PolvOne

MATERIAL SAFETY DATA SHEET FRPPH 146373

Version Number 1.1 Revision Date 03/13/2014

Product Use

Page 1 of 8 Print Date 3/27/2014

1. PRODUCT AND COMPANY IDENTIFICATION

POLYONE CORPORATION 33587 Walker Road, Avon Lake, OH 44012

| Telephone Emergency telephone number | : | 1 (440) 930-1000 or 1 (866) POLYONE CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident). |
|--|---|--|
| Product name | : | FRPPH 146373 |
| Product code | : | CC10146373 |
| Chemical Name | : | Mixture |
| CAS-No. | : | Mixture |

: Industrial Applications

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS-No. | Weight percent |
|---|-------------|----------------|
| Tetrabromobisphenol A - bis-2,3- dibromopropyl ether | 21850-44-2 | 10 - 30 |
| Quartz | 14808-60-7 | 0.1 - 1 |
| Silica, amorphous, diatomaceous earth | 68855-54-9 | 1 - 5 |
| Silica, amorphous, precipitated and gel | 112926-00-8 | 1 - 5 |
| Silica, cristobalite | 14464-46-1 | 1 - 5 |
| Antimony trioxide | 1309-64-4 | 10 - 30 |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure.

POTENTIAL HEALTH EFFECTS

| Routes of Exposure: | : | Inhalation, Ingestion, Skin contact |
|---------------------|---|--|
| Acute exposure | | |
| Inhalation | : | Resin particles, like other inert materials, can be mechanically irritating. |
| Ingestion | : | May be harmful if swallowed. |



MATERIAL SAFETY DATA SHEET **FRPPH 146373**

| ion Number 1.1 ision Date 03/13/2014 | Page 2 Print Date 3/27/2 |
|---|--|
| | |
| Eyes | : Resin particles, like other inert materials, are mechanically irritating to eyes. |
| Skin | : Experience shows no unusual dermatitis hazard from routine handling |
| Chronic exposure | : Refer to Section 11 for Toxicological Information. |
| Medical Conditions Aggravated by Exposure: | : None known. |
| | 4. FIRST AID MEASURES |
| Inhalation | : Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. When symptoms persist or in all cases o doubt seek medical advice. |
| Ingestion | : Do not induce vomiting without medical advice. When symptoms persist or in all cases of doubt seek medical advice. |
| Eyes | : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, seek medical attention. |
| Skin | : Wash off with soap and plenty of water. If skin irritation persists seek medical attention. |
| | 5. FIREFIGHTING MEASURES |
| Flash point | : not applicable |
| Flammable Limits | |
| Upper explosion limit | : not applicable |
| Lower explosion limit | : not applicable |
| Auto-ignition temperature | : not applicable |
| Suitable extinguishing media | : Carbon dioxide blanket, Water spray, Dry powder, Foam. |
| Special Fire Fighting Procedures | : Fullface self-contained breathing apparatus (SCBA) used in positive pressure mode should be worn to prevent inhalation of airborne contaminants. |
| Unusual Fire/Explosion Hazards | Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), other hazardous materials, and smoke are all possible. |
| | 6. ACCIDENTAL RELEASE MEASURES |
| Personal precautions | : Wear appropriate personal protection during cleanup, such as impervious gloves, boots and coveralls. |
| Environmental precautions | : Should not be released into the environment. The product should not be allowed to enter drains, water courses or the soil. |
| Methods for cleaning up | : Clean up promptly by sweeping or vacuum. Package all material in |



MATERIAL SAFETY DATA SHEET **FRPPH 146373**

| | | plastic, cardboard or metal containers for disposal. |
|-----------------------------------|------|--|
| | | 7. HANDLING AND STORAGE |
| Handling | : | Take measures to prevent the build up of electrostatic charge. Heat only in areas with appropriate exhaust ventilation. |
| Storage | : | Keep containers dry and tightly closed to avoid moisture absorption and contamination. Keep in a dry, cool place. |
| 8. EX | POSU | RE CONTROLS/PERSONAL PROTECTION |
| Respiratory protection | : | No personal respiratory protective equipment normally required. |
| Eye/Face Protection | : | Safety glasses with side-shields |
| Hand protection | : | Protective gloves |
| Skin and body protection | : | Long sleeved clothing |
| Additional Protective Measures | : | Safety shoes |
| General Hygiene Considerations | : | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |
| Engineering measures | : | Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery. |
| Exposure limit(s) | | |

