K.K.POONJA & SONS
Chemical Manufacturers

Product Catalogue

Butylated Hydroxy Anisole (BHA)

PRESERVATIVE FOR EDIBLE OIL, FATS AND FRIED FOODS.

We assume no liability for the information contained herein. Users are requested to carry out their own test for the effectiveness of BHA in the conditions of their operation and for their particular product. However, we do guarantee that we will meet our specifications for the product.

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Introduction

Butylated Hydroxy Anisole

Butylated Hydroxy Anisole (BHA) is used as an anti-oxidant in stabilising various edible oils and food products. BHA prevents rancidity of lard and bitterness of oils. BHA is non-toxic in the necessary proportions and is stable at high temperatures, making it an ideal anti-oxidant for various food products such as cereals, chewing gum, flavouring etc. Further, the small quantities required make BHA a very economical product to use.

BHA manufactured by K.K. Poonja & Sons confirms to the specifications laid down by the U.S. FCC and the Bureau of Indian Standards, IS 5343-1996. Please note that the colour of BHA varies from white to off white as it is a phenolic material.

Product Specifications

Common name	Butylated Hydroxy Anisole, confirming to FCC	
Chemical Name	2 & 3 Tertiary Butyl - 4 Methoxy Phenol	
Empirical Formula	$C_6H_3OH_2C_4H_9$	
Molecular Weight	180.24	
Form	White Crystal Flakes	
Melting Point °C	48 – 63	
Boiling Point °C (at 745 mm Hg)	269	
Flash Point °C (Open Cup)	130	
Purity % (wt. Min)	99	
Arsenic as As (ppm Max)	3	
Heavy Metals as Pb (ppm Max)	10	
Residue on ignition (wt % Max)	0.01	
Solubility	Soyabeen Oil	> 30
gm/ 100 gm Solvent @ 20°C	Acetone	> 25
	Ether	> 25
	Cotton Seed Oil	> 30
	Water	Nil
	Methanol	> 10
	Propylene Glycol	> 40

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Uses and advantages of using BHA

BHA is the preferred anti-oxidants for several food products such as Cereals, Confectioneries, Flavouring materials, Snack foods and nut products. Generally addition of BHA is governed by the total weight of the product as against TBHQ or Propyl Gallate whose addition is limited by the weight of the fat. Hence, BHA is easier to add to products that have a lesser fat content such as cereals. The allowance based on weight of the total product also allows addition of BHA easily.

Cost-wise BHA is an effective anti-oxidant because a very little quantity is required for effective inhibition of oxidation. BHA does not react with the food or the flavouring used in processed food. Addition of BHA

Regulations governing the use of anti-oxidants differ from country to country. However, in India for most edible oils, the concentration of BHA should not exceed 0.02% by weight of the fat or oil, including essential oil. In the United States, the regulations are as follows :

Application	Permitted Level
General Use	200 ppm based on oil content
Chewing gum base	0.1% or 1000 ppm based on the total product weight
Beverages and Desserts from Dry mixes	2 ppm based on total weight of the product
Dry mixes for Beverages and Desserts	90 ppm based on the total weight of the product
Dry glazed fruit	32 ppm based on the total weight of the product.

BHA is also recommended particularly for baked products, candies, cookies and sometimes is even added to packaging material.

Methods of Addition

BHA is added by the following methods:

1. Direct addition by dissolving BHA in the required proportion to the oil or product mentioned above.

2. Spray applications : A solution or blend of BHA with other antioxidants and a solvent such as propylene glycol is sprayed onto the product such as essential oils.

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Product Handling and Storage

BHA is a non hazardous material. However, care should be taken in handling BHA as follows:

1. Avoid contact with skin and eyes by wearing well fitted goggles, gloves and face shield.
2. Change and clean clothing regularly, especially if contaminated by BHA.
3. In case of skin contact, wash with large amounts of soap and water for 15 minutes or more.
4. In case of eye contact wash with water for 15 minutes or more.
5. Provide adequate ventilation.
6. Obtain first aid immediately in case of prolonged contact.

