

**AERCHEM INC.**  
**320 North Walnut**  
**Bloomington, IN 47404**

Telephone: 812.334.9996

Fax: 812.334.1960

Emergency: 800.424.9300

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**SECTION 1: SUBSTANCE IDENTIFICATION**

**Substance:**

Benzoic Acid

**CAS-Number:**

65-85-0

**Trade Names/Synonyms:**

Benzenecarboxylic Acid; Carboxybenzene; Dracrylic Acid; Phenyl Carboxylic Acid; Dracrylic Acid; Phenyl Carboxylic Acid; Phenylformic Acid; Retarder BA; Tenn-Plas; Retardex; Salvo Powder; Salvo Liquid; Phenylcarboxylic Acid; Benzoate; Benzenemethanoic Acid; Benzeneformic Acid; NA 9094

**Chemical Family:**

Carboxylic Acid, Aromatic

**Molecular Formula:**

C7-H6-O2

**Molecular Weight:**

122.12

**CERCLA Ratings (scale 0-3):**

Health=2

Fire=1

Reactivity=0

Persistence=2

**NFPA Ratings (scale 0-4):**

Health=2

Fire=1

Reactivity=0

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**SECTION 2: COMPONENTS AND CONTAMINANTS**

**Component:**

Benzoic Acid

**Percent:**

100

**Exposure Limits:**

None established

**SARA Title III Sect. 313:**

Not listed

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**SECTION 3: PHYSICAL DATA**

**Description:**

White powder or solid crystals, faint pleasant odor.

**Boiling Point:**

480 F (249 C)

**Melting Point:**

252 F (122 C)

**Specific Gravity:**

1.3

**Vapor Pressure:**

1 MMMG @ 205 F

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**pH:**

SATD Solution:                      2.8

**Solubility in Water:**

Slightly soluble

**Vapor Density:**

4.2

**Solvent Solubility:**

Alcohol, ether, acetate, benzene, CCl<sub>4</sub>, chloroform, acetone, carbon sulfide, oil or turpentine, volatile and fixed oils.

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**SECTION 4: FIRE AND EXPLOSION DATA**

**Fire and Explosion Data:**

Slight fire hazard when exposed to heat or flame.

**Flash Point:**

250 F (121 C)

**Autoignition Temp.:**

1060 F (571 C)

**Flammability Class (OSHA):**

IIIB

**Firefighting Media:**

Dry chemical, carbon dioxide, water spray or foam.  
For larger fires, use water spray, fog or alcohol foam.

**Firefighting:**

Move container from fire area if possible. Do not scatter spilled material with more water than needed for fire control. Dike fire control water for later disposal.

Extinguish only if flow can be stopped; use water in flooding quantities as a fog. Cool containers with flooding quantities of water from as far a distance as possible. Avoid breathing toxic vapors or dusts.

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**SECTION 5: TOXICITY**

**Benzoic Acid:**

22 mg/3 days intermittent skin-human irritation; 500 mg/24 hours skin-rabbit mild irritation; 100 mg eye-rabbit severe irritation; 500 mg/kg oral-man LDLO; 6 mg/kg skin-human TDLO; 2530 mg/kg oral-rat LD50; 2370 mg/kg oral-mouse LD50; 2000 mg/kg oral-dof LD50; 2000 mg/kg oral-cat LD50; 2000 mg/kg oral-rabbit LDLO; 1460 mg/kg intraperitoneal-mouse LD50; 2000 mg/kg subcutaneous-rabbit LDLO

**Carcinogen Status:**

None

Benzoic Acid is an eye, mucous membrane and skin irritant. The food and drug administration lists Benzoic Acid as a direct food substance affirmed as generally recognized as safe.

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**SECTION 6: HEALTH EFFECTS AND FIRST AID**

**Inhalation:**

Benzoic Acid:    Irritant

**Acute Exposure:**

May cause respiratory irritation and coughing.

**Chronic Exposure:**

Repeated or prolonged exposure may cause mucous membrane irritation.

**First Aid:**

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Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Get medical attention immediately.

**Skin Contact:**

Benzoic Acid: Irritant

**Acute Exposure:**

Direct contact may cause irritation.

**Chronic Exposure:**

Repeated or prolonged contact may cause dermatitis.

**First Aid:**

Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

**Eye Contact:**

Benzoic Acid: Irritant

**Acute Exposure:**

Direct contact may cause strong irritation and redness.

**Chronic Exposure:**

Repeated or prolonged contact may cause conjunctivitis.

**First Aid:**

Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (approx. 15/20 minutes). Get medical attention immediately.

**Ingestion:**

Benzoic Acid: Irritant

**Acute Exposure:**

Benzoic Acid is found naturally in nature. Ingestion of excessive amounts may cause throat irritation, nausea, vomiting, gastrointestinal disturbances and possible allergic reactions. Moderate doses were required to cause death in animals.

**Chronic Exposure:**

Used as a food additive and ingestion of small amounts is not expected to cause adverse effects.

**First Aid:**

Treat symptomatically and supportively. Get medical attention immediately. If vomiting occurs, keep head lower than hips to prevent aspiration.

**Antidote:**

No specific antidote. Treat symptomatically and supportively.

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**SECTION 7: REACTIVITY**

**Reactivity:**

Stable under normal temperatures and pressures.

**Incompatibilities:**

Benzoic Acid: Strong oxidizers: vigorous exothermic reaction.

Bases: Vigorous exothermic reaction.

Metals: Solution reacts with release of hydrogen gas.

**Decomposition:**

Thermal decomposition may release toxic oxides of carbon.

**Polymerization:**

Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

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**SECTION 8: CONDITIONS TO AVOID**

May burn but does not ignite readily.

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**SECTION 9: SPILL OR LEAK PROCEDURES**

**Soil Spill:**

    Dig holding area such as lagoon, pond or pit containment.

Use protective cover such as a plastic sheet to prevent material from dissolving in fire extinguishing water or rain.

**Water Spill:**

    Use activated carbon to absorb spilled substance that is dissolved.

Use mechanical dredges or lifts to extract immobilized masses of pollution and precipitates.

Use suction hoses to remove trapped spill material.

**Occupational Spill:**

    Stop leak if you can do it without risk. For small spills, take up with sand or other absorbent material and place into clean, dry containers for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry.

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**SECTION 10: PROTECTIVE EQUIPMENT**

**Ventilation:**

    Provide local exhaust or general dilution ventilation system.

**Respirator:**

    The specific respirator selected must be based on the contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine safety and Health Administration.

**The following Respirators are Recommended Based on the Data Found in the Physical Data, Health effects and Toxicity Sections. They Are Ranked in Order from Minimum to Maximum respiratory Protection:**

    Chemical cartridge respirator with an organic vapor cartridge (s) with a high-efficiently particulate filter and full facepiece.

    High-efficiency particulate respirator with a full facepiece.

    Powered air-purifying respirator with a high-efficiently filter with a full facepiece.

    Type "C" supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure mode or with a full facepiece, helmet or hood operated in continuous-flow mode.

    Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

**For Firefighting and Other Immediately Dangerous to Life or Health Conditions:**

    Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

    Supplied-air respirator with a full facepiece and operated in pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

**Clothing:**

    Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

**Gloves:**

    Employee must wear appropriate protective gloves to prevent contact with this substance.

**Eye Protection:**

    Employee must wear splash-proof or dust-resistant safety goggles to prevent eye contact with this substance.

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**Section 11: Transportation Information:**

**DOT Classification:**    no  
**DOT pictogram:**        none