



## Safety Data Sheet (SDS)

Revision / Review Date: 5/20/15


### 1. Chemical Product and Company Identification

Product Name:	BHT
Distributed By:	HB Chemical 1665 Enterprise Parkway Twinsburg Oh 44087 Phone - 330-920-8023
SDS Prepared By (w Suppliers Input):	HB Chemical
Chemical Name / Family:	2,6-di-tert-butyl-p-cresol/ 4-methyl-2,6-di-tert-butyl phenol/ Antioxidant
Synonyms:	Butylated hydroxytoluene BHT
Molecular Formula:	Not available
Molecular Weight via GPC, Mn:	Not available
Product Use:	Accelerator
OSHA Status:	Not available
CAS No:	128-37-0
EC No:	204-881-4

For emergency health, safety, and environmental information, calls 330-920-8023

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

### 2. Hazard(s) Identification

<u>Signal Word:</u>	Warning
<u>Hazard Pictogram:</u>	GHS09: environment 
<u>GHS Criteria:</u>	Hazards to the aquatic environment: Chronic Category 1 H410: Very toxic to aquatic life with long lasting effects.
<u>Hazard statements:</u>	H410: Very toxic to aquatic life with long lasting effects.
<u>Precautionary statements:</u>	P273: Avoid release to the environment.
<u>Response:</u>	P391: Collect spillage.
<u>Disposal:</u>	P501: Dispose of contents/container in accordance with local/ regional/ national/ international regulation.
<u>Emergency overview:</u>	White powder. Which may cause allergic skin and respiratory reactions. May cause eye and skin irritation. Not known as an acute health Hazard. May have long term adverse effects in the aquatic environment.

<u>Signs and Symptoms of Exposure:</u>	May cause skin and eye redness. Coughing, sore throat, irritation to the eyes, nose and respiratory tract.
<u>Primary Routes of Entry:</u>	Eye, Inhalation and Ingestion
<u>Medical Conditions Generally Aggravated by Exposure:</u>	None known.
<u>Eye Contact:</u>	May cause eye irritation.
<u>Skin Contact:</u>	Prolonged or repeated skin contact may cause irritation.
<u>Ingestion:</u>	May cause irritation to the digestive tract.
<u>Inhalation:</u>	Respiratory irritation effects (i.e. cough, sore throat) may occur on inhalation to dust particles of BHT. Inhalation to high concentration of dust may cause irritation symptoms to respiratory apparatus.
<u>HMIS Hazard Ratings:</u>	Health-1, Flammability -1, Reactivity – 0, Protection-A
<u>HMIS limitation statement:</u>	The HMIS hazard ratings numbers are meant to give a quick indication of the relative hazards associated with the product. All of the information contained in the SDS should be consulted to assist with the safe handling of this material.
<u>Principal Hazardous Components:</u>	ACGIH (TLV) 2 mg/m <sup>3</sup> , Inhalable particulate and vapor.
<u>Identified Uses:</u>	<p>BHT is a registered antioxidant, licensed for food and animal feed products, cosmetics, packaging materials. Because of its chemical-physical properties, BHT is used as an antioxidant/stabilizer in a wide variety of products, including petroleum products, synthetic rubbers, plastics, elastomers, oils, waxes, soaps, paints, inks, etc. BHT as such is used at industrial settings only. It is not available to consumers as such. BHT is present in the end-use products as a substance bound into or onto matrix.</p> <p>The CSR defines the following uses of BHT:</p> <p>IUO [importation and storage —INDUSTRIAL USE];</p> <p>IU1 [Use as a stabilizing (antioxidant) component substance in manufacture of other (any, not specified) products—INDUSTRIAL USE]</p> <p>IU2 [General Use as a stabilizing (antioxidant) component substance within other (any, not specified) products —INDUSTRIAL, PROFESSIONAL, CONSUMER USE ].</p>
<u>Uses advised against:</u>	BHT shall not be available to general public/consumers as such. BHT shall not be used in contradiction to all relevant national/regional restrictions applied to this substance, including, but not limited to, those prescribed by REACH regulation.

