mg/L (estimated by calculation) > Solubility in water

#### 12.2 Persistence and degradability

Not expected to be readily biodegradable.

#### 12.3 Bioaccumulative potential

Not expected to be bioaccumulative: BCF, Fish: 39 (estimated), and log Pow = 3.825 (estimated)

#### 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

Not bioaccumulative and not regarded as a PBT / vPvB.

#### 12.6 Other adverse effects

No information available.

### SECTION 13: Disposal Considerations

Recycle to process, if possible. Consult your local or regional authorities for disposal options.

### SECTION 14: Transport Information

<table>
<thead>
<tr>
<th>DOT (US)</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not a controlled goods</td>
<td>Not a controlled goods</td>
<td>Not a controlled goods</td>
</tr>
</tbody>
</table>

### SECTION 15: Regulatory Information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This substance included on or exempted from listing on the following inventories:
15.2 Chemical Safety Assessment:
EU REACH Registration dossier.

SECTION 16: Other Information

16.1 Indication of changes
V1: This is the first SDS under OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200(g))
29 January 2015

V2: Change ResNovae to PyroVex®, 06 November, 2015

V3: Change ResNovae to PyroVex, replace ResNovae.com to Velsicol.com, and replace logo, 12 August, 2016

16.2 Key literature references and sources for data
Manufacture SDS
ECHA website: http://echa.europa.eu/web/guest/home

16.3 Classification for mixtures and used evaluation method according to Hazard Communication Standard
(HCS)(29 CFR 1910.1200(g)), Not a mixture.


16.5 Further information: Notice to Reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.