

POLYONE CORPORATION**MATERIAL SAFETY DATA SHEET****87300MCVFF-E BRILLIANT GOLD**Version Number 1.4
Revision Date 03/18/2014Page 1 of 7
Print Date 3/22/2014**1. PRODUCT AND COMPANY IDENTIFICATION****POLYONE CORPORATION**
8155 Cobb Center Drive, Kennesaw, GA 30152Telephone : 1 (440) 930-1000 or 1 (866) POLYONE
Emergency telephone : **CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure number or accident).**Product name : 87300MCVFF-E BRILLIANT GOLD
Product code : FO20019201
Chemical Name : Mixture
CAS-No. : Mixture
Product Use : Industrial Applications**2. COMPOSITION/INFORMATION ON INGREDIENTS**

| Components | CAS-No. | Weight percent |
|---|-------------|----------------|
| Zinc | 7440-66-6 | 1 - 5 |
| Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer | 25085-99-8 | 1 - 5 |
| Silica, amorphous, fumed, crystal-free | 112945-52-5 | 1 - 5 |
| Copper | 7440-50-8 | 5 - 10 |

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

This mixture has not been evaluated as a whole for health effects. Information provided on health effects of this product is based on the individual components. However, some vapors or contaminants 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. See sections 8 and 11 for special precautions.

POTENTIAL HEALTH EFFECTS**Routes of Exposure:** : Inhalation, Skin contact, Ingestion**Acute exposure**Inhalation : Inhalation of airborne droplets may cause irritation of the respiratory tract.
Ingestion : May be harmful if swallowed.
Eyes : May cause eye and skin irritation.
Skin : Experience shows no unusual dermatitis hazard from routine handling.

POLYONE CORPORATION

MATERIAL SAFETY DATA SHEET

87300MCVFF-E BRILLIANT GOLD

Version Number 1.4
Revision Date 03/18/2014

Page 2 of 7
Print Date 3/22/2014

Chronic exposure : Refer to Section 11 for Toxicological Information.

Medical Conditions : 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 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 : no data available

Flammable Limits

Upper explosion limit : no data available

Lower explosion limit : no data available

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 : May emit Hydrogen Chloride (HCl) or Carbon Monoxide (CO) under fire conditions. 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 : The product should not be allowed to enter drains, water courses or the soil. Should not be released into the environment.

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Package all material in

POLYONE CORPORATION

MATERIAL SAFETY DATA SHEET

87300MCVFF-E BRILLIANT GOLD

Version Number 1.4
Revision Date 03/18/2014

Page 3 of 7
Print Date 3/22/2014

appropriate container for disposal.

7. HANDLING AND STORAGE

- Handling : Heat only in areas with appropriate exhaust ventilation. Processing fume condensates may contain combustible or toxic residue. Periodically clean hoods, ducts, and other surfaces to minimize accumulation of these materials.
- Storage : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Store in a cool dry place.

8. EXPOSURE 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 CORPORATION

MATERIAL SAFETY DATA SHEET

87300MCVFF-E BRILLIANT GOLD

Version Number 1.4
Revision Date 03/18/2014

Page 4 of 7
Print Date 3/22/2014

| Components | Value | Exposure time | Exposure type | List: |
|--|-----------|-----------------------------------|------------------------|----------|
| Copper | 1 mg/m3 | Time Weighted Average (TWA): | Dust and mist. as Cu | ACGIH |
| | 0.2 mg/m3 | Time Weighted Average (TWA): | Fume. | ACGIH |
| | 1 mg/m3 | Recommended exposure limit (REL): | Dust and mist. as Cu | NIOSH |
| | 1 mg/m3 | PEL: | Dust and mist. as Cu | OSHA Z1 |
| | 0.1 mg/m3 | PEL: | Fume. as Cu | OSHA Z1 |
| | 1 mg/m3 | Time Weighted Average (TWA): | Dust and mist. as Cu | OSHA Z1A |
| | 0.1 mg/m3 | Time Weighted Average (TWA): | Fume. as Cu | OSHA Z1A |
| | 1 mg/m3 | Time Weighted Average (TWA): | Dust and mist. as Cu | MX OEL |
| | 0.2 mg/m3 | Time Weighted Average (TWA): | Fume. as Cu | MX OEL |
| | 2 mg/m3 | Short Term Exposure Limit (STEL): | Dust and mist. as Cu | MX OEL |
| | 2 mg/m3 | Short Term Exposure Limit (STEL): | Fume. as Cu | MX OEL |
| Silica, amorphous, fumed, crystal-free | 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 |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------|-------------------|------------------|-------------------|
| Form | : liquid | Evaporation rate | : Not established |
| Appearance | : viscous, liquid | Specific Gravity | : Not determined |
| Colour | : NOT APPLICABLE | Bulk density | : Not applicable |
| Odour | : very faint | Vapour pressure | : Not determined |
| Melting point/range | : not applicable | Vapour density | : Not determined |
| Boiling Point: | : not applicable | pH | : Not applicable |
| Water solubility | : immiscible | | |