### 3. Composition / Information on Ingredients

Weight Percent / Typical

Component Identity

CAS Registry Number

HB Chemical 1665 Enterprise Parkway Twinsburg, Ohio 44087

Phone 330-920-8023 Fax 330-920-0971

[www.hbchemical.com](http://www.hbchemical.com)

#### **4. First Aid Measures**

<u>Inhalation:</u>	If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once. Keep the affected person warm and at rest. Get medical attention.
<u>Eyes:</u>	First rinse with plenty of water for several minutes. If irritation occurs, get medical attention.
<u>Skin:</u>	Remove contaminated clothes. Rinse and then wash skin with water and soap. If irritation occurs, get medical attention.
<u>Ingestion:</u>	If affected person is in conscious state, then rinse mouth. Keep the affected person warm and at rest. Get medical attention.

#### **5. Fire-Fighting Measures**

<u>Suitable Extinguishing Media:</u>	Use Chemical foam, CO <sub>2</sub> , Dry Chemical, water fog.
<u>Special Fire Fighting Procedures:</u>	This product is not flammable or combustible. Avoid unnecessary run-off of fire-prevention media and of extinguishing media (water cooling, fighting a fire with water and foam) which may cause pollution at contact with BHT. Use corresponding protective clothes, individual means of eye protection, self-contained breathing apparatus.
<u>Hazardous Combustion Products:</u>	This product will decompose under extreme temperatures forming oxides of carbon as well as Aromatic hydrocarbons and nitrogen oxides.
<u>Unusual fire and explosion hazards:</u>	The substance decomposes on burning and on contact with oxidizing materials. When heated to decomposition, this substance emits toxic fumes.
<u>Hazardous Decomposition:</u>	When heated to decomposition, this substance emits toxic fumes.

#### **6. Accidental Release Measures**

<u>Steps to be taken in case material is spilled:</u>	Avoid direct contact with eyes, skin, and inhalation of dust. Use corresponding protective clothes, individual means of eye protection, self-contained breathing apparatus. Eliminate sources of ignition and sparks. If appropriate, provide ventilation of premises. Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting.
<u>Environmental Disposal Information:</u>	Do not let this chemical enter the environment, keep away

from drains, surface and ground water. BHT is classified as very toxic to aquatic life with long lasting effects. Do NOT let this chemical enter the environment.

Waste Disposal:

Reclaim or dispose of in accordance with local, state, and federal regulations.

**7. Handling and Storage:**

Empty Containers:

Not available.

Precautions to be taken in handling:

Any person who comes into contact with BHT needs to be trained in proper handling and safety per applicable federal, state and local laws and regulations. Employers must advise employees of all areas and operations where exposure to BHT might occur. Avoid dust generation. Avoid inhalation of dust, ingestion, and contact with eyes and skin. Do not eat, drink, or smoke during work. Wash hands before eating.

Storage:

Store separated from food and feedstuffs. Store in covered dry storehouses at a distance of 1 meter from heating body at the temperature from minus 30°C to plus 40 °C protecting from direct sunlight and humidity. Avoid Strong oxidizers.

**8. Exposure Controls / Personal Protection**

Exposure Controls:

The organization of manufacturing processes, connected with use of BHT, shall provide dust and vapors content of the substance at workplaces below permissible level established by company's inner requirements.

Respiratory Protection:

Respiratory protection should be used in accordance with federal / national / local legislation requirements. Respiratory protection is recommended to use to supplement the engineering controls and work practices as individual protective equipment of respiratory apparatus. Persons should not be assigned to tasks requiring the use of individual protective equipment of respiratory apparatus unless it has been determined they are physically able to perform the work and are trained to use the equipment.

Ventilation:

Use only where sufficient ventilation exists to keep exposure levels of fumes and dust below recommended levels.

Hand Protection:

Wear gloves.

Eye Protection:

Appropriate eye and face protection may be necessary to prevent contact with this substance. If there is a potential that this chemical can come in contact with eye or face, eye goggles and face masks shall be used.

Skin and Body Protection:

The level of protection selected should be based on the potential BHT concentration and likelihood of contact. Corresponding protective clothes, gloves of tight dust-proof material are recommended as routine protection means from contact with the substance.

Hygiene Facilities:

The workplace should be kept clean, orderly, and in a sanitary condition. Adequate washing facilities shall be provided and maintained in a sanitary condition. Do not eat, drink, or smoke during work. Wash hands before eating.

**9. Physical and Chemical Properties**

Physical Form:

Solid

Appearance & Odor:

White Powder

Specific Gravity:

@25°C = 1.048

Softening Point, R&B:

Not available.

Solubility in Water:

Not available.

