



## SAFETY DATA SHEET

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**Effective Date:** 01/08/2014

**Product Name:** Thorcoflame PE-68

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According to Regulation (EC) No. 1907/2006

### Thorcoflame PE-68 Flame Retardant

#### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Chemical name** Tetrabromobisphenol A, Bis (2,3-dibromopropyl ether )

**Synonym(s)** TBBA-bis(2,3-dibromopropyl ether), BDDP

**Chemical formula** C<sub>21</sub>H<sub>20</sub>Br<sub>8</sub>O<sub>2</sub>

**Chemical family** Halogenated bisphenol derivative

**Molecular weight** 943

**Type of product and use** A flame retardant used in polypropylene, HIPS (high impact polystyrene).

**Company** **Van Horn, Metz & Co., Inc.**  
Add: 201 East Elm Street,  
Conshohocken, PA 19428  
USA  
Tel: +1 (610) 828-4500  
Fax: +1 (610) 828-0936

**Emergency telephone number** (800) 424-9300 (Chemtrec), VHM Acct #: 23691

#### 2. HAZARDS IDENTIFICATION

**Adverse human health effects** None known

**GHS** Product is not subject to classification according to GHS. No label elements required

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	Weight %	Index No.	EC No.	EU Classification
Tetrabromobisphenol A,Bis (2,3-dibromopropyl ether) 21850-44-2	99.7		244-617-5	None



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### 4. FIRST AID MEASURES

<b>Eye contact</b>	Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately.
<b>Skin contact</b>	Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use. Get medical attention if irritation occurs.
<b>Inhalation</b>	In case of dust inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.
<b>Ingestion</b>	If swallowed, wash mouth thoroughly with plenty of water and give water to drink. Get medical attention immediately. ***** NOTE: Never give an unconscious person anything to drink. *****
<b>Notes to the physician</b>	Material with low toxicity. No specific antidote. Treat symptomatically and supportively. In case of ingestion induce vomiting in alert patient.

### 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	Use extinguishing media appropriate to surrounding fire conditions.
<b>Fire fighting procedure</b>	In closed stores, provide fire-fighters with self-contained breathing apparatus in positive pressure mode Cool containers with water spray.
<b>Unusual fire and explosion hazards</b>	Dust may form an explosive mixture with air. [Kst = 77 bar.m.s(-1)] When heated to decomposition, may release poisonous fumes of HBr.

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Wear respirator, chemical safety goggles, rubber gloves and boots
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**Methods for cleaning up**

Sweep up, place in a suitable container and hold for waste disposal.  
Avoid raising dust.  
Ventilate area and wash spill site after material pickup is complete.

### 7. HANDLING AND STORAGE

**Handling**

Avoid bodily contact.  
Keep containers tightly closed.

**Storage**

Store in a dry, cool, well-ventilated area

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Limits :**

Components	ACGIH-TLV Data	OSHA (PEL) Data
Tetrabromobisphenol A,Bis (2,3-dibromopropyl ether) 21850-44-2	Not determined	Not determined

**Manufacturer's recommendation** 5 mg/m<sup>3</sup>

**Ventilation requirements**

Ventilation must be sufficient to maintain atmospheric concentration below recommended exposure limit.

**Personal protective equipment:**

- **Respiratory protection** Dust respirator
- **Hand protection** Rubber gloves
- **Eye protection** Chemical safety goggles
- **Skin and body protection** Body covering clothes and boots

**Hygiene measures**

Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.



