MATERIAL SAFETY DATA SHEET UV WG WARM GRAY ABS

Version Number 1.0 Revision Date 05/18/2005

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1. PRODUCT AND COMPANY IDENTIFICATION

POLYONE CORPORATION 33587 Walker Road, Avon Lake, OH 44012

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2. COMPOSITION/INFORMATION ON REGULATED INGREDIENTS

| Components | CAS-No. | Weight % |
|--|------------|----------|
| Phenol, | 25973-55-1 | 10 - 30 |
| 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimeth | | |
| ylpropyl)- | | |
| Decanedioic acid, | 52829-07-9 | 10 - 30 |
| bis(2,2,6,6-tetramethyl-4-piperidinyl) ester | | |
| Iron oxide | 1309-37-1 | 1 - 5 |
| Rutile, antimony chromium buff | 68186-90-3 | 5 - 10 |
| Titanium dioxide | 13463-67-7 | 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 Ingestion Eyes | Resin particles, like other inert materials, can be mechanically irritating. May be harmful if swallowed. Resin particles, like other inert materials, are mechanically irritating to eyes. |
| Skin | : Experience shows no unusual dermatitis hazard from routine handling. |

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| Medical Conditions Aggravated by Exposure: | : | None known. |
|---|------|---|
| Aggravated by Exposure. | | |
| | | 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 applicable |
| Suitable extinguishing media | : | Carbon dioxide blanket, water spray, dry powder, foamnone. |
| Special Fire Fighting | : | Fullface self-contained breathing apparatus (SCBA) used in positive |
| Procedures | | 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. A | CCIDENTAL RELEASE MEASURES |
| Dersonal pressurions | | Wear appropriate personal protection during alconup such as |
| 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. |

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| | | 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. EXF | POSUI | 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)

| Components | Value | Exposure time | Exposure type | List: |
|------------------|-----------|-----------------------|----------------------|---------|
| Iron oxide | 5 mg/m3 | Time Weighted Average | Dust and fume. as Fe | ACGIH |
| | | (TWA): | | |
| Rutile, antimony | 0.5 mg/m3 | PEL: | as Sb | OSHA Z1 |
| chromium buff | | | | |
| | 0.5 mg/m3 | Time Weighted Average | as Cr | ACGIH |
| | | (TWA): | | |
| | 0.5 mg/m3 | Time Weighted Average | as Sb | ACGIH |
| | | (TWA): | | |
| | 0.5 mg/m3 | PEL: | as Cr | OSHA Z1 |
| Titanium dioxide | 10 mg/m3 | Time Weighted Average | | ACGIH |
| | | (TWA): | | |
| | 15 mg/m3 | PEL: | Total dust. | OSHA Z1 |

9. PHYSICAL AND CHEMICAL PROPERTIES

Form Appearance Color

: Solid : Pellets : GREY

Bulk density

Evaporation rate:Not applicableSpecific Gravity::Not determined : Not established

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| Odor Melting point/range Boiling Point: Water solubility | Very faintNot determinedNot applicableInsoluble | Vapor pressure Vapour density pH | Not applicableNot applicableNot applicable | |
|---|--|--|--|--|
| | 10. STABILITY AN | D REACTIVITY | | |
| Stability | : Stable. | | | |
| 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 | g agents. | |
| Hazardous decomposition products | | : Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), 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 |
|------------|-----------------------------|------------------|---------------------------------|
| 25973-55-1 | Phenol, | Systemic effects | Kidney, Liver, reproductive |
| | 2-(2H-benzotriazol-2-yl)-4 | | system. |
| | ,6-bis(1,1-dimethylpropyl) | | |
| | - | | |
| 52829-07-9 | Decanedioic acid, | Irritant | Eyes. |
| | bis(2,2,6,6-tetramethyl-4-p | | |
| | iperidinyl) ester | | |
| 1309-37-1 | Iron oxide | Systemic effects | Respiratory system. |
| 68186-90-3 | Rutile, antimony | Irritant | Eyes, Skin, Respiratory system. |
| | chromium buff | | |
| 13463-67-7 | Titanium dioxide | 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 |
|------------|---|--------------------------|------------------------------|---------------|
| 52829-07-9 | Decanedioic acid, bis(2,2,6,6-tetramethyl-4-p iperidinyl) ester | Oral LD50 Dermal LD50 | 3,700 mg/kg > 3,100 mg/kg | rat rabbit |

Additional Health Hazard Information:

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Rutile, antimony chromium buff 68186-90-3 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).

