According to Regulation (EC) No 1907/2006
According to Regulation (EC) No 2020/878

tert-Butylhydroquinone

Version number: 2.0
Issued: 2024-04-15
Replaces SDS: 2019-09-23

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

1.1. Product identifier

Trade name
tert-Butylhydroquinone

CAS number
1948-33-0

EC number
217-752-2

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

Relevant identified uses
Research and development. Laboratory Chemicals. Manufacture of substances.

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

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
+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number
0344 892 0111 - National Poisons Information Service (Newcastle Centre)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Acute toxicity, oral, hazard category 4
Acute toxicity, dermal, hazard category 4
Skin irritation, hazard category 2
Skin sensitisation, hazard category 1
Eye irritation, hazard category 2
Hazardous to the aquatic environment — Acute hazard category 1
Hazardous to the aquatic environment — Chronic hazard category 1

Hazard statements

H302, H312, H315, H317, H319, H400, H410

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Warning

Hazard statements

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing dust.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of water/.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
2-(2-Methyl-2-propanyl)-1,4-benzenediol	1948-33-0 217-752-2 - -	100%	Acute Tox. 4 - oral, Acute Tox. 4 - dermal, Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2, Aquatic Acute 1, Aquatic Chronic 1	H302 + H312, H315, H317, H319, H400, H410 - -	-

Molecular weight

166.22

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.

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: None.
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon dioxide (CO2). Carbon monoxide (CO).

Forms explosive mixtures with air on intense heating.

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.

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

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
2-(2-Methyl-2-propanyl)-1,4-benzenediol (1948-33-0/217-752-2)	DNEL	Chronic (long term) Inhalation	19.7 mg/m³	Workers	Systemic
2-(2-Methyl-2-propanyl)-1,4-benzenediol (1948-33-0/217-752-2)	DNEL	Chronic (long term) Dermal	20 mg/kg bw/day	Workers	Systemic

PNEC/PEC

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
2-(2-Methyl-2-propanyl)-1,4-benzenediol (1948-33-0/217-752-2)	PNEC	Freshwater	9.3 µg/l
2-(2-Methyl-2-propanyl)-1,4-benzenediol (1948-33-0/217-752-2)	PNEC	Marine water	9.3 µg/l
2-(2-Methyl-2-propanyl)-1,4-benzenediol (1948-33-0/217-752-2)	PNEC	Sediment	57.7 µg/kg sediment dw
2-(2-Methyl-2-propanyl)-1,4-benzenediol (1948-33-0/217-752-2)	PNEC	Intermittent releases	9.3 µg/l
2-(2-Methyl-2-propanyl)-1,4-benzenediol (1948-33-0/217-752-2)	PNEC	Sewage Treatment Plant	20 mg/l
2-(2-Methyl-2-propanyl)-1,4-benzenediol (1948-33-0/217-752-2)	PNEC	Soil	6.1 µg/kg soil dry weight

8.2. Exposure controls

Personal Protective Equipment Symbols

Eye / face protection

Wear eye protection. Eye glasses with side 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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