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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White crystalline powder
Boiling point/range	Not available
Melting point/range	113-117°C
Flash point	None
Flammable/Explosion limits	Not available
Auto-ignition temperature	740°C
Vapour pressure	Not applicable under standard conditions
Evaporation rate (ether=1)	Not available
Vapor density	Not available
Solubility:	
- Solubility in water	0.144 µg/l (20°C)
Specific gravity	2.3
Decomposition temperature	306°C
Partition coefficient (n-octanol/water)	Log Pow - 7.2 (estimated)

### 10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Materials to avoid	None
Conditions to avoid	Heating above decomposition temperature
Hazardous decomposition products	HBr
Hazardous polymerization	Will not occur

### 11. TOXICOLOGICAL INFORMATION

Acute toxicity:	
- Rat oral LD50	>2000 mg/kg
- Mouse oral LD50	>20,000 mg/kg
- Dermal irritation (rabbit)	Not irritant
- Eye irritation (rabbit)	Minimal irritant
Dermal sensitization	Not a sensitizer
Effects of overexposure :	
- Ocular	May cause mild irritation to the eyes
- Dermal	Not irritant



<b>Chronic toxicity</b>	Not available
<b>Mutagenicity</b>	Mutagenic by the Ames Test (internal study) Not mutagenic by the Ames Test (NTP study) Not mutagenic in the mouse lymphoma L5178Y test system. Negative in the micronucleus study (NTP study in mice)
<b>Carcinogenicity</b>	Not classified by IARC Not included in NTP 11th Report on Carcinogens

## 12. ECOLOGICAL INFORMATION

### Information on ecological effects

The product was analysed for polybrominated p-Dibenzodioxins and Dibenzofurans contamination.

The results show that no polybrominated Dibenzodioxins and Dibenzofurans higher than the limits of quantitation according to the Toxic Substance Control Act (TSCA) 40/CFR 766.27 are present.

Also the limits of the german ordinance (Chemikalien-Verbotsverordnung) for polybrominated Dibenzodioxins and Dibenzofurans are fulfilled.

### Environmental fate

The adsorption-coefficient log K<sub>oc</sub> is >>5.63 (OECD 121)

### Aquatic toxicity :

- 96 Hour-LC50, Fish

>100 mg/l nominal concentration WAF (Rainbow trout)

> 500 mg/l (BCF<100) in Carp

- 48 Hour-EC50, Daphnia magna

>100 mg/l nominal concentration WAF

- 72 Hour-EC50, Freshwater algae

> 100 mg/l nominal concentration WAF

### Invertebrate toxicity

- NOEC

>= 810 mg/kg dry sediment (Chironomus riparius, 28 days)

>=1837mg/kg dry sediment (Hyaiella azteca for survival and weight, 28 days).

NOEC=642 mg/kg dry sediment (length of survivors)

### Biodegradation

Not readily biodegradable

### Bioaccumulative potential

No bioaccumulation was detected in earthworms (Eisenia fetida, 21 days)

### Reproduction

The No Observed Effect Concentration (NOEC) for reproduction in Eisenia fetida is 512 mg/kg soil after exposure of 28 days



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**13. DISPOSAL CONSIDERATIONS**

**Waste disposal** Dispose of in a safe manner in accordance with local/national regulations.

**14. TRANSPORT INFORMATION**

<b>IMO</b>	Not regulated
<b>ADR/RID</b>	Not regulated
<b>ICAO/IATA</b>	Not regulated
<b>DOT</b>	Not regulated

**15. REGULATORY INFORMATION**

<b>EC No.</b>	244-617-5
<b>USA</b>	Reported in the EPA TSCA Inventory.
<b>Australia</b>	Listed in AICS
<b>Canada</b>	Listed in NDSL
<b>China inventory</b>	Listed
<b>Japan</b>	ENCS no. (4)-212, (4)-214, (4)-218 ISHL no. (4)-212, (4)-214, (4)-218
<b>Korea</b>	Listed in ECL (KE-23970)
<b>New Zealand Inventory</b>	Listed in NZIoC
<b>Philippines</b>	Listed in PICCS

**16. OTHER INFORMATION**

**Hazard Statements**

Not regulated under the criteria of EC Regulation N° 1272/2008 (CLP).

EcoFlame was registered trademark of Unibrom Corp.

**Revision Date:** Jan 8, 2011

**Revision Summary** CLP - EC Regulation N° 1272/2008

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**End of Safety Data Sheet**