Flash Point, TAG CC F:

114 deg C.

Melting point:

70°C

Percent Volatiles (by weight):

Not available.

Evaporation Rate (Water ~ I):

< 1 (butyl acetate=1)

Vapor Pressure ( mm Hg):

0.00177 mm Hg ; 0.236 Pa (estimated, at 25 °C)

Vapor Density (Air ~ I):

Not available.

Relative Density:

1.04 (relative density at 20 deg C)

Boiling Point (°F) Initial:

265°C

Auto ignition Temperature, °C:

425 deg C

Flammable Limits, %(V):

Not Flammable

**10. Stability and Reactivity**

Stability:

This product is stable under normal conditions.

Incompatibility (Materials to Avoid):

Store separated from strong oxidants. The substance decomposes on burning and on contact with oxidizing materials.

Conditions to Avoid:

Keep away from heat and sources of ignition.

Hazardous Polymerization:

Hazardous polymerization will not occur.

**Hazardous Decomposition:**

When heated to decomposition, this substance emits toxic fumes.

**11. Toxicological Information**

This material is not listed as a carcinogen or potential carcinogen by NTP, IARC, or OSHA.

**OSHA Permissible Exposure Limit:**

Not available.

**ACGIH Threshold Limit Value:**

2 mg/m<sup>3</sup>, Inhalable particulate and vapor [TWA].

**DMEL:**

2 mg/m<sup>3</sup> (inhalable particulate and vapor).

**NIOSH:**

10 mg/m<sup>3</sup> TWA.

**PNECs from the CSR in accordance with REACH regulation:**

PNEC (water) = 0.004 mg/L;  
PNEC (sediment) = 0.731 mg/kg;  
PNEC (soil) = 0.350 mg/L

**Information on toxicological effects:**

The toxicokinetics of BHT have been comprehensively reviewed and reported elsewhere (WHO, 1964, 1986, 1995; OECD, 2005). The uptake, metabolism, distribution and elimination of BHT were investigated in a number of in vivo and in vitro studies in animals providing similar results. Experiments in animal test systems demonstrated that BHT was readily absorbed via the gastrointestinal tract and metabolised in test animals. Higher concentrations of BHT were observed in the adipose tissue and liver. However, no bioaccumulation was seen for BHT. BHT is metabolized by cytochrome P450 (CYP) enzymes. The metabolites observed include ester glucuronide and ether glucuronide. BHT is excreted with urine (main elimination route) and faeces.

**Acute toxicity:**

Oral LD<sub>50</sub> (rats) >2000 mg/kg;  
Dermal LD<sub>50</sub> (rats) >2000 mg/kg.  
Oral (Rat) >2900 mg/kg (LD<sub>50</sub>)  
Dermal (Rabbit) ND mg/kg (LD<sub>50</sub>) 2100 mg/kg  
Draize Test – eye, rabbit, 100 mg/24H moderate skin, rabbit, 500 mg/48H moderate

**Discussion:**

BHT is a nonvolatile solid substance with low water solubility and low vapor pressure. It can be absorbed via gastrointestinal tract and via skin contact. Available experimental data on acute toxicity of BHT include studies by oral and dermal exposure routes performed in rodents. The data on oral and dermal exposure to BHT are above the threshold for classification of BHT for acute toxicity (i.e. > 2000 mg/kg b.w.). There are no data on acute toxicity of BHT in humans. Given, that BHT is used in industry for a long time, the lack of reports on serious

adverse acute toxicity effects (e.g., death) of BHT support the low acute toxicity of BHT.

Skin corrosion/ irritation:

In conclusion, BHT is considered to be of low acute toxicity. BHT was slightly irritating to the skin of rabbits. The irritating effects observed were mild and reversible within 72 hours (OECD, 2005).

Serious eye damage/ irritation:

Exposure to BHT may cause skin redness (ICSC 0841). BHT was slightly irritating to the eye of rabbits. The irritating effects observed were mild and completely reversible within 72 hours (OECD, 2005).

Respiratory irritation:

Exposure to BHT may cause eye redness (ICSC 0841). BHT is a solid substance in a form of flakes or crystals and, therefore, respiratory irritation to dust particles may occur on inhalation of BHT.

