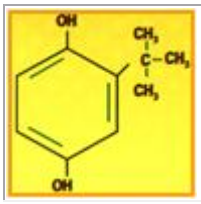
Tertiary Butyl Hydroquinone (Food Grade)

Tertiary Butyl Hydroquinone(TBHQ) is a Synthetic food grade antioxidant, that is used to stabalize foods, fats and vegetable oils aganist oxidative deterioration and thus extending their storage life. Basically in simple terms TBHQ can be called a chemical that is used as a preservative. It helps in Preserving food products.
There is a natural antioxidant called Tocopherol that is present in vegetable oils that is insufficent for oxidative stability, even if external Tocopherol is added to the vegetable oil it does not increase the stability hence a synthetic antioxidant is required.

There are 2 types of antioxidants that can be used

- **Tertiary Butyl Hydroquinone**
- **Propyl Gallate**

Propyl Gallate is prone to dicolouration in the presence of Iron, while Tertiary butyl Hydroquinone gives an outstanding stabalization effect in unsturated fats,Polyunsaturated vegetable oils, and inedible animal fats.TBHQ can also be advantageous in essential oils, nuts, buffer fat and food packaging material thus being a better and healthier option to be used as a preservative.
TBHQ is certified as safe for human consumption. In many major developing organisations like FDA (Food and Drug Administration), FSIS (Food Safety and Inspection Service) and others permit the use of TBHQ or combinations with BHA (Butylated Hydroxy Anisole) or BHT (Butylated Hydroxy Toluene) at concentrations upto 0.02% by weight of the fat or oil content of the food.

Chemical Name:	TERTIARY BUTYL HYDROQUINONE	
Chemical formula:	C10H14O2	
Molecular Weight:	166.24	
Trade Name:	TBHQ	
CAS No.:	1948-33-0	
PARAMETER	**NORMS**	**ANALYSIS METHOD**
Appearance	White Crystalline	Visual

	Powder	
Purity by HPLC	99.00% Min	HPLC
Melting Point	126.5℃ to 128℃	Capillary Melting Point
Tert. Butyl-p-Benzo Quinone	0.20% Max	HPLC
2,5- Di-tert.butyl Hydroquinone % by mass	0.20% Max	HPLC
Arsenic (as AS)	3 ppm Max	AAS
Hydroquinone, % by mass	0.10% Max	HPLC
Toluene	25 ppm Max	HPLC
Heavy Metals (as Pb)	10 ppm Max	AAS
U.V.Absorbance (Polynuclear Hydrocarbon)	PASSES TEST	Spectra U.V.

Area of Application:

• Vegetable oils
• Baked and confectionary Products
• Cosmetics
• Edible Fats
• Emulsifiers
• Flavoring and spices
• Margarine
• Snack foods like Fried Potato chips, Instant Noodles
• Citrus oils
• Butter Fats
• Fried Nuts
• Pat Foods
• Cereal and Grains
• Lard
• Essential oils like Peppermint oil, Orange oil etc.

Tertiary Butyl Hydroquinone - Solution

We have developed SOLN which is directly applied in edible oil and for the smoother applicability of TBHQ. It is a Yellow or light brown liquid and it is soluble in water.

Below mentioned are the standard specifications.

NAME OF THE PRODUCT	TERTIARY BUTYL HYDROQUINONE - SOLUTION
PHYSICAL APPERANCE	YELLOW TO LIGHT BROWN LIQUID
SPECIFIC GRAVITY (AT 25° C)	1.080 + 0.03 gms/ml
PROPYLENE GLYCOL (FOOD GRADE)	70% w/w
TERTIARY BUTYL HYDROQUINONE (FOOD GRADE)	20% w/w
CITRIC ACID (ANHYDROUS)	10% w/w
BOILING POINT	184° C
FLASH POINT	150° C
SOLUBILITY IN WATER	SOLUBLE
ODOUR	TYPICAL

Applications:

- Edible Oils

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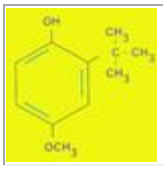
Butylated Hydroxyanisole(BHA)

Butylated hydroxyanisole (BHA) is a mixture of two isomeric organic compounds, 2-tert-butyl-4-hydroxyanisole and 3-tert-butyl-4-hydroxyanisole. It is prepared from 4-methoxyphenol and isobutylene. It is a white or pale yellow solid (Crystal or Flake) with a faint aromatic odour. The areas of application for BHA and the specifications are mentioned below.