PolyOne

MATERIAL SAFETY DATA SHEET FRPPH 146373

Version Number 1.1 Revision Date 03/13/2014 Page 4 of 8 Print Date 3/27/2014

| Components | Value | Exposure time | Exposure type | List: |
|--|----------------|-----------------------------------|------------------------|----------|
| Antimony trioxide | 0.5 mg/m3 | Time Weighted Average (TWA): | as Sb | MX OEL |
| | 0.5 mg/m3 | Time Weighted Average (TWA): | as Sb | ACGIH |
| | 0.5 mg/m3 | Recommended exposure limit (REL): | as Sb | NIOSH |
| | 0.5 mg/m3 | PEL: | as Sb | OSHA Z1 |
| | 0.5 mg/m3 | Time Weighted Average (TWA): | as Sb | OSHA Z1A |
| Quartz | 0.025 mg/m3 | Time Weighted Average (TWA): | Respirable fraction. | ACGIH |
| | 0.05 mg/m3 | Recommended exposure limit (REL): | Respirable dust. | NIOSH |
| | 0.1 mg/m3 | Time Weighted Average (TWA): | Respirable dust. | OSHA Z1A |
| | 0.1 mg/m3 | Time Weighted Average (TWA): | Respirable. | Z3 |
| | 0.3 mg/m3 | Time Weighted Average (TWA): | Total dust. | Z3 |
| | 0.1 mg/m3 | Time Weighted Average (TWA): | | MX OEL |
| Silica, amorphous, diatomaceous earth | 0.8 mg/m3 | Time Weighted Average (TWA): | | Z3 |
| | 10 mg/m3 | Time Weighted Average (TWA): | Inhalable particulate. | MX OEL |
| | 3 mg/m3 | Time Weighted Average (TWA): | Respirable dust. | MX OEL |
| Silica, amorphous, precipitated and gel | 6 mg/m3 | Time Weighted Average (TWA): | | OSHA Z1A |
| | 10 mg/m3 | Time Weighted Average (TWA): | | MX OEL |
| | 0.8 mg/m3 | Time Weighted Average (TWA): | | Z3 |
| Silica, cristobalite | 0.025 mg/m3 | Time Weighted Average (TWA): | Respirable fraction. | ACGIH |
| | 0.05 mg/m3 | Time Weighted Average (TWA): | Respirable dust. | OSHA Z1A |
| | 0.05 mg/m3 | Time Weighted Average (TWA): | Respirable. | Z3 |
| | 0.15 mg/m3 | Time Weighted Average (TWA): | Total dust. | Z3 |
| | 0.05 mg/m3 | Time Weighted Average (TWA): | | MX OEL |

9. PHYSICAL AND CHEMICAL PROPERTIES

Form Appearance : solid : pellets Evapouration rate Specific Gravity

Not applicableNot determined

MATERIAL SAFETY DATA SHEET FRPPH 146373

Version Number 1.1 Revision Date 03/13/2014

| Colour Odour Melting point/range Boiling Point: Water solubility | NO PIGMENT very faint Not determined not applicable insoluble | Bulk density Vapour pressure Vapour density pH | Not established not applicable not applicable not applicable |
|--|---|---|---|
| | 10. STABILITY AN | D REACTIVITY | |
| Stability | : The product is stab | ble if stored and handled as | prescribed. |
| Hazardous Polymerization | : Will not occur. | | |
| Conditions to avoid | : Keep away from o decomposition, do | xidizing agents and open f not overheat. | lame. To avoid thermal |
| Incompatible Materials | : Incompatible with | strong acids and oxidizing | agents. |
| Hazardous decomposition products | | O2), carbon monoxide (CC dous materials, and smoke | 0 |

