

According to Regulation (EC) No 1907/2006

# Butylated hydroxytoluene (BHT)



Version number: 2  
Issued: 2023-09-29

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Trade name**

Butylated hydroxytoluene (BHT)

**CAS number**

128-37-0

**EC number**

204-881-4

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses**

Research and development.

**Not suitable for use in**

Not suitable for human consumption or veterinary purposes.

### 1.3. Details of the supplier of the safety data sheet

**Supplier**

Molekula Group

Street address

Molekula Ltd, Lingfield Way, Darlington,  
DL1 4XX Darlington  
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

**Contact person**

Kevin Banks

**Email address**

+44 (0) 7769276927

### 1.4. Emergency telephone number

**Poison center/Additional emergency number**

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Hazardous to the aquatic environment — Chronic hazard category 1

#### Hazard statements

H410

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Warning

#### Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.  
P233 Keep container tightly closed.  
P260 Do not breathe dust/fumes/gas/mist/vapours/spray.  
P262 Do not get in eyes, on skin, or on clothing.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P314 Get medical advice/attention if you feel unwell.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/container to local regulations.

### 2.3. Other hazards

No data available

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## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Butylated hydroxytoluene (BHT)	128-37-0 204-881-4 - -	100%	Aquatic Chronic 1	H410 - -	-

#### Molecular weight

220.35

#### Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

#### Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

#### Skin contact

IF ON SKIN: Wash with plenty of water. Continue to rinse for at least 15 minutes and seek medical attention. Get medical advice/attention if you feel unwell.

#### Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

#### Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

#### Information for doctors

First aiders/ medical personnel need to protect themselves.

### 4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

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## Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

## Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

## Eye contact

Single exposure may cause the following adverse effects: Severe irritation.

## Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No special treatment requirement.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

#### Unsuitable extinguishing media

No specific fire fighting procedure given.

### 5.2. Special hazards arising from the substance or mixture

Specific hazards: Combustible.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

Vapours are heavier than air and may spread near ground to sources of ignition.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. Avoid contact with skin and eyes. For personal protection, see section 8.

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## 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

## 6.3. Methods and material for containment and cleaning up

Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

## 6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

For precautions see section 2.2. Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid ingestion and inhalation.

#### General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use. Wash skin thoroughly after handling.

### 7.2. Conditions for safe storage, including any incompatibilities

Store at ambient temperature. Store in a dry place. Store in a closed container.

### 7.3. Specific end use(s)

No specific usage precautions noted.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits

TWA 10mg/m<sup>3</sup> UK EH40 WEL = Workplace Exposure Limit.

#### DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
Butylated hydroxytoluene (BHT) (128-37-0/204-881-4)	DNEL	Chronic (long term) Inhalation	3.5 mg/m <sup>3</sup>	Workers	Systemic

#### PNEC/PEC

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Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
Butylated hydroxytoluene (BHT) (128-37-0/204-881-4)	PNEC	Freshwater	0.199 µg/l
Butylated hydroxytoluene (BHT) (128-37-0/204-881-4)	PNEC	Marine water	0.0199 µg/l
Butylated hydroxytoluene (BHT) (128-37-0/204-881-4)	PNEC	Intermittent releases	1.99 µg/l
Butylated hydroxytoluene (BHT) (128-37-0/204-881-4)	PNEC	Sediment (freshwater)	0.0996 mg/kg
Butylated hydroxytoluene (BHT) (128-37-0/204-881-4)	PNEC	Sediment (marine water)	0.00996 mg/kg
Butylated hydroxytoluene (BHT) (128-37-0/204-881-4)	PNEC	Soil	0.04769 mg/kg

## 8.2. Exposure controls

### Personal Protective Equipment Symbols



### Eye / face protection

Wear eye protection.

### Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

### Other skin protection

Wash skin thoroughly after handling.

### Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

### Environmental exposure controls

Avoid discharge into drains.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Physical state

Solid

#### Colour

White / off-white.

#### Odour

Odourless.

#### Melting point / freezing point

69 - 73 °C

#### Boiling point or initial boiling point and boiling range

265 °C

#### Flammability

No data available

#### Lower and upper explosion limit

No data available

#### Flash point

127 °C

#### **Method**

CC (Closed cup).

#### Auto-ignition temperature

> 400 °C

#### Decomposition temperature

No data available

#### pH

No data available

#### Kinematic viscosity

No data available

#### Solubility

0.76 g/l

#### Partition coefficient n-octanol/water

5.1

#### Vapour pressure

No data available

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## Density and/or relative density

1.03 g/cm<sup>3</sup>

## Relative vapour density

0.01

## Particle characteristics

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Forms explosive mixtures with air on intense heating.