Common Name	BHA
Molecular Weight	180.25
Empirical Formula	C11H16O2
CAS Number	25013-16-5
Structural Formula	
Description	A white or pale yellow solid (Crystal or Flake) and faint aromatic odour.
Assay (As C11H16O2) Chromatographic	Min. 98.50%
3-Tert Butyl 4-Hydroxyanisole (3-BHA)	Min. 95.00 %
Melting Range	Between 48oC to 63oC
Heavy Metals (As Pb)	Max. 2 mg/kg.
Arsenic	Arsenic

Sulphated Ash	Max. 0.01% m/m

Areas of Applications:

- Cosmetic especially lipsticks and eye shadows
- Butter, meats, cereals, chewing gums, backed goods.
- Snack foods, dehydrated potatoes, nuts etc.
- Beverages
- Edible fats and oils
- Pharmaceuticals

Estimated Life :

- 2 Year from the date of Manufacturing

Identification

- Dissolve about 10 mg. in 2 ml. of alcohol add 1ml. of a 1.0 g/L solution of Testosterone Propionate in alcohol and 2ml. of Dilute Sodium Hydroxide Solution. Heat in a water bath at 80 C for 10 min. and allow to cool, a red colour developes.

Butylated Hydroxy Toluene (BHT)

Butlyated Hydroxyanisole is a synthetic antioxidant that is a commonly used fat soluble food preservative since 1947, with broad biological activities. It prevents spoilage by reacting with oxygen. It slows development of off-flavours, odours and colour changes caused by oxidation. It protects animals aganist radiation and the acute toxicity of various xenobiotics and mutagens.
Butylated hydroxyanisole (BHA) is a mixture of two isomeric organic compounds, 2-tert-butyl-4-hydroxyanisole and 3-tert-butyl-4-hydroxyanisole. It is prepared from 4-methoxyphenol and isobutylene. It is normally insoluble in water, but for commercial applications, it can be converted to a soluble form. BHT was first used as an antioxidant food additive in 1954. An antioxidant is a substance that prevents the oxidation of materials with which it occurs. BHT, therefore, prevents the spoilage of food to which it is added. BHT has grown to be very popular among food processors and is now used in a great range of products that include breakfast cereals, chewing gum, dried potato flakes, enriched rice, potato chips, candy, sausages, freeze-dried meats, and other foods containing fats and oils. BHT is sometimes used in conjunction with a related compound, butylated hydroxyanisole (BHA) as a food additive.BHT does have other commercial uses, as in animal feeds and in the manufacture of synthetic rubber and plastics, where it also acts as an antioxidant.

Chemical Name:	BUTYLATED HYDROXY TOLUENE
Trade Name:	BHT
DISCRIPTION	WHITE CRYSTALS
ODOUR	NO ABNOXIOUS ODOUR
COLOUR (APHA) OF SOLUTION	10 HAZEN MAX.
MOISTURE CONTENT	0.1% MAX.
FREEZING POINT	69.2° C MIN.
PURITY (% Wt.)	99% MIN.
RESIDUE ON IGNITION	0.002% MAX.
HEAVY METALS (AS LEAD)	MAX. 10 PPM

Application:

- Breakfast cereals
- Chewing gum
- Dried potato flakes
- Enriched rice
- Potato chips
- Candy
- Sausages
- Freeze-dried meats
- Other foods containing fats and oils.

Tertiary Butyl Hydroquinone - Technical Grade

We have developed Tertiary Butyl Hydroquinone - Technical Grade for its application in bio diesel, ink and polyester resins. Inspite of it being a technical grade it gives excellent results for such application. It is a white crystalline powder and has characteristic odour. It is soluble in alcohol and insoluble in water.

Following mentioned are the standard specifications.

NAME OF THE PRODUCT	TERTIARY BUTYL HYDROQUINONE 95 %(Tech Grade)
MOLECULAR WEIGHT	166.22
DISCRIPTION	WHITE CRYSTLINE POWDER HAVING CHARACTERISTIC ODOUR. IT IS SOLUBLE IN ALCOHOL AND PRACTICALLY INSOLUBLE IN WATER.
ASSAY (TITRIMETRIC)	MIN. 95.0%
2, 5 DI-Tert. Butyl Hydroquinone	MAX. 5.00%
HYDROQUINONE (% by Mass)	MAX. 5.00%
MOISTURE	0.50% MAX.
ARSENIC (AS As)	MAX. 3 PPM
MELTING RANGE	124.0 C TO 126.0 C
HEAVY METALS (AS LEAD)	MAX. 10 PPM

Applications:

- Cosmetics.
- Bio fuel
- Polymerization inhibitor in the manufacturing of Acrylics, Methacrylics. R