11. TOXICOLOGICAL INFORMATION

This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Toxicity Overview

This product contains the following components which in their pure form have the following characteristics:

| CAS-No. | Chemical Name | Effect | Target Organ |
|-------------|-------------------------|------------------|---------------------------|
| 21850-44-2 | Tetrabromobisphenol A - | Irritant | Eyes, Skin. |
| | bis-2,3-dibromopropyl | | |
| | ether | | |
| 14808-60-7 | Quartz | Systemic effects | Eyes, Respiratory system. |
| 68855-54-9 | Silica, amorphous, | Irritant | Eyes, Skin, Respiratory |
| | diatomaceous earth | | system. |
| 112926-00-8 | Silica, amorphous, | Irritant | Respiratory system, Eyes. |
| | precipitated and gel | | |
| 14464-46-1 | Silica, cristobalite | Systemic effects | Respiratory system. |
| | | Irritant | Eyes, Skin, Respiratory |
| | | | system. |
| 1309-64-4 | Antimony trioxide | Systemic effects | Eyes, Respiratory system. |
| | | sensitizer | Skin. |

LC50 / LD50

This product contains the following components which, in their pure form, have the following toxicity data:

| CAS-No. | Chemical Name | Route | Value | Species |
|-----------|-------------------|-----------|----------------|---------|
| 1309-64-4 | Antimony trioxide | Oral LD50 | > 34,600 mg/kg | rat |

Carcinogenicity

PolyOne.

Page 5 of 8 Print Date 3/27/2014

MATERIAL SAFETY DATA SHEET FRPPH 146373

Version Number 1.1 Revision Date 03/13/2014

Page 6 of 8 Print Date 3/27/2014

This product contains the following components which, in their pure form, have the following carcinogenicity data:

| CAS-No. | Chemical Name | OSHA | IARC | NTP |
|------------|----------------------|------|------|-----|
| 14808-60-7 | Quartz | no | 1 | no |
| 14464-46-1 | Silica, cristobalite | no | 1 | no |
| 1309-64-4 | Antimony trioxide | no | 2B | no |

IARC Carcinogen Classifications:

1 - The component is carcinogenic to humans.

2A - The component is probably carcinogenic to humans.

2B - The component is possibly carcinogenic to humans.

NTP Carcinogen Classifications:

- 1 The component is known to be a human carcinogen.
- 2 The component is reasonably anticipated to be a human carcinogen.

Additional Health Hazard Information:

Quartz 14808-60-7 This material in its free releasable form may cause respiratory tract irritation. Long-term exposure may cause coughing, chest pain, diminished chest expansion and possibly silicosis, which is a scarring of the lungs.

Additional Health Hazard Information:

Silica, cristobalite 14464-46-1 This material in its free releasable form may cause respiratory tract irritation. Long-term exposure may cause coughing, chest pain, diminished chest expansion and possibly silicosis, which is a scarring of the lungs.

Additional Health Hazard Information:

Antimony trioxide 1309-64-4 Can cause eye irritation. Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Additional symptoms of skin contact may include: antimony measles (a red, pimply rash).

| | 12. ECOLOGICAL INFORMATION |
|-------------------------------|---|
| Persistence and degradability | : Not readily biodegradable. |
| Environmental Toxicity | : Chemicals are not readily available as they are bound within the polymer matrix. |
| Bioaccumulation Potential | : Chemicals are not readily available as they are bound within the polymer matrix. |
| Additional advice | : no data available |
| | 13. DISPOSAL CONSIDERATIONS |
| Product | : Like most thermoplastic plastics the product can be recycled. Where possible recycling is preferred to disposal or incineration. The generator of waste material has the responsibility for proper waste classification, transportation and disposal in accordance with |