15 (approx) Kelvin below the flash point is to be rated as critical.

### 10.2. Chemical stability

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

Violent reactions possible with:

Peroxides

Bases.

sulfuric acid

Strong acids.

Acid chlorides

Acid anhydrides.

oxidising agents

### 10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Protect from sunlight.

### 10.5. Incompatible materials

Acid chlorides Acid anhydrides. Bases. oxidising agents Copper. copper compounds Brass. Mild steel

### 10.6. Hazardous decomposition products

See section 5.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity



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Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	LD50	>6000 mg/kg	Oral	Rat
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	LD50	>2000 mg/kg	Dermal	Rat

## Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	No skin irritation.	4 hours	Rabbit

## Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	No eye irritation.	Rabbit

## Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Method / Guideline
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	Negative.	In vitro study

## Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Exposure route	Metabolic activation / Exposure	Species	Method / Guideline
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	Negative.	-	with and without metabolic activation	Chinese Hamster cells: Ovary	Mutagenicity (mam-mal cell test): Chromosome aberration:

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Product / Sub- stance name CAS / EC no.	Result	Exposure route	Metabolic activa- tion / Exposure	Species	Method / Guideline
Butylated hydroxy- toluene (BHT) 128-37-0 / 204-881- 4	Negative.	Intraperitoneal.	-	Mouse bone mar- row	Micronucleus test
Butylated hydroxy- toluene (BHT) 128-37-0 / 204-881- 4	Negative.	Oral	-	Rat bone marrow	Chromosome aber- ration:
Butylated hydroxy- toluene (BHT) 128-37-0 / 204-881- 4	Negative.	-	with and without metabolic activation	Salmonella typh- imurium	Ames test
Butylated hydroxy- toluene (BHT) 128-37-0 / 204-881- 4	Negative.	-	metabolic activation	rat hepatocytes	In vitro mammalian cell gene mutation test.

### **Aspiration hazard**

Based on available data, the classification criteria are not met.

## 11.2. Information on other hazards

No data available

## SECTION 12: Ecological information

### 12.1. Toxicity

#### **Acute fish toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Butylated hydroxytolu- ene (BHT) 128-37-0 / 204-881-4	LC50	5.3 mg/l	48 hours	Oryzias latipes (Red killi- fish)

#### **Acute algae toxicity**

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	ErC50	0.24 mg/l	72 hours	Pseudokirchneriella subcapitata (green algae)

## Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	EC50	0.48 mg/l	48 hours	Daphnia magna

## Micro-/macro organism toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	EC50	>10000 mg/l	3 hours	Activated sludge.

## Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	EC50	0.096 mg/l	21 days	Daphnia magna
Butylated hydroxytoluene (BHT) 128-37-0 / 204-881-4	NOEC	>23.8 mg/l	70 days	Micropterus dolomieu

### 12.2. Persistence and degradability

No data available

### 12.3. Bioaccumulative potential

No data available

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## 12.4. Mobility in soil

No data available

## 12.5. Results of PBT and vPvB assessment

No data available

## 12.6. Endocrine disrupting properties

Under assessment as Endocrine Disrupting

## 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

## SECTION 14: Transport information

### 14.1. UN number

3077

### 14.2. UN proper shipping name

#### ADR / RID / ADN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Butylated hydroxytoluene (BHT))

#### IMDG proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Butylated hydroxytoluene (BHT))

#### IATA proper shipping name

Environmentally hazardous substance, solid, n.o.s. (Butylated hydroxytoluene (BHT))

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## 14.3. Transport hazard class(es)

### Label

ADR/RID/ADN



9 Environmental hazard

IMDG



9

IATA



9 Environmental hazard

### ADR / RID Class

9

### ADR / RID Classification code

M7

### ADR / RID hazard identification number

90

### IMDG Class

9

### IATA Class

9

### ADN Class

9

### ADN Class Code

M7

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## 14.4. Packing group

ADR / RID / ADN: III  
IMDG: III  
IATA: III

## 14.5. Environmental hazards

ADR/RID/ADN: Hazardous for the environment

### IMDG EmS

F-A, S-F

## 14.6. Special precautions for user

Tunnel restriction code: -  
Transport category: 3

## 14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC08

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### National regulations

Directive: 2012/18/EU : ENVIRONMENTAL HAZARDS

### 15.2. Chemical safety assessment

No data available

## SECTION 16: Other information

### Phrase meaning

Aquatic Chronic 1 - Hazardous to the aquatic environment — Chronic hazard category 1  
H410 Very toxic to aquatic life with long lasting effects.