

G494 BLACK FLAME RETARD

Version Number 1.0
Revision Date 06/10/2002

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1. PRODUCT AND COMPANY IDENTIFICATION

POLYONE CORPORATION
2700 Papin Street, St. Louis, MO 63103

NON-EMERGENCY TELEPHONE : Product Stewardship, (314) 771-1800
Emergency telephone number : **CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).**

Product name : G494 BLACK FLAME RETARD
 Product code : FO00004703
 Chemical Name : Mixture
 CAS-No. : Mixture
 Product Use : Industrial Applications

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

| Components | CAS-No. | Weight % |
|-------------------|-----------|----------|
| Carbon black | 1333-86-4 | 0.1 - 1 |
| Antimony trioxide | 1309-64-4 | 1 - 5 |
| Calcium oxide | 1305-78-8 | 1 - 5 |
| Calcium carbonate | 1317-65-3 | 10 - 30 |

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/skin irritation.
 Skin : Experience shows no unusual dermatitis hazard from routine handling.

Chronic exposure : Refer to Section 11 for Toxicological Information.

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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. FIRE-FIGHTING MEASURES

Flash point : No data available.

Flammable Limits

- Upper explosion limit : No data available.
- Lower explosion limit : No data available.

Autoignition temperature : Not applicable.

Suitable extinguishing media : Carbon dioxide blanket, dry powder, foam, Water spray.

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.

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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Package all material in appropriate container for disposal. Refer to Section 13 of this MSDS for proper disposal methods.

7. HANDLING AND STORAGE

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- 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 : Under normal handling conditions a respirator is not 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: |
|-------------------|-----------------------|------------------------------|-----------------------------|---------|
| Antimony trioxide | 0.5 mg/m ³ | PEL: | as Sb | OSHA Z1 |
| Calcium carbonate | 10 mg/m ³ | Time Weighted Average (TWA): | Total dust. | ACGIH |
| Calcium carbonate | 5 mg/m ³ | PEL: | Respirable dust. | OSHA Z1 |
| | 15 mg/m ³ | PEL: | Total dust. | OSHA Z1 |
| Calcium oxide | 2 mg/m ³ | Time Weighted Average (TWA): | Dust. | ACGIH |
| Calcium oxide | 5 mg/m ³ | PEL: | Dust. | OSHA Z1 |
| Carbon black | 3.5 mg/m ³ | Time Weighted Average (TWA): | Total dust. as carbon black | ACGIH |
| Carbon black | 3.5 mg/m ³ | PEL: | Total dust. as carbon black | OSHA Z1 |

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | | | |
|------------|-------------------|------------------|-------------------|
| Form | : Liquid | Evaporation rate | : Not established |
| Appearance | : Viscous, Liquid | Specific Gravity | : Not determined |
| Color | : BLACK | Bulk density | : Not applicable. |
| Odor | : Very faint | Vapor pressure | : Not determined |

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| | | | |
|---------------------|------------------|---------------|-------------------|
| Melting point/range | : Not applicable | Vapor density | : Not determined |
| Boiling Point: | : Not applicable | pH | : Not applicable. |
| Water solubility | : Immiscible | | |

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 | : Incompatible with strong acids and oxidizing agents. Avoid contact with acetal homopolymers and acetal copolymers during processing. |
| Hazardous decomposition products | : Carbon dioxide (CO ₂), 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 |
|-----------|-------------------|------------------|---------------------------------|
| 1333-86-4 | Carbon black | Systemic effects | Eyes, Respiratory system. |
| 1309-64-4 | Antimony trioxide | Systemic effects | Eyes, Respiratory system. |
| | | sensitizer | Skin. |
| 1305-78-8 | Calcium oxide | Irritant | Skin. |
| | | Systemic effects | Eyes, Skin, Respiratory system. |
| | | Corrosive | Skin. |
| 1317-65-3 | Calcium carbonate | Irritant | Eyes, Skin. |
| | | Systemic effects | Eyes, Skin, 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 |
|-----------|-------------------|-------------|----------------|---------|
| 1333-86-4 | Carbon black | Oral LD50 | > 15,400 mg/kg | rat |
| | | Dermal LD50 | > 3 gm/kg | rabbit |
| 1309-64-4 | Antimony trioxide | Oral LD50 | > 34,600 mg/kg | rat |

Carcinogenicity:

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

| CAS-No. | Chemical Name | OSHA | IARC | NTP |
|-----------|-------------------|------|------|-----|
| 1333-86-4 | Carbon black | no | 2B | no |
| 1309-64-4 | Antimony trioxide | 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:

Carbon black 1333-86-4 Carcinogenicity: Many inhalation toxicologists believe that the tumor response observed in the referenced rat studies is species specific and does not correlate to human exposure. However, the IARC evaluation in Monograph Volume 65, issued in April 1996 concluded that, "There is sufficient evidence in experimental animals for the carcinogenicity of carbon black". Based on this evaluation, along with their evaluation of inadequate evidence of carcinogenicity in humans, IARC's overall evaluation is that "Carbon Black is possibly carcinogenic to humans (Group 2B). Carbon Black has not been listed as a carcinogen by the National Toxicology Program (NTP) or the Occupational Safety and Health Administration (OSHA). The National Institute of Occupational Safety and Health (NIOSH) criteria document on carbon black recommends that only carbon black with PAH (polynuclear aromatic hydrocarbon) levels greater than 0.1% be considered suspect carcinogens.

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

| | |
|-------------------------------|--|
| 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 classification, transportation and disposal in accordance with applicable federal, state/provincial and local regulations. |
|---------|--|

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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. D.O.T. / CA T.D.G. Classification (Non-bulk ground) : Not regulated for transportation.

ICAO/IATA : Not regulated for transportation.

IMO / IMDG : Not regulated for transportation.

15. REGULATORY INFORMATION

US Regulations:

OSHA Status : Classified as hazardous based on components.

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

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 | 0.00 | 1lbs | 11,628 LB |

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

SARA Title III Section 313 Toxic Chemicals:

| Chemical Name | CAS-No. | Weight % |
|--------------------|-----------|----------|
| ANTIMONY COMPOUNDS | 1309-64-4 | 2.86 |

Canadian Regulations:

WHMIS Classification : D2A

WHMIS Ingredient Disclosure List

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| CAS-No. |
|-----------|
| 1309-64-4 |
| 7440-38-2 |
| 1305-78-8 |
| 1333-86-4 |
| 7439-92-1 |
| 75-01-4 |

DSL : Listed.

National Inventories:

Australia AICS : Listed.

China IECS : Listed.

Europe EINECS : Not determined.

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.