MATERIAL SAFETY DATA SHEET **FRPPH 146373**

| sion Date 03/13/2014 | | | Page 7 Print Date 3/27/2 |
|--|--|---|--|
| | | | |
| | applicable federal, s | tate/provincial and lo | ocal regulations. |
| Contaminated packaging | material has the resp | oonsibility for proper isposal in accordance | he generator of waste waste classification, with applicable federal, |
| | 14. TRANSPORT IN | FORMATION | |
| U.S. DOT Classification | : Not regulated for tra | insportation. | |
| ICAO/IATA | : Refer to specific reg | gulation. | |
| IMO/IMDG (maritime) | : Refer to specific reg | gulation. | |
| | 15. REGULATORY II | NFORMATION | |
| US Regulations: | | | |
| OSHA Status | : Classified as hazard | ous based on compo | ients. |
| TSCA Status | : All components of TSCA Inventory. | this product are listed | l on or exempt from the |
| US. EPA CERCLA Hazardous | Substances (40 CFR 302) | | |
| | Substances (10 ef 1(302) | | |
| not applicable | | | |
| | | | |
| California Proposition 65 | : WARNING! This p California to cause c | | emical known to the State of |
| | California to cause of | cancer. | emical known to the State of |
| 65 | California to cause of the caus | cancer. nce | |
| 65 SARA Title III Section 302 Ex Unless specific chemicals are i | California to cause of the caus | cancer. nce | |
| 65 SARA Title III Section 302 Ex Unless specific chemicals are i SARA Title III Section 313 To | California to cause of tremely Hazardous Substandentified under this section oxic Chemicals: | cancer. nce n, this product is Not | Applicable under this regulat |
| 65 SARA Title III Section 302 Ex Unless specific chemicals are i | California to cause of tremely Hazardous Substandentified under this section oxic Chemicals: | cancer. nce n, this product is Not n, this product is Not | Applicable under this regulat |
| 65 SARA Title III Section 302 Ex Unless specific chemicals are i SARA Title III Section 313 To Unless specific chemicals are i | California to cause of the caus | cancer. nce n, this product is Not | Applicable under this regulat |
| 65 SARA Title III Section 302 Ex Unless specific chemicals are i SARA Title III Section 313 To Unless specific chemicals are i Chemical Name | California to cause of the caus | cancer. nce n, this product is Not n, this product is Not CAS-No. | Applicable under this regulat Applicable under this regulat Weight percent |
| 65 SARA Title III Section 302 Ex Unless specific chemicals are i SARA Title III Section 313 To Unless specific chemicals are i Chemical Name ANTIMONY COMPOUND | California to cause of tremely Hazardous Substa dentified under this section oxic Chemicals: <u>dentified under this section</u> S | cancer. nce n, this product is Not n, this product is Not CAS-No. | Applicable under this regulat Applicable under this regulat Weight percent |

PolyOne

MATERIAL SAFETY DATA SHEET FRPPH 146373

Version Number 1.1 Revision Date 03/13/2014

Page 8 of 8 Print Date 3/27/2014

| Chemical Name | | CAS-No. | Weight | NPRI ID# | |
|---|--------------------------|---|---------------|----------|--|
| | | | percent | | |
| Antimony trioxide | | 1309-64-4 | 10.00 - 30.00 | | |
| WHMIS Classification WHMIS Ingredient Disclo | : D2A sure List | | | | |
| CAS-No. | | | | | |
| 1309-64-4 | - | | | | |
| <u>68855-54-9</u> 14464-46-1 | - | | | | |
| 14404-40-1 | | | | | |
| DSL | Inventories product is o | All of the components of this product are listed on the Canadian Inventories or are exempt. However, at least one component of th product is on the Canadian Non-Domestic Substances List (NDSI Quantity use in Canada is restricted by regulations. | | | |
| ational Inventories: | | | | | |
| Australia AICS | : Not determi | ined | | | |
| China IECS | : Listed | | | | |
| Europe EINECS | : Listed | | | | |
| Japan ENCS | an ENCS : Not determined | | | | |
| | | Listed | | | |
| Korea KECI | : Listed | | | | |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.