

MATERIAL SAFETY DATA SHEET

Graphite Gray Sub

Version Number 1.2 Revision Date 01/20/2004

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1. PRODUCT AND COMPANY IDENTIFICATION

POLYONE CORPORATION 33587 Walker Road, Avon Lake, OH 44012

| NON-EMERGENCY TELEPHONE | : | Product Stewardship (770) 271-5902 |
|-------------------------------|---|--|
| Emergency telephone number | : | CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident). |
| Product name | : | Graphite Gray Sub |
| Product code | : | CC10011510 |
| Chemical Name | : | Mixture |
| CAS-No. | : | Mixture |
| Product Use | : | Industrial Applications |

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS-No. | Weight % |
|----------------------|-----------|----------|
| Chromium (III) oxide | 1308-38-9 | 1 - 5 |
| Iron oxide | 1309-37-1 | 1 - 5 |

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 | : Particulates, like other inert materials can be mechanically irritating. Excessive inhalation of product vapors, especially during heating or processing, may be irritating to respiratory system. |
| Ingestion | : May be harmful if swallowed. |
| Eyes | : Particulates, like other inert materials can be mechanically irritating. |
| Skin | : Experience shows no unusual dermatitis hazard from routine handling. |
| Chronic exposure | : Refer to Section 11 for Toxicological Information. |



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| | 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 seel medical attention. |
| | 5. FIRE-FIGHTING MEASURES |
| Flash point | : Not applicable |
| Flammable Limits Upper explosion limit Lower explosion limit Autoignition temperature Suitable extinguishing media Special Fire Fighting Procedures Unusual Fire/Explosion Hazards | Not applicable Not applicable Not applicable Carbon dioxide blanket, water spray, dry powder, foamnone. Fullface self-contained breathing apparatus (SCBA) used in positive pressure mode should be worn to prevent inhalation of airborne contaminants. Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), other hazardous materials, and smoke are all possible. May emit Hydrogen Chloride (HCl) or Carbon Monoxide (CO) under fire conditions. |
| | 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. |
| 8. EXI | POSUR | 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) | | |

Exposure limit(s)

| Components | Value | Exposure time | Exposure type | List: |
|----------------------|-----------|-----------------------|----------------------|---------|
| Chromium (III) oxide | 0.5 mg/m3 | Time Weighted Average | as Cr | ACGIH |
| | _ | (TWA): | | |
| | 1 mg/m3 | PEL: | as Cr | OSHA Z1 |
| Iron oxide | 5 mg/m3 | Time Weighted Average | Dust and fume. as Fe | ACGIH |
| | _ | (TWA): | | |

9. PHYSICAL AND CHEMICAL PROPERTIES

- Form Appearance Color Odor Melting point/range Boiling Point: Water solubility
- : Solid : Pellets : GREY : Very faint : Not determined : Not applicable : Insoluble
- Evaporation rate Specific Gravity: Bulk density Vapor pressure Vapour density pН
- Not applicable : : Not determined
- : Not established
- : Not applicable
- : Not applicable
- : Not applicable
- **10. STABILITY AND REACTIVITY**

Stability

: Stable.

Hazardous Polymerization

: Will not occur.

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| Conditions to avoid | Keep away from oxidizing agents and open flame. To avoid thermal decomposition, do not overheat. |
| Incompatible Materials | Avoid contact with strong oxidizers. Also, avoid contact with acetal or acetal copolymers and with amine containing materials during processing. At processing conditions, these materials are mutually destructive and involve rapid degradation. Thoroughly purge and mechanically clean processing equipment to avoid even trace quantities of these materials from coming in contact with each other. Prevent cross contamination of feedstocks. |
| Hazardous decomposition products | Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), hydrogen chloride (HCl), other hazardous materials, and smoke are all possible. Prolonged heating (approximately 30 minutes or more) above 392 °F (200 °C) or short term heating at 482 °F (250 °C) may result in product decomposition and evolution of carbon monoxide and hydrogen chloride. |

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 |
|-----------|----------------------|------------------|---------------------|
| 1308-38-9 | Chromium (III) oxide | Irritant | Eyes, Skin. |
| | | sensitizer | Skin. |
| 1309-37-1 | Iron oxide | Systemic effects | Respiratory system. |

Additional Health Hazard Information:

Chromium (III) oxide 1308-38-9 The bi and trivalent forms of chrome have a low order of acute toxicity but may cause skin sensitization and irritation to the eyes. No effects have been reported for chromium (III) oxide. Chromium (III) componds are not considered carcinogenic in animals or humans.

12. ECOLOGICAL INFORMATION

| | 13 | B. DISPOSAL CONSIDERATIONS | |
|-------------------------------|----|---|--|
| Additional advice | : | No data available | |
| Bioaccumulation Potential | : | Chemicals are not readily available as they are bound within the matrix of the polymer. | |
| Environmental Toxicity | : | Chemicals are not readily available as they are bound within the matrix of the polymer. | |
| Persistence and degradability | : | Not readily biodegradable. | |



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Graphite Gray Sub Version Number 1.2 Page 5 of 6 Revision Date 01/20/2004 Print Date 11/13/2011 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. Recycling is preferred when possible. The generator of waste material Contaminated packaging : 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) Not applicable California Proposition WARNING! This product contains a chemical known to the State of 65 California to cause cancer. SARA Title III Section 302 Extremely Hazardous Substance Not applicable SARA Title III Section 313 Toxic Chemicals: Chemical Name CAS-No. Weight % CHROMIUM III COMPOUNDS 1308-38-9 3.50 Canadian Regulations:





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| Chemical Name | | | CAS-No. | Weight % | NPRI ID# |
|----------------------|---|---|-----------|----------------|----------|
| Chromium (III) oxide | | | 1308-38-9 | 3.50 | 68 |
| WHMIS Classification | : | Not controlled. All components of th Substances List (DSL | - | n the Canadian | Domestic |
| ational 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 | | | |

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.