Skin sensitization:

In humans, contact dermatitis were reported in few cases. The OECD High Production Volume chemicals evaluation program (OECD SIDS, 2005) of BHT suggests that though BHT was tested negative in great numbers of workers or patients, sensitization reactions cannot be fully excluded in single cases. In accordance with the CLP criteria, skin sensitizer is defined as "a substance that will lead to an allergic response following skin contact". To be classified as a skin sensitizer (Category 1) there must be evidence of chemicals' sensitizing effects observed in substantial number of people. In humans, contact dermatitis associated with BHT were reported for some individuals. Therefore, based on the data summarized here, BHT is likely to cause allergy in susceptible individuals. However, taken the small number of possibly affected, it is not sufficient to classify BHT in Category 1 Skin Sensitizer.

Respiratory sensitization:

In accordance with the CLP criteria, respiratory sensitizer is defined as "a substance that will lead to hypersensitivity of the airways following inhalation of the substance". Generally, a substance is classified as respiratory sensitizer if there is evidence in humans that the substance can lead to specific respiratory hypersensitivity and/or if there are positive results from an appropriate animal test. Currently, no recognized animal models for the testing of respiratory hypersensitivity are available. Therefore, evidence that a substance can induce specific respiratory hypersensitivity will normally be based on human experience. However, no hypersensitivity reactions associated with exposure to BHT were reported in humans. In conclusion, based on the respiratory sensitization data summarized here and taking into account that there have been no reports of respiratory sensitization caused by BHT, it is not considered to be a respiratory sensitizer.

Germ Cell Mutagenicity:

HT showed no potential to cause point mutations in bacterial and mammalian test systems (WHO, 1986; OECD, 2005). Additionally, BHT was estimated for mutagenic properties with the currently available QSAR/SAR model for this endpoint (CAESAR QSAR model for Mutagenicity v.1.0.0.5) with overall result: Non-Mutagen. There are no data on genotoxicity of BHT in humans. Based on the data, summarized in this section, BHT is not considered as being genotoxic/ mutagenic.

Carcinogenicity:

The NTP 2-year study of carcinogenicity of BHT in rats and mice observed no treatment-related neoplastic lesions. The study authors concluded that BHT was not carcinogenic for F344 rats or B6C3F1 mice under applied test conditions (NTP, 1979). The International Agency on Research of Cancer (IARC) provides the following evaluation of carcinogenicity of BHT (IARC, 1986, 1987): Overall evaluation BHT: is not classified as carcinogen (Group 3). Overall, BHT is not considered to be carcinogenic.

Reproductive toxicity:

In general, there is no clear evidence for a direct effect of BHT on fertility/ fetal development, in the absence of systemic toxicity.

Repeated dose oral toxicity studies:

BHT was reported to affect liver as a target organ in animal repeated dose toxicity studies (WHO, 1995). BHT has been shown to induce hepatocellular necrosis and proliferation in male Wistar rats at doses which exceeded the maximum tolerated dose (sublethal oral doses of 1000 -1250 mg/kg bw/day). The Joint FAO/WHO Expert Committee on Food Additives considers enzyme induction as the most sensitive index of toxicity effects of BHT on liver (WHO, 1995). This evaluation report also conclude that a well-defined threshold was demonstrated at a dose of 100 mg/kg bw/day in a long-term study with a NOEL of 25 mg/kg bw/day.

## 12. Ecological Information

BHT is classified as very toxic to aquatic life with long lasting effects. To reduce the risks connected with release of BHT to the environment the measures of Good Manufacturing Practice, engineering control of production equipment condition, corresponding organization of handling operations, transportation, storage shall be adopted. If the substance is present in emissions to air and sewage waters the limits of its concentration shall not exceed the limits established by federal / state and local legislation.

Aquatic environment:

BHT is not considered to degrade fast in the environment. The BCF/BAF values estimated for BHT are above the cut-off values for bioaccumulation (<500 L/kg wet-w) suggesting that BHT may have some potential for bioaccumulation in aquatic life.

