MATERIAL SAFETY DATA SHEET **BRONZE BZ01**

Version Number 1.0 Revision Date 06/27/2007

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1. PRODUCT AND COMPANY IDENTIFICATION

POLYONE CORPORATION 33587 Walker Road, Avon Lake, OH 44012

| Telephone Emergency telephone | : | Product Stewardship (770) 271-5902 CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident). |
|----------------------------------|---|---|
| Product name | : | BRONZE BZ01 |
| Product code | : | CC10101566 |
| Chemical Name | : | Mixture |
| CAS-No. | : | Mixture |
| Product Use | : | Industrial Applications |

2. COMPOSITION/INFORMATION ON REGULATED INGREDIENTS

| Components | CAS-No. | Weight % |
|-------------------|------------|----------|
| Titanium dioxide | 13463-67-7 | 1 - 5 |
| Calcium carbonate | 1317-65-3 | 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 average. |
| Skin | eyes. : 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. |



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| 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, 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. A | CCIDENTAL 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 |
| 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 |



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| | | nd contamination. Keep in a d | ry, coor prace. | | | |
|--------------------------------------|--|--|--|---|--|--|
| 8. H | XPOSURE | CONTROLS / PERSONAL | PROTECTION | | | |
| Respiratory protection | : N | o personal respiratory protectiv | ve equipment normally r | required. | | |
| Eye/Face Protection | ye/Face Protection : Safety glasses with side-shields | | | | | |
| Hand protection : Protective gloves | | | | | | |
| Skin and body protection | : L | ong sleeved clothing | | | | |
| Additional Protective Measures | : S | afety shoes | | | | |
| General Hygiene Considerations | | landle in accordance with good Vash hands before breaks and a | | afety practice. | | |
| Engineering measures | | leat only in areas with appropri ppropriate exhaust ventilation a | | Provide | | |
| Exposure limit(s) | | | | | | |
| Components | Value | Exposure time | Exposure type | List: | | |
| Calcium carbonate | 5 mg/m3 | PEL: | Respirable fraction. | OSHA Z1 | | |
| | 15 mg/m3 | PEL: | Total dust. | OSHA Z1 | | |
| | 10 mg/m3 | Time Weighted Average (TWA): | | MX OEL | | |
| | $20 ma/m^2$ | Short Term Exposure Limit | | MX OEL | | |
| | 20 mg/m3 | (STEL): | | _ | | |
| Titanium dioxide | 10 mg/m3 | (STEL): Time Weighted Average | | ACGIH | | |
| Titanium dioxide | | (STEL): | Total dust. | | | |
| Titanium dioxide | 10 mg/m3 | (STEL): Time Weighted Average (TWA): PEL: Time Weighted Average | Total dust. as Ti | ACGIH | | |
| Titanium dioxide | 10 mg/m3 15 mg/m3 | (STEL): Time Weighted Average (TWA): PEL: | | ACGIH OSHA Z1 | | |
| Titanium dioxide | 10 mg/m3 15 mg/m3 10 mg/m3 20 mg/m3 | (STEL): Time Weighted Average (TWA): PEL: Time Weighted Average (TWA): Short Term Exposure Limit | as Ti as Ti | ACGIH OSHA Z1 MX OEL | | |
| | 10 mg/m3 15 mg/m3 10 mg/m3 20 mg/m3 9. PHYSIC | (STEL): Time Weighted Average (TWA): PEL: Time Weighted Average (TWA): Short Term Exposure Limit (STEL): CAL AND CHEMICAL PRO | as Ti as Ti PERTIES | ACGIH OSHA Z1 MX OEL MX OEL | | |
| Form | 10 mg/m3 15 mg/m3 10 mg/m3 20 mg/m3 9. PHYSIC : Solic | (STEL): Time Weighted Average (TWA): PEL: Time Weighted Average (TWA): Short Term Exposure Limit (STEL): CAL AND CHEMICAL PRO | as Ti as Ti PERTIES ration rate : Not | ACGIH OSHA Z1 MX OEL MX OEL applicable | | |
| Form Appearance | 10 mg/m3 15 mg/m3 10 mg/m3 20 mg/m3 9. PHYSIC : Solic : pelle | (STEL): Time Weighted Average (TWA): PEL: Time Weighted Average (TWA): Short Term Exposure Limit (STEL): CAL AND CHEMICAL PRO LEVAPOR LEVAPOR | as Ti as Ti PERTIES ration rate : Not c Gravity : Not | ACGIH OSHA Z1 MX OEL MX OEL applicable determined | | |
| Form Appearance Color | 10 mg/m3 15 mg/m3 10 mg/m3 20 mg/m3 9. PHYSIC : Solic : pelle : BRC | (STEL): Time Weighted Average (TWA): PEL: Time Weighted Average (TWA): Short Term Exposure Limit (STEL): CAL AND CHEMICAL PRO Evapor ts Specifi WN Bulk do | as Ti as Ti PERTIES ration rate : Not c Gravity : Not ensity : Not | ACGIH OSHA Z1 MX OEL MX OEL applicable determined established | | |
| Form Appearance Color Odour | 10 mg/m3 15 mg/m3 10 mg/m3 20 mg/m3 9. PHYSIC : Solic : pelle : BRC : Very | (STEL): Time Weighted Average (TWA): PEL: Time Weighted Average (TWA): Short Term Exposure Limit (STEL): CAL AND CHEMICAL PRO I Evapor ts Specifi WN Bulk de faint | as Ti as Ti PERTIES ration rate : Not c Gravity : Not ensity : Not r pressure : Not | ACGIH OSHA Z1 MX OEL MX OEL applicable determined established applicable | | |
| Form Appearance Color | 10 mg/m3 15 mg/m3 10 mg/m3 20 mg/m3 20 mg/m3 9. PHYSIO : Solid : pelle : BRC : Very : Not of | (STEL): Time Weighted Average (TWA): PEL: Time Weighted Average (TWA): Short Term Exposure Limit (STEL): CAL AND CHEMICAL PRO I Evapor ts Specifi WN Bulk de faint | as Ti as Ti PERTIES ration rate : Not c Gravity : Not ensity : Not r pressure : Not r density : Not | ACGIH OSHA Z1 MX OEL MX OEL applicable determined established | | |

