

IS 4448: 2022
Benzoic Acid, Food Grade –Specification
(Second Revision)

What is Benzoic Acid?

Benzoic acid (C₆H₅COOH) in free state is widely distributed in nature. Gum benzoic from *Styrax benzoin*, Acaroid resin from *Xanthorrhoea*, scent glands of beaver, bark of wild black cherry tree, ripe cloves and oil of anise seed contain benzoic acid. Benzoic Acid appears as white crystals, scales or needles having a faint characteristic odour. It is slightly soluble in water and freely soluble in chloroform and 95 percent ethanol.

Use of Benzoic acid as Food Preservative:

Due to its bacteriostatic and bactericidal properties, Benzoic Acid is widely used as preservative for yeast and mould. It is a permitted food additives as per Food Safety and Standards (Food Products Standards and Food Additives) Regulation, 2011. It is also included in food chemical codex and also falls under Indian Pharmacopoeia (IP), British Pharmacopoeia (BP) and United State Pharmacopoeia (USP).

Requirements of Food Grade Benzoic acid as per IS 4448: 2022:

The Indian Standard for Benzoic Acid, Food Grade (IS 4448: 2022) specifies the requirements and testing methods for Benzoic Acid intended for use as a food preservative. This standard provides detailed specifications regarding the purity, physical properties, and permissible levels of contaminants to ensure the safety and quality of food-grade benzoic acid.

The standard specifies several quality parameters food-grade Benzoic Acid along with their methods of test, such as: Minimum Purity (as C₇H₆O₂), percent by mass, on dry basis; Melting range; Maximum Sulphated ash, percent by mass; Readily carbonizable substances; Readily oxidizable substances and Maximum Chlorinated organic compounds (as Cl₂), percent by mass.

The standard also specifies maximum limits for Arsenic (as As), mg/kg; and Lead, mg/kg in food grade Benzoic Acid..

Storage of Benzoic acid:

Benzoic acid shall be stored in amber coloured glass containers, or any other well-closed containers, with as little air space as possible. The containers for storage shall be of food grade material and shall preclude contamination of the contents with metals or other impurities.