Please request for the MSDS of BHA. BHA is available in 25 Kgs Polythene bags packed in fibre drum.

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Material Safety Data Sheet
Butylated Hydroxyanisole

Section 1 - Chemical Product and Company Identification

MSDS Name: Butylated Hydroxyanisole,
Synonyms: B.H.A.; Tert-Butylhydroxyanisole; Tert-Butyl-4-Hydroxyanisole.
Company Identification: K.K. Poonja & Sons, 1422 IIIrd Phase GIDC Vapi, India.
Tel :+91-260-2432276

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
25013-16-5	Butylated Hydroxyanisole	96.0%	246-563-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to yellow white solid.
Warning! Possible cancer hazard. May cause cancer based on animal data. Risk of cancer depends on duration and level of exposure. Harmful if swallowed. Irritant. Causes eye, skin, and respiratory tract irritation. May cause allergic skin reaction. May be harmful if swallowed. Light sensitive.
Target Organs: Respiratory system, eyes, skin.

Potential Health Effects
Eye: Causes eye irritation. May cause chemical conjunctivitis.
Skin: Causes skin irritation. May cause allergic contact dermatitis.
Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.
Inhalation: Causes severe respiratory tract irritation.
Chronic: May cause cancer according to animal studies. May cause fetal effects based on animal studies.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid imme diately.
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Reduce airborne dust and prevent scattering by moistening with water. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.
Storage: Store in a cool place in the original container and protect from sunlight. Keep container closed when not in use. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Butylated Hydroxyanisole	none listed	none listed	none listed

OSHA Vacated PELs: Butylated Hydroxyanisole: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Appearance: white to yellow white
Odor: Faint characteristic odor.
pH: Not available.
Vapor Pressure: Not available.

Vapor Density: 6.2
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 270 deg C
Freezing/Melting Point:48.00 - 55.00 C
Decomposition Temperature: Not available.
Solubility: Insoluble in water.
Specific Gravity/Density:1.05
Molecular Formula:C11H16O2
Molecular Weight:180.1108

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Light, dust generation.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 25013-16-5: SL1945000
LD50/LC50:
CAS# 25013-16-5:
Oral, mouse: LD50 = 1100 mg/kg;
Oral, rabbit: LD50 = 2100 mg/kg;
Oral, rat: LD50 = 2 gm/kg;
.**Carcinogenicity:**
CAS# 25013-16-5:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 1/1/90
- **NTP:** Suspect carcinogen
- **IARC:** Group 2B carcinogen

Epidemiology: Human patch tests have shown that BHA produces allergic contact dermatitis.
Teratogenicity: Teratogenic effects have occurred in experimental animals.
Reproductive Effects: No data available.
Mutagenicity: No data available.
Neurotoxicity: No data available.
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	**Not regulated as a hazardous material**	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 25013-16-5 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE

CAS# 25013-16-5 can be found on the following state right to know lists: California, Minnesota, Massachusetts.

California Prop 65
The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:
WARNING: This product contains Butylated Hydroxyanisole, a chemical known to the state of California to cause cancer.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives
Hazard Symbols:
XN
Risk Phrases:
R 22 Harmful if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 40 Limited evidence of a carcinogenic effect.
Safety Phrases:
S 23 Do not inhale gas/fumes/vapour/spray.
S 36/37 Wear suitable protective clothing and gloves.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 60 This material and its container must be disposed of as hazardous waste.

WGK (Water Danger/Protection)
CAS# 25013-16-5: No information available.
Canada - DSL/NDSL
CAS# 25013-16-5 is listed on Canada's DSL List.
Canada - WHMIS
This product has a WHMIS classification of D2A, D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
Canadian Ingredient Disclosure List
CAS# 25013-16-5 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

Used as a food additive. The information above is believed to be accurate and represents the best information currently available to us.