Acute toxicity:

LC50(EC50) <1 mg/L (published data and estimated with ECOSAR v.1.00);



<u>Chronic toxicity:</u>	NOEC <1 mg/L (published data and estimated with ECOSAR v.1.00).	
This corresponds to Chronic Category 1 toxicity classification for BHT.		
<u>Acute Toxicity: L (E) C50</u>	0.464 mg/L	fish, ECOSAR estimated.
	0.386 mg/L	invertebrates, ECOSAR estimated.
	0.84 mg/L	invertebrates, measured.
	0.577 mg/L	green algae, ECOSAR estimated.
<u>Chronic Toxicity: L(E) C50</u>	0.096 mg/L	Invertebrates, measured.
<u>Chronic toxicity: NOEC</u>	0.053 mg/L	fish, measured.
	0.041 mg/L	fish, ECOSAR estimated.
	0.061 mg/L	invertebrates, ECOSAR estimated.
	0.363 mg/L	green algae, ECOSAR estimated.
<u>Terrestrial environment:</u>	<p>There are no data on toxicity of BHT to terrestrial (soil) organisms. BHT is a nonvolatile solid substance which is insoluble in water. The value for soil organic carbon-water partition coefficient calculated using KOCWIN v. 2.0 (log Koc = 3.91 -4.17) suggests that BHT has some potential to adsorb onto soil and sediment. In the absence of ecotoxicity data for soil organisms, the PNEC soil is calculated using the equilibrium partitioning method (EPM) as follows (in accordance with ECHA Guidance on Information Requirements, Part B): PNEC soil =(0.174 + 0.0104 x Koc) x PNEC water. Estimated Koc for BHT =8183 -14750 L/kg (by following a precautionary approach, the lowest estimated Koc value of 8183 L/kg will be used in the calculation); PNEC water =0.004 mg/L. Therefore, PNEC soil= 0.350 mg/kg is calculated for BHT.</p>	
<u>Hydrolysis:</u>	<p>BHT is a solid substance which is poorly soluble in water. It contains functional groups with weak potential for dissociation. Based on the dissociation constant data and assuming poor solubility of BHT, this substance is not likely to dissociate significantly in water under normal environmental conditions.</p>	
<u>Photo transformation/ photolysis:</u>	<p>Photo oxidation of BHT can be estimated using a computer model accepted by the US EPA. The Atmospheric Oxidation Program for Microsoft Windows (AOPWIN, v.1.92) estimated the following data: Reaction with hydroxyl radicals at 25°C: Overall OH Rate Constant: =18.2887 x 10<sup>-12</sup> cm<sup>3</sup>/molecule-sec Half Life: =0.585 days, 7.018 hours (12-hour day; 1.5x10<sup>6</sup> OH/cm<sup>3</sup>). Thus, a half-life of 0.585 days is estimated for reaction of BHT with hydroxyl radicals in the atmosphere at 25°C [AOPWIN Program, v.1.92].</p>	
<u>Biodegradation:</u>	<p>BHT is a nonvolatile solid substance which is almost insoluble in water. The environmental fate of BHT in water and sediment will be determined by biotic and abiotic transformation. The QSARs estimated half-lives for biodegradation of BHT in water and sediment based upon BIOWIN Ultimate Biodegradation are</p>	

900 hours (37.5 days) and 8100 hours (337.5 days), respectively. Whereas the half-lives of BHT for volatilization from water are estimated as 10.78 days (for a river) and 122.8 days (for a lake) using EPI Suite software. The QSAR models predict timeframe within weeks for primary biodegradation of BHT and weeks-months for its ultimate degradation. Overall ready biodegradability prediction provided by a number of BOWIN (v.4.10) models suggests that BHT is not ready biodegradable in the environment.

Aquatic bioaccumulation:

The Bio concentration Factor (BCF), Bioaccumulation factor (BAF) as well as Biotransformation Rate in fish were estimated by the BCFBAF software using the Arnot-Gobas method. This method model estimates steady-state BCF (L/kg) and BAF (L/kg) values for non-ionic organic chemicals in three general trophic levels of fish (i.e. lower, middle and upper) in temperate environments (default temperature is 10°C).

The modeling results are summarized as follows:

Log BCF = 2.81; BCF = 646 L/kg wet wt (regression-based estimate)

Biotransformation half-life = 1.15 days (normalized to 10 g fish)

Log BAF = 2.91 BAF = 820 L/kg wet-wt (Arnot-Gobas upper trophic)

Generally, a BCF/BAF in fish of > 500 is indicative of the potential to bioconcentrate for classification purposes in accordance with CLP/GHS criteria. The BCF/BAF values estimated for BHT are above the cut-off values for bioaccumulation indicating some potential to bioaccumulate in aquatic organisms.

