Kalama®
Sodium Benzoate NF/FCC

Foods and Beverages
- Prepared salads, jams and jellies, dressings, sauces, condiments, pickles, olives
- Soft drinks and spirits

Personal Care & Cosmetics
- Lotions, hair care, liquid soaps, wipes, and feminine hygiene
- Oral care products

Pharmaceutical Inactive Ingredient
- Cough / cold / pain
- Topical ointments and lotions

Chemical Synthesis

Polypropylene Nucleation

Corrosion Inhibition

Kalama® Sodium Benzoate is a high purity preservative with an effective combination of antimicrobial action, low cost, safety, and an excellent odor/taste profile. With a high purity level of at least 99.0%, it has little to no impact on formulation odor or color. It is a safe, effective solution that is Generally Recognized as Safe (GRAS) for preserving foods and beverages (21 CFR § 184.1733), where it is typically used at a maximum level of 0.1%. In personal care products such as lotions, hair care, and wipes, it is typically used at a maximum level of 3%.

Kalama® Sodium Benzoate is also used in industrial applications, including as a chemical intermediate, a catalyst, a nucleating agent for polypropylene manufacture, and a corrosion inhibitor. Corrosion inhibition has been reported at low concentrations for steel, zinc, copper, copper alloys, soldered joints, aluminum, and aluminum alloys, with the highest inhibition efficacy at pH levels 6-12.

Superior Performance in Your Products and Processes Kalama® Sodium Benzoate has outstanding physical properties for consistently high performance in all of your handling, production, and packaging processes. Emerald offers Kalama® Sodium Benzoate in three forms for tailored performance and ease of use in a wide variety of applications: dense granules, powder, and EDF (Extruded Dust-Free).

All forms are manufactured to meet National Formulary (NF), Food Chemicals Codex (FCC), European Pharmacopeia (EP), and EEC E-211 specifications.

Serving Our Customers Globally from Our Facilities in Europe and the U.S.

Emerald is a leading and reliable global supplier of benzoic acid, benzaldehyde, and other related chemistries. We use the highest standards for quality and responsible manufacturing at our strategically located sites in the U.S. and Europe, operating under ISO 9001:2015, ISO 14001:2015, and FSSC 22000 management programs.

*Use levels are application-dependent. Consider all applicable regional regulations
**Typical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Range</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
<td>Dense, Powder, or EDF™</td>
<td></td>
</tr>
<tr>
<td><strong>Taste and odor</strong></td>
<td>No off taste or odor</td>
<td></td>
</tr>
<tr>
<td><strong>Assay (on dried product)</strong></td>
<td>99.0 min.</td>
<td>% (m/m)</td>
</tr>
<tr>
<td><strong>Water/Loss on drying</strong></td>
<td>1.5 max.</td>
<td>% (m/m)</td>
</tr>
<tr>
<td><strong>Acidity</strong></td>
<td>0.24 max.</td>
<td>% as benzoic</td>
</tr>
<tr>
<td><strong>Alkalinity</strong></td>
<td>0.04 max.</td>
<td>% as NaOH</td>
</tr>
<tr>
<td><strong>Phenol</strong></td>
<td>2 max.</td>
<td>mg/kg</td>
</tr>
<tr>
<td><strong>Heavy metals, as Pb</strong></td>
<td>&lt; 10</td>
<td>mg/kg</td>
</tr>
<tr>
<td><strong>Iron</strong></td>
<td>&lt; 1</td>
<td>mg/kg</td>
</tr>
<tr>
<td><strong>Mercury</strong></td>
<td>&lt; 1</td>
<td>mg/kg</td>
</tr>
<tr>
<td><strong>Chloride, as Cl⁻</strong></td>
<td>&lt; 50</td>
<td>mg/kg</td>
</tr>
<tr>
<td><strong>Halogenated compounds, total chloride</strong></td>
<td>200 max</td>
<td>mg/kg</td>
</tr>
<tr>
<td><strong>Halogenated compounds, ionic chloride</strong></td>
<td>300 max</td>
<td>mg/kg</td>
</tr>
<tr>
<td><strong>Color and clarity of Solution</strong></td>
<td>To pass test</td>
<td>-</td>
</tr>
<tr>
<td><strong>Residual Solvents</strong></td>
<td>To pass test</td>
<td>-</td>
</tr>
</tbody>
</table>

*Above properties are typical of sodium benzoate and should not be confused with, or regarded as, sales specifications.*

**Typical Physical Properties**

Sodium Benzoate is the sodium salt of benzoic acid. One gram of the salt is soluble in 2mL of water, in 75mL of ethyl alcohol, and in 50mL of 90% ethyl alcohol. The salt is insoluble in ethyl ether.

A typical aqueous solution will be slightly alkaline and typically has a sweetish astringent taste. Sodium benzoate is a slightly hygroscopic, white, odorless or nearly odorless product.

Typical “tap” bulk densities are: Powder: ~44 #/ft³ (0.70 g/cc); Dense: ~48 #/ft³ (0.77 g/cc); EDF: ~34 #/ft³ (0.55 g/cc). Sodium benzoate contains 84.7% of available benzoic acid.

**Shelf Life**

The recommended retest date is 24 months from the date of manufacture provided that the material is stored in the original, unopened packages, at temperatures between 40-86°F (4.4-30°C) in an ambient humidity environment, under normal warehouse conditions.

Sodium benzoate is slightly hygroscopic and should be stored in sealed containers. Exposure to conditions of high humidity and elevated temperatures should be avoided for general storage.

**About Emerald**

Emerald Kalama Chemical is a leading global supplier of benzoic acid, benzyaldehyde, and related downstream chemicals, with world-scale, backward integrated facilities in The U.S. and Europe. Products include benzoate preservatives, intermediates, aroma chemicals, plasticizers, coalescents, industrial antioxidants, and rubber accelerators.

*Kalama® Sodium Benzoate is also available through our distribution partners. Please contact us for additional information.*

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