

POLYONE CORPORATION

MATERIAL SAFETY DATA SHEET

OF673-2H

Version Number 1.0
Revision Date 03/19/2004

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1. PRODUCT AND COMPANY IDENTIFICATION

POLYONE CORPORATION
33587 Walker Road, Avon Lake, OH 44012

NON-EMERGENCY TELEPHONE : Product Stewardship (440) 930-1395
Emergency telephone number : **CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).**

Product name : OF673-2H
Product code : EM10005938
Chemical Name : Mixture
CAS-No. : Mixture
Product Use : Industrial Applications

2. COMPOSITION/INFORMATION ON REGULATED INGREDIENTS

| Components | CAS-No. | Weight % |
|-----------------------------------|-----------|----------|
| Trimethylopropane trimethacrylate | 3290-92-4 | 1 - 5 |
| Decabromodiphenyl oxide | 1163-19-5 | 10 - 30 |
| Antimony trioxide | 1309-64-4 | 5 - 10 |
| Vinyl acetate | 108-05-4 | 5 - 10 |
| Zinc oxide | 1314-13-2 | 5 - 10 |

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, Eyes, Skin contact

Acute exposure

Inhalation : Resin particles, like other inert materials, can be mechanically irritating.
Ingestion : May be harmful if swallowed.
Eyes : Resin particles, like other inert materials, are mechanically irritating to eyes.
Skin : Avoid skin contact. Product contains unreacted organic peroxides which may cause mild skin irritation.

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- Chronic exposure** : Refer to Section 11 for Toxicological Information.
- Medical Conditions Aggravated by Exposure:** : Individuals with chronic respiratory disorders (i.e. asthma, chronic bronchitis, etc.) may be adversely affected by any airborne contaminant.

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 of 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. FIRE-FIGHTING MEASURES

- Flash point** : Not applicable
- Flammable Limits**
- Upper explosion limit : Not applicable
 - Lower explosion limit : Not applicable
- Autoignition temperature** : Not relevant
- 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 (NO_x), 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 plastic, cardboard or metal containers for disposal. Refer to Section 13 of this MSDS for proper disposal methods.

7. HANDLING AND STORAGE

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- 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. Avoid direct heat, sunlight, UV, or ionizing radiation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Respiratory protection : Under normal handling conditions a respirator may not be 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. E-Beam or UV curable products may give off trace amounts of free radicals. Under normal use, these free radicals have low volatility and are consumed within the reaction. Unreacted free radicals would typically be found at undetectably low levels. Nonetheless, user should take necessary precautions such as providing adequate ventilation to protect employees from exposure.

Exposure limit(s)

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| Components | Value | Exposure time | Exposure type | List: |
|-------------------|-----------|-----------------------------------|------------------------|---------|
| Antimony trioxide | 0.5 mg/m3 | PEL: | as Sb | OSHA Z1 |
| | 0.5 mg/m3 | Time Weighted Average (TWA): | as Sb | ACGIH |
| Vinyl acetate | 10 ppm | Time Weighted Average (TWA): | | ACGIH |
| | 15 ppm | Short Term Exposure Limit (STEL): | | ACGIH |
| Zinc oxide | 10 mg/m3 | Time Weighted Average (TWA): | Total dust. as Zn | ACGIH |
| | 5 mg/m3 | PEL: | Respirable dust. as Zn | OSHA Z1 |
| | 15 mg/m3 | PEL: | Total dust. as Zn | OSHA Z1 |
| | 2 mg/m3 | Time Weighted Average (TWA): | Respirable fraction. | ACGIH |
| | 10 mg/m3 | Short Term Exposure Limit (STEL): | Respirable fraction. | ACGIH |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------|------------------|-------------------|-------------------|
| Form | : Solid | Evaporation rate | : Not applicable |
| Appearance | : Pellets | Specific Gravity: | : Not determined |
| Color | : NO PIGMENT | Bulk density | : Not established |
| Odor | : characteristic | Vapor pressure | : Not applicable |
| Melting point/range | : Not determined | Vapour density | : Not applicable |
| Boiling Point: | : Not applicable | pH | : Not applicable |
| Water solubility | : Insoluble | | |

10. STABILITY AND REACTIVITY

| | |
|----------------------------------|--|
| Stability | : Stable. |
| Hazardous Polymerization | : Will not occur. |
| Conditions to avoid | : Keep away from oxidizing agents and open flame. To avoid thermal decomposition, do not overheat. |
| Incompatible Materials | : strong acids oxidizing agents reducing agents |
| Hazardous decomposition products | : Carbon dioxide (CO ₂), carbon monoxide (CO), oxides of nitrogen (NO _x), other hazardous materials, and smoke are all possible. |

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 |
|---------|---------------|--------|--------------|
|---------|---------------|--------|--------------|

