



SAFETY DATA SHEET
BUTYLATED HYDROXYTOLUENE (BHT)
REVISION 4, DATE 02 DEC 19

1. IDENTIFICATION

Product Name	Butylated hydroxytoluene (BHT)
Other Names	2,6-Bis(1,1-dimethylethyl)-4-methylphenol; 2,6-Di-tert-butyl-4-methylphenol; 2,6-Di-tert-butyl-p-cresol; p-Cresol, 2,6-di-tert-butyl-
Uses	Food additive; Antioxidant; Preservative.
Chemical Family	No Data Available
Chemical Formula	C ₁₅ H ₂₄ O
Chemical Name	Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled

Redox Ltd
Corporate Office Sydney
Locked Bag 15 Minto NSW 2566 Australia
2 Swettenham Road Minto NSW 2566 Australia
All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

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ABN 92 000 762 345

Australia
Adelaide
Brisbane
Melbourne
Perth
Sydney

New Zealand
Auckland
Christchurch
Hawke's Bay
UK
London

Malaysia
Kuala Lumpur
USA
Los Angeles
Oakland
Mexico
Saltillo



Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories Acute Hazard To The Aquatic Environment - Category 1
Long-term Hazard To The Aquatic Environment - Category 1

Pictograms

Signal Word Warning

Hazard Statements **H410** Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention	P273	Avoid release to the environment.
Response	P391	Collect spillage.
Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS*Ingredients*

Chemical Entity	Formula	CAS Number	Proportion
Butylated hydroxytoluene	C15H24O	128-37-0	<=100 %

4. FIRST AID MEASURES*Description of necessary measures according to routes of exposure*

Swallowed IF SWALLOWED: Rinse mouth, then drink 1 - 2 glasses of water. Do not induce vomiting. Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.

Eye IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.

Skin IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Inhaled IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.

Advice to Doctor Treat symptomatically. Ensure that attending medical personnel are aware of the identity and nature of the product(s)

involved, and take precautions to protect themselves.

Medical Conditions Aggravated by Exposure No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Combustible material; May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction - Do not use a solid water stream as it may scatter and spread fire.
Fire and Explosion Hazard	Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, Nitrogen oxides and hazardous organic compounds.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Flash Point	118 - 127 °C [Closed cup]
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	470 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Take up mechanically and collect in a suitable container for disposal (see SECTION 13). Avoid dispersal of dust in the air (i.e. clearing dusty surfaces with compressed air). Non-sparking tools should be used.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	Clean contaminated surface thoroughly.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).

Container Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	For Butylated hydroxytoluene (CAS No. 128-37-0): <ul style="list-style-type: none">- Safe Work Australia Exposure Standard: TWA = 10 mg/m3.- New Zealand Workplace Exposure Standard: TWA = 10 mg/m3.- NIOSH REL: TWA = 10 mg/m3.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	<ul style="list-style-type: none">- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate filter respirator (refer to AS/NZS 1715 & 1716).- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side-shields.- Hand protection: Handle with gloves. Recommended: Impervious gloves.- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Long sleeved clothing.
Special Hazards Precautions	Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash before reuse. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder or granules/pellets
Odour	Odourless - mild
Colour	White
pH	4 - 5
Vapour Pressure	<0.01 mmHg (@ 20 °C)
Relative Vapour Density	7.6 Air = 1
Boiling Point	265 °C
Melting Point	69 - 70 °C
Freezing Point	No Data Available
Solubility	Practically insoluble in water (0.4 - 1.14 mg/l)
Specific Gravity	0.6
Flash Point	118 - 127 °C [Closed cup]
Auto Ignition Temp	470 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	0.6 g/cm3
Specific Heat	No Data Available

Molecular Weight	220.34
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow: 5.1
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	3.45 cSt @ 80 °C - 1.54 cSt @ 120 °C (@ No Data Available)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. - Maximum explosion over-pressure: 7-9 Pm (bar) - Maximum Rate of Pressure Rise: 800-1300 [dP/dt (bar/s)] - Dust deflagration index (Kst): 200-350 [bar.m/s] - Minimum ignition energy (MIE): 10-25 (mJ) - Lower explosion limit: 10-20 [M.E.C. (g/m3)]
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Combustible material; May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, Nitrogen oxides and hazardous organic compounds.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Avoid generating dust. Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong acids, strong bases. oxidising agents, reducing agents.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, Nitrogen oxides and hazardous organic compounds.
Hazardous Polymerisation	Hazardous polymerisation does not occur.

11. TOXICOLOGICAL INFORMATION

General Information	- Acute toxicity: May cause abdominal pain, nausea, vomiting, confusion and dizziness (narcotic effects) if ingested in large doses. - Skin corrosion/irritation: Slight irritant. May cause skin irritation, redness. Repeated or prolonged contact with skin may cause dermatitis. - Eye damage/irritation: Slight irritant. May cause eye irritation, redness, pain.
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- Respiratory/skin sensitisation: Non-sensitising.
- Germ cell mutagenicity: Negative (Ames test); Negative (micronucleus assay - chromosome aberration).
- Carcinogenicity: Butylated hydroxytoluene (BHT) is classified by the IARC Monographs as "Not classifiable as to its carcinogenicity to humans" (Group 3).
- Reproductive toxicity: None expected in humans. The only effects on reproduction in rats and mice were lower numbers of litters of ten or more pups at birth at doses of 100 mg/kg/day and above. During pregnancy, BHT had maternal effects on mice above oral doses of 240 mg/kg/day.
- STOT (single exposure): Inhalation of dust in high concentration may cause irritation of respiratory system, cough, sore throat.
- STOT (repeated exposure): Repeated oral exposure of laboratory animals (rats and mice) at doses greater than 25 mg/kg/day resulted in growth depression and functional and histological changes to the lung, liver, kidneys and thyroid.
- Aspiration toxicity: No information available.