| polymer matrix. Bioaccumulation Potential : Chemicals are not readily available as they are bound within the polymer matrix. Additional advice : No data available I3. DISPOSAL CONSIDERATIONS Product : Like most thermoplastic plastics the product can be recycled. W 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 m has the responsibility for proper waste classification, transportation and local regulations. U.S. DOT Classification : Not regulated for transportation. ICAO/IATA (air) : Refer to specific regulation. IMO / IMDG (maritime) : Refer to specific regulation. US Regulations: OSHA Status : Classified as hazardous based on components. | | 12. ECOLOGICAL INFORMATION |
|--|-------------------------------|---|
| polymer matrix. Bioaccumulation Potential : Chemicals are not readily available as they are bound within the polymer matrix. Additional advice : No data available Iso DisPoSAL CONSIDERATIONS Product : Like most thermoplastic plastics the product can be recycled. W possible recycling is preferred to disposal or incineration. The generator of waste material has the responsibility for proper was 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 wast classification, transportation and disposal in accordance with applicable federal, state/provincial and local regulations. U.S. DOT Classification : Not regulated for transportation. ICAO/IATA (air) : Refer to specific regulation. IMO / IMDG (maritime) : Refer to specific regulation. US Regulations: OSHA Status : Classified as hazardous based on components. TSCA Status : All components of this product are listed on or exempt from the Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) : | Persistence and degradability | : Not readily biodegradable. |
| polymer matrix. Additional advice : No data available I.J. DISPOSAL CONSIDERATIONS Product : Like most thermoplastic plastics the product can be recycled. W possible recycling is preferred to disposal or incineration. The generator of waste material has the responsibility for proper wast 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 m has the responsibility for proper waste classification, transportat and disposal in accordance with applicable federal, state/provinci and local regulations. Contaminated packaging : Recycling is preferred when possible. The generator of waste m has the responsibility for proper waste classification, transportat and disposal in accordance with applicable federal, state/provinci and local regulations. U.S. DOT Classification : Not regulated for transportation. ICAO/IATA (air) : Refer to specific regulation. IMO / IMDG (maritime) : Refer to specific regulation. US Regulations: : Classified as hazardous based on components. TSCA Status : All components of this product are listed on or exempt from the Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) : | Environmental Toxicity | : Chemicals are not readily available as they are bound within the polymer matrix. |
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| possible recycling is preferred to disposal or incineration. The generator of waste material has the responsibility for proper was 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 mathematication is 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 mathematication, transportation and disposal in accordance with applicable federal, state/provincial and local regulations. U.S. DOT Classification : Not regulated for transportation. ICAO/IATA (air) : Refer to specific regulation. IMO / IMDG (maritime) : Refer to specific regulation. US Regulations: OSHA Status : Classified as hazardous based on components. TSCA Status : All components of this product are listed on or exempt from the Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) : Substances (40 CFR 302) | | 13. DISPOSAL CONSIDERATIONS |
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| ICAO/IATA (air) : Refer to specific regulation. IMO / IMDG (maritime) : Refer to specific regulation. IS. 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 Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) | | |
| IMO / IMDG (maritime) : Refer to specific regulation. IS. 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 Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) | U.S. DOT Classification | : Not regulated for transportation. |
| IS. 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 Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) | ICAO/IATA (air) | : Refer to specific regulation. |
| US Regulations: OSHA Status : Classified as hazardous based on components. TSCA Status : All components of this product are listed on or exempt from the Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) | IMO / IMDG (maritime) | : Refer to specific regulation. |
| OSHA Status : Classified as hazardous based on components. TSCA Status : All components of this product are listed on or exempt from the Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) | | 15. REGULATORY INFORMATION |
| TSCA Status : All components of this product are listed on or exempt from the Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) | US Regulations: | |
| Inventory. US. EPA CERCLA Hazardous Substances (40 CFR 302) | OSHA Status | : Classified as hazardous based on components. |
| | TSCA Status | : All components of this product are listed on or exempt from the TSCA Inventory. |
| Not applicable | US. EPA CERCLA Hazardous | Substances (40 CFR 302) |
| | Not applicable | |
| | | |

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California Proposition : Not applicable 65

SARA Title III Section 302 Extremely Hazardous Substance Not applicable

SARA Title III Section 313 Toxic Chemicals:

| Chemical Name | CAS-No. | Weight % |
|--------------------------------|------------|----------|
| CHROMIUM III COMPOUNDSANTIMONY | 68186-90-3 | 5.58 |
| COMPOUNDS | | |

Canadian Regulations:

National Pollutant Release Inventory (NPRI)

| Chemical Name | CAS-No. | Weight % | NPRI ID# |
|--------------------------------|------------|----------|----------|
| Rutile, antimony chromium buff | 68186-90-3 | 5.58 | 69 |
| Rutile, antimony chromium buff | 68186-90-3 | 5.58 | 17 |

WHMIS Classification : D2B

WHMIS Ingredient Disclosure List

| CAS-No. | |
|------------|--|
| 1309-37-1 | |
| 68186-90-3 | |

DSL

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

National Inventories:

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

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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.