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| | | | |
|-----------|----------------------------------|------------------|---------------------------------|
| 3290-92-4 | Trimethylpropane trimethacrylate | Irritant | Eyes, Skin. |
| 1163-19-5 | Decabromodiphenyl oxide | Systemic effects | Liver, Kidney. |
| 1309-64-4 | Antimony trioxide | Systemic effects | Eyes, Respiratory system. |
| | | sensitizer | Skin. |
| 108-05-4 | Vinyl acetate | Irritant | Eyes, Respiratory system. |
| | | Systemic effects | Eyes, Skin, Respiratory system. |
| 1314-13-2 | Zinc oxide | Systemic effects | Respiratory system. |

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 |
|-----------|-------------------------|-------------|----------------|---------|
| 1163-19-5 | Decabromodiphenyl oxide | Oral LD50 | > 5 gm/kg | rat |
| 1309-64-4 | Antimony trioxide | Oral LD50 | > 34,600 mg/kg | rat |
| 108-05-4 | Vinyl acetate | LC50 | 11400 mg/m3 | rat |
| | | Oral LD50 | 2,920 mg/kg | rat |
| | | Dermal LD50 | 2,335 mg/kg | rabbit |
| 1314-13-2 | Zinc oxide | LC50 | 2500 mg/m3 | mouse |
| | | Oral LD50 | 7,950 mg/kg | mouse |

Carcinogenicity

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

| CAS-No. | Chemical Name | OSHA | IARC | NTP |
|-----------|-------------------|------|------|-----|
| 1309-64-4 | Antimony trioxide | no | 2B | no |
| 108-05-4 | Vinyl acetate | 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:

Decabromodiphenyl oxide 1163-19-5 A halogenated aromatic with some potential for hazardous exposure via inhalation or ingestion. Acute toxicity is low - oral LD50 in rats >50 mg/L. Studies on rats at high feeding levels indicate some potential for liver and kidney effects from chronic overexposure as well as thyroid toxicity.

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

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Persistence and degradability : Not readily biodegradable.

Environmental Toxicity : Chemicals are not readily available as they are bound within the matrix of the polymer.

Bioaccumulation Potential : Chemicals are not readily available as they are bound within the matrix of the polymer.

Additional advice : Not applicable

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 applicable federal, state/provincial and local regulations.

Contaminated packaging : Recycling is preferred when possible. The generator of waste material has the responsibility for proper waste classification, transportation and disposal in accordance with applicable federal, state/provincial and local regulations.

14. TRANSPORT INFORMATION

U.S. DOT Classification : Not regulated for transportation.

ICAO/IATA (air) : Refer to specific regulation.

IMO / IMDG (maritime) : Refer to specific regulation.

15. REGULATORY INFORMATION

US Regulations:

OSHA Status : Classified as hazardous based on components.

TSCA Status : All components of this product are listed on or exempt from the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

| Chemical Name | CAS-No. | % in Product | RQ for component | RQ for Mixture/Product |
|---------------|-----------|--------------|------------------|------------------------|
| Arsenic | 7440-38-2 | 0.0199 | 001 lbs | 5,025 LB |

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California Proposition 65 : WARNING! This product contains a chemical known to the State of California to cause cancer., WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

SARA Title III Section 302 Extremely Hazardous Substance

| Chemical Name | CAS-No. | % in Product | RQ for component |
|---------------|----------|--------------|------------------|
| Vinyl acetate | 108-05-4 | 5.33 | 5,000 lbs |

SARA Title III Section 313 Toxic Chemicals:

| Chemical Name | CAS-No. | Weight % |
|-------------------------|------------|----------|
| ZINC COMPOUNDS | 61617-00-3 | 1.76 |
| | 1314-13-2 | 6.92 |
| | 557-05-1 | 0.51 |
| ANTIMONY COMPOUNDS | 1309-64-4 | 6.61 |
| DECABROMODIPHENYL OXIDE | 1163-19-5 | 18.65 |
| VINYL ACETATE MONOMER | 108-05-4 | 5.33 |

Canadian Regulations:

National Pollutant Release Inventory (NPRI)

| Chemical Name | CAS-No. | Weight % | NPRI ID# |
|---|------------|----------|----------|
| 2H-Benzimidazole-2-thione, 1,3-dihydro-4(or 5)-methyl-, zinc salt (2:1) | 61617-00-3 | 1.76 | 241 |
| Antimony trioxide | 1309-64-4 | 6.61 | 17 |
| Decabromodiphenyl oxide | 1163-19-5 | 18.65 | 78 |
| Vinyl acetate | 108-05-4 | 5.33 | 237 |
| Zinc oxide | 1314-13-2 | 6.92 | 241 |
| Zinc stearate | 557-05-1 | 0.51 | 241 |

WHMIS Classification : D1B

WHMIS Ingredient Disclosure List

| |
|-----------|
| CAS-No. |
| 1309-64-4 |
| 108-05-4 |
| 1314-13-2 |

DSL : All components of this product are on the Canadian Domestic Substances List (DSL) or are exempt.

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National Inventories:

| | | |
|-------------------|---|----------------|
| Australia AICS | : | Listed |
| China IECS | : | Listed |
| Europe EINECS | : | Not determined |
| Japan ENCS | : | Not determined |
| Korea KECI | : | Not determined |
| Philippines PICCS | : | Listed |

16. OTHER INFORMATION

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 when used in combination with any other materials and/or in any particular process or processing conditions.