Terrestrial bioaccumulation:

There is no experimental data on terrestrial bioaccumulation of BHT. BHT is not considered to degrade fast in the environment. Moreover, the estimated log Kow and BCF/BAF values for this chemical suggest that it is likely to exhibit some bioconcentration and biomagnification potential. BHT is not soluble in water. In addition, BHT was not reported to bioaccumulate in experimental animals.

Environmental distribution:

BHT is a solid, poor water soluble substance with low vapor pressure. QSAR modeling predicts that BHT will volatilize slowly from surface water with estimated TD50 = 10.48 days (river) and 122.8 days (lake). Once in air, BHT will react with hydroxyl radicals with half-life of 7 hour. The value for soil organic carbon-water partition coefficient (logKoc = 3.91 -4.17) suggests that BHT has some potential to adsorb onto soil and sediment and, therefore, it is not likely to contaminate groundwater. The data on environmental distribution of BHT obtained from the level III fugacity model (EPI Suite v.4.00) confirms that BHT does not degrade fast and depending on various emission scenarios, most of BHT will be in water, soil and sediment.

<u>Persistence Assessment:</u>	The half-life of BHT in water, sediment and soil are 37.5 days, 337.5 days and 75 days, respectively. Therefore, BHT meets the Persistence criteria for PBT and vPvB substances.
<u>Bioaccumulation Assessment:</u>	BCF/BAF (estimated values) = 646 -1669 L/kg wet-wt. Therefore, BHT does not meet Bioaccumulation criteria for PBT substance and does not meet Bioaccumulation criteria for vPvB substance.
<u>Toxicity Assessment:</u>	The lowest reliable predicted/measured long-term aquatic NOECs for BHT of 0.04/0.05 mg/L are above the cut off level of 0.01 mg/L. BHT is not classified as to its chronic toxicity to mammals. Therefore, BHT does not meet the criteria for Toxicity.
<u>Conclusions on PBT or vPvB Properties:</u>	BHT is not classified as to its chronic toxicity to mammals. However, it is not considered bioaccumulative/ very bioaccumulative or toxic substance. Therefore, BHT is not a PBT or vPvB substance.
<u>Other adverse effects Secondary poisoning:</u>	BHT is of low acute and chronic toxicity. It does not bioaccumulate in mammals and, therefore, secondary poisoning to BHT via food chain is of no concern.

### 13. Disposal Considerations

<u>Waste-related:</u>	The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with local regulations for hazardous wastes. Disposal can occur only in properly permitted facilities. Check state and local regulation of any additional requirements for disposal conditions.
<u>Disposal:</u>	This substance, when discarded or disposed of, is a hazardous waste. The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with local regulations for hazardous wastes. Disposal can occur only in properly permitted facilities. Check state and local regulation of any additional requirements for disposal conditions.
<u>Disposal of containers:</u>	Refer your local/national/regional requirements on disposal.

### 14. Transport Information

<u>UN number:</u>	3077
<u>UN Proper Shipping Name:</u>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 2,6-di -tert-butyl-p-cresol
<u>Transport hazard class(es) UN Class:</u>	9
<u>UN Packing Group:</u>	III

Environmental Hazards:

Self-classification (in accordance with GHS/CLP classification criteria): Hazards to the aquatic environment: Chronic Category 1. H410: Very toxic to aquatic life with long lasting effects.

Special precautions for user:

A number of restrictions may apply to materials subject to local/national/regional classifications requirements. Please refer to the appropriate regulation for specific details regarding classification requirements and restrictions.

**15. Regulatory Information**

All components of this material are on the TSCA Inventory.

All components of this material are on the Canadian DSL.

Export and Import of Dangerous Chemicals  
(Regulation (EC) No 689/2008) Information:

This substance is not listed in the Annex I of Regulation (EC) No 689/2008.

CLP Regulation (EC) No1272/2008:

This substance is not listed in Annex VI (tables 3.1 and 3.2) to CLP regulation.

REACH Regulation (EC) No 1907/2006:

This substance is registered in accordance with provisions of REACH regulation.

Chemical safety assessment:

Chemical Safety Assessment has been carried out for this chemical in accordance with provisions of REACH regulation.

SARA TITLE III 311/312 Categories:

Not listed.

SARA TITLE III 313 Reportable ingredients:

None.

CERCLA RQ:

Not applicable.

Canada WHMIS Hazard Symbol and Class:

Not Regulated.

**16. Other Information**

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the users responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.