10. STABILITY AND REACTIVITY

| | |
|--------------------------|---|
| Stability | : The product is stable if stored and handled as prescribed. |
| 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., Avoid contact with acetal homopolymers and acetal copolymers during processing. |

POLYONE CORPORATION

MATERIAL SAFETY DATA SHEET

87300MCVFF-E BRILLIANT GOLD

Version Number 1.4
Revision Date 03/18/2014

Page 5 of 7
Print Date 3/22/2014

Hazardous decomposition products : Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), hydrogen chloride (HCl), other hazardous materials, and smoke are all possible. Prolonged heating may result in product degradation. As a general rule of thumb, degradation begins to occur after one hour at 177 °C (350 °F), after 10 minutes at 204 °C (400 °F), and within 5 minutes at 232 °C (450 °F).

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 |
|-------------|--|------------------|--|
| 25085-99-8 | Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bis-, homopolymer | sensitizer | Skin. |
| 112945-52-5 | Silica, amorphous, fumed, crystal-free | Irritant | Eyes, Respiratory system. |
| 7440-50-8 | Copper | Irritant | Respiratory system. |
| | | Systemic effects | Eyes, Skin, Respiratory system, Liver, Kidney. |

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 |
|-------------|--|-----------|-------------|---------|
| 7440-66-6 | Zinc | Oral LD50 | 630 mg/kg | rat |
| 112945-52-5 | Silica, amorphous, fumed, crystal-free | Oral LD50 | 3,160 mg/kg | rat |

12. ECOLOGICAL INFORMATION

Persistence and degradability : Not readily biodegradable.

Environmental Toxicity : Environmental toxicity has not been established for this mixture as a whole.

Bioaccumulation Potential : no data available

Additional advice : no data available

13. DISPOSAL CONSIDERATIONS

Product : Where possible recycling is preferred to disposal or incineration. The generator of waste material has the responsibility for proper waste

POLYONE CORPORATION

MATERIAL SAFETY DATA SHEET

87300MCVFF-E BRILLIANT GOLD

Version Number 1.4
Revision Date 03/18/2014

Page 6 of 7
Print Date 3/22/2014

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 : Refer to specific regulation.
ICAO/IATA : 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)
not applicable

California Proposition : Not applicable
65

SARA Title III Section 302 Extremely Hazardous Substance

Unless specific chemicals are identified under this section, this product is Not Applicable under this regulation

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 percent |
|--|-----------|----------------|
| COPPER | 7440-50-8 | 5.00 - 10.00 |
| ZINC (FUME OR DUST)ZINC (FUME OR DUST) | 7440-66-6 | 1.00 - 5.00 |

Canadian Regulations:

POLYONE CORPORATION

MATERIAL SAFETY DATA SHEET

87300MCVFF-E BRILLIANT GOLD

Version Number 1.4
Revision Date 03/18/2014

Page 7 of 7
Print Date 3/22/2014

National Pollutant Release Inventory (NPRI)

| Chemical Name | CAS-No. | Weight percent | NPRI ID# |
|---------------|-----------|----------------|----------|
| Copper | 7440-50-8 | 5.00 - 10.00 | |
| Zinc | 7440-66-6 | 1.00 - 5.00 | |

WHMIS Classification : Not controlled.

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

National Inventories:

Australia AICS : Not determined

China IECS : Not determined

Europe EINECS : Not determined

Japan ENCS : Not determined

Korea KECI : Not determined

Philippines PICCS : Not determined

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.