

BFGoodrich Kalama Emergency Phone 1-360-673-2550 CHEMTREC 1-800-424-9300

PRODUCT INFORMATION

CHEMICAL NAME: BENZOIC ACID
SYNONYM: Benzene carboxylic acid
FAMILY: Aromatic carboxylic acid
MOLECULAR FORMULA: C₆H₅COOH (C₇H₆O₂)
MOLECULAR WEIGHT: 122.12
CAS REG #: 65-85-0
EINECS REG #: 200-618-2

SUMMARY OF HAZARDS

WARNING!

CAUSES EYE IRRITATION
INHALATION OF DUST MAY IRRITATE THE NOSE AND THROAT
MAY CAUSE SKIN IRRITATION
CONCENTRATED DUST MAY BE AN EXPLOSION HAZARD
MAY BE HARMFUL IF SWALLOWED

PHYSICAL PROPERTIES

APPEARANCE / ODOR: White to light tan chips, granules, or powder with characteristic odor.
BOILING POINT: 480°F (249°C)
MELTING POINT: 252°F (122°C)
VAPOR PRESSURE: Negligible @ 20°C
SPECIFIC GRAVITY: 1.32 @ 24°C (Solid) 1.06 @ 150°C (Molten)
SOLUBILITY IN WATER: Slight (0.3 %)

FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (TCC): 250°F (121°C) **FLAMMABLE LIMITS:** Not determined
AUTOIGNITION TEMP: 1063°F (573°C) **DECOMPOSITION TEMP:** Not determined

FIRE and EXPLOSION HAZARDS: Concentrated dust is an explosion hazard. Prevent buildup of dust on floors, walls, and equipment. Decomposition under fire conditions will generate carbon monoxide and may generate other toxic vapors. For information regarding unloading benzoic acid from bulk bags, see Section XI.

FIRE FIGHTING: Extinguish packaging material fire using any suitable agent (water, foam, CO₂, dry chemical, etc.). Use dry chemical, foam, or CO₂ to extinguish liquid benzoic acid fires. Wear self-contained positive pressure breathing apparatus and full protective clothing.

BFGoodrich Kalama
BENZOIC ACID

3/1/00

HAZARD RATINGS FOR BENZOIC ACID CHIPS:

<u>H.M.I.S.</u>	HEALTH	1	<u>N.F.P.A.</u>	HEALTH	2
<u>RATINGS</u>	FLAMMABILITY	1	<u>FIRE HAZARD</u>	FLAMMABILITY	1
<u>(NPCA)</u>	REACTIVITY	0	<u>RATINGS</u>	REACTIVITY	0

NOTE: The flash point and melting point of BENZOIC ACID are nearly identical. Therefore, the storage of *molten* BENZOIC ACID involves storage of a liquid within its flammable range. The flammability rating for *molten* BENZOIC ACID under either H.M.I.S. or N.F.P.A. is " 3 ".

HEALTH HAZARD INFORMATION

LD50 (ORAL-RAT): 2,530 mg / kg LC50: Not Determined

THRESHOLD LIMIT VALUE: TLV has not been established by the ACGIH or by OSHA. Both groups have established limits for nuisance dusts. The OSHA PEL/TWA for nuisance dusts is: Total - 10 mg/m³; Respirable - 5 mg/m³. Keep exposure below these limits.

CARCINOGEN (IARC / NTP / 29CFR): No

NOTE: Health studies have shown that exposures to chemicals pose potential health risks which may vary from person to person. Therefore exposures to liquids, vapors, mists , or fumes should be minimized.

ACUTE HEALTH HAZARDS:

- Inhalation: Inhalation of dust may irritate the nose and throat.
- Eye Contact: Causes eye irritation.
- Skin Contact: May cause skin irritation.
- Ingestion: May be harmful if swallowed.

CHRONIC HEALTH HAZARDS: Prolonged contact with the skin may cause irritation. No other chronic health hazard information is available.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known

EMERGENCY FIRST AID:

- Inhalation: If overcome by exposure, remove to fresh air immediately. Give oxygen or artificial respiration as needed. Get emergency medical attention.
- Eye Contact: In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.
- Skin Contact: In case of skin contact, flush skin with plenty of water. Remove contaminated clothing as necessary. Wash clothing before reuse. Get medical attention if irritation develops.
- Ingestion: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

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VII PROTECTIVE EQUIPMENT and EXPOSURE CONTROL METHODS

Use with adequate local exhaust ventilation. If dusts are created, use NIOSH approved dust respirator. Use chemical workers goggles and wear protective gloves to minimize skin contact. Provide a safety shower equipped with an eyewash fountain in the immediate vicinity of any potential exposure.

Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair. Remove all ignition sources. Check atmosphere for explosiveness and oxygen deficiencies. Use adequate personnel protection. Comply with regulations governing confined space entry.

Use good personal hygiene practices. Wash hands before eating, drinking, or smoking, or using toilet facilities. Promptly remove contaminated clothing and wash clothing thoroughly before reuse.

VIII REACTIVITY DATA

STABILITY: Stable HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Strong oxidizing agents, strong bases, and strong reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS Decomposition under fire conditions will generate carbon monoxide and may generate other toxic vapors.

IX SPILL OR LEAK PROCEDURES

Remove sources of ignition. Sweep up and remove to disposal container. If molten, allow material to solidify before removing. Report spills as per regulatory requirements.

X WASTE DISPOSAL

Disposal must be made in accordance with applicable governmental regulations. Do not contaminate any streams, lakes, or ponds.

XI ADDITIONAL PRECAUTIONS

Due to its high melting point, (122°C or 252°F), the handling of *molten benzoic acid* can result in thermal burns. The use of full protective clothing, including face shield, goggles, helmet, jacket, pants, and boots is highly recommended.

BFGoodrich Kalama offers its product benzoic acid in paper bags as well as in flexible intermediate bulk containers (FIBCs). It is absolutely essential that the customer recognize the additional hazards when transferring from FIBCs, over those in the smaller volume transfers from paper bags. The build-up of static electricity during the unloading of FIBCs, and the resultant increased potential for spark, poses significant safety concerns. Various measures are available to prevent ignitions and our customers are strongly urged to familiarize themselves with FIBC unloading procedures before using such packaging.

Ground all metal plant and equipment such that the maximum resistance to ground is 10 ohms. Ground personnel via antistatic footwear or flooring such that their maximum resistance to ground is less than 1 X 10⁸ ohms.

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Use grounded metal or antistatic plastic items in the handling and processing of benzoic acid, rather than ordinary plastic or other electrically insulating materials.

The customer must consider the atmosphere into which the benzoic acid will be discharged. Many solvents and gases have very low minimum ignition energies (MIG), and a static discharge could cause an explosion. Inerting the atmosphere of the vessel into which benzoic acid is discharged should be strongly considered. Unloading should be controlled at a reasonable rate, and rapid emptying of the packaging should be avoided.

BFGoodrich Kalama's standard FIBC for benzoic acid is a groundable bag; and it is absolutely imperative that such a bag be grounded before, during, and after unloading. An alternate antistatic CROHMIQ™ BLUE FIBC is available, which has its own set of safety precautions.

An excellent article on the safe use of FIBCs in powder handling can be found in the October 93 issue of Process Safety Progress (Vol 12, No 4). In addition, Chilworth Technology has prepared a report interpreting dust explosion hazard data for benzoic acid powder for BFGoodrich Kalama, which can be made available to interested customers. Our technical personnel are always ready to respond to inquiries regarding the handling of benzoic acid and the use of FIBCs.

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OSHA / SARA TITLE III / TSCA INFORMATION

We have evaluated Benzoic Acid using the criteria in OSHA's Hazard Communication Rule (29CFR 1910.1200). Benzoic Acid is an eye and mucous membrane irritant and therefore is considered hazardous under the OSHA standard.

Benzoic Acid is not listed as an Extremely Hazardous Substance under Section 302 of SARA Title III.

As an OSHA hazardous substance, Benzoic Acid is subject to the reporting requirements of Sections 311 or 312 of SARA Title III.

Benzoic Acid does not contain ingredients (at a level of 1% or more) on the List of Toxic Chemicals in Section 313 of SARA Title III.

Benzoic Acid is included in the current TSCA Inventory List.

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DOT / IMDG INFORMATION

While Benzoic Acid is considered a Hazardous Substance, it is not regulated as hazardous by the DOT or the IMDG when shipped in a single package in quantities of less than 5,000 # (2,268 kG), its Reportable Quantity as a Hazardous Substance. However, since the Flash Point of benzoic acid is the same as its melting point (122°C or 252°F), shipping molten benzoic acid involves the transportation of a material within its flammable range. Therefore, when shipping benzoic acid in tank cars or tank trucks, it is regulated as an ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S..

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