10. STABILITY AND REACTIVITY



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| 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 | : | Incompatible with strong acids and oxidizing 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 |
|------------|-------------------|------------------|---------------------------------|
| 13463-67-7 | Titanium dioxide | Systemic effects | Respiratory system. |
| 1317-65-3 | Calcium carbonate | Irritant | Eyes, Skin. |
| | | Systemic effects | Eyes, Skin, Respiratory system. |

Carcinogenicity

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

| CAS-No. | Chemical Name | OSHA | IARC | NTP |
|------------|------------------|------|------|-----|
| 13463-67-7 | Titanium dioxide | 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.

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 |



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| | 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 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 Hazardo | us Substances (40 CFR 302) |
| Not applicable | |
| California Proposition 65 | n : Not applicable |
| | Extremely Hazardous Substance |
| | |

PolvOne

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SARA Title III Section 313 Toxic Chemicals:

| Unless specific chemicals are identified under this section, this product is Not Applicable under this regulation | | | | | | |
|---|----------------|------------|-------------|--|--|--|
| | Chemical Name | CAS-No. | Weight % | | | |
| | ZINC COMPOUNDS | 68187-51-9 | 1.00 - 5.00 | | | |

Canadian Regulations:

National Pollutant Release Inventory (NPRI)

| Chemical Name | CAS-No. | Weight % | NPRI ID# |
|--|------------|-------------|----------|
| Zinc ferrite brown spinel (C.I. Pigment Yellow | 68187-51-9 | 1.00 - 5.00 | 231 |
| 119) | | | |

| | WHMIS Classification | : | D2A | |
|-----------------------|----------------------|---|--|--|
| | 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 | |
| | | | 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 used in combination with any other materials or in any process, unless specified in the text.