Acute**Ingestion**

- Acute toxicity (Oral):
- LD50, Rat: >6,000 mg/kg [Supplier's SDS].
 - LD50, Mouse: 4,950 mg/kg [Supplier's SDS].

Other

- Acute toxicity (Dermal):
- LD50, Rat: >2,000 mg/kg [Supplier's SDS].

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

- Aquatic toxicity:
- LC50, Fish (*Oryzias latipes*): 5 mg/L (48 h) [Supplier's SDS].
 - EC50, Crustacea (*Daphnia magna*): 0.48 mg/L (48 h) immobilisation [Supplier's SDS].
 - EC50, Algae (*Pseudokirchneriella subcapitata*): 6 mg/L (72 h) [Supplier's SDS].
 - EC50, Algae (*Desmodesmus subspicatus*): >0.42 mg/L (72 h) [Supplier's SDS].

Persistence/Degradability

Not readily biodegradable.

Mobility

No information available.

Environmental Fate

Very toxic to aquatic life with long lasting effects - Avoid release to the environment.

Bioaccumulation Potential

- The product may be accumulated in organisms.
- BCF: 230 - 2,500 (Fish, 56 d).
 - log Pow: 5.1

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

If recycling is not practicable, dispose of contents/container in accordance with local/regional/national regulations.

Special Precautions for Land Fill

No information available.

14. TRANSPORT INFORMATION**Land Transport (Australia)****ADG Code****Proper Shipping Name**

Butylated hydroxytoluene (BHT)

Class

No Data Available

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Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	AU01
Comments	Not regulated as DG when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Butylated hydroxytoluene)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3077
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Butylated hydroxytoluene)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3077
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Butylated hydroxytoluene)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
ERG	171 Substances (Low to Moderate Hazard)
UN Number	3077
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Butylated hydroxytoluene)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3077

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Hazchem	2Z
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-F
Marine Pollutant	Yes

Air Transport

IATA DGR

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Butylated hydroxytoluene)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3077
Hazchem	2Z
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002503 - Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2020
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	Listed
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed

Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	BUHYDR1000, BUHYDR1001, BUHYDR1002, BUHYDR1003, BUHYDR1004, BUHYDR1005, BUHYDR1006, BUHYDR1007, BUHYDR1008, BUHYDR1009, BUHYDR1400, BUHYDR1500, BUHYDR1501, BUHYDR2000, BUHYDR3000, BUHYDR3001, BUHYDR3002, BUHYDR3050, BUHYDR3500, BUHYDR3550, BUHYDR4000, BUHYDR4500, BUHYDR5000, BUHYDR5500, BUHYDR5550, BUHYDR6000, BUHYDR6001, BUHYDR6050, BUHYDR6100, BUHYDR6101, BUHYDR6500, BUHYDR7000, BUHYDR7500, BUHYDR7600, BUHYDR8000, BUHYDR8001, BUHYDR8002, BUHYDR8003, BUHYDR8004, BUHYDR8005, BUHYDR8006, BUHYDR8500, BUHYDR8501, BUHYDR9000, BUHYDR9001, BUHYDR9500
Revision	4
Revision Date	02 Dec 2019
Reason for Issue	update sds
Key/Legend	<p>< Less Than</p> <p>> Greater Than</p> <p>AICS Australian Inventory of Chemical Substances</p> <p>atm Atmosphere</p> <p>CAS Chemical Abstracts Service (Registry Number)</p> <p>cm² Square Centimetres</p> <p>CO₂ Carbon Dioxide</p> <p>COD Chemical Oxygen Demand</p> <p>deg C (°C) Degrees Celcius</p> <p>EPA (New Zealand) Environmental Protection Authority of New Zealand</p> <p>deg F (°F) Degrees Farenheit</p> <p>g Grams</p> <p>g/cm³ Grams per Cubic Centimetre</p> <p>g/l Grams per Litre</p> <p>HSNO Hazardous Substance and New Organism</p> <p>IDLH Immediately Dangerous to Life and Health</p> <p>immiscible Liquids are insoluable in each other.</p> <p>inHg Inch of Mercury</p> <p>inH₂O Inch of Water</p> <p>K Kelvin</p> <p>kg Kilogram</p> <p>kg/m³ Kilograms per Cubic Metre</p> <p>lb Pound</p> <p>LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.</p> <p>LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.</p> <p>ltr or L Litre</p> <p>m³ Cubic Metre</p> <p>mbar Millibar</p> <p>mg Milligram</p> <p>mg/24H Milligrams per 24 Hours</p> <p>mg/kg Milligrams per Kilogram</p>

mg/m³ Milligrams per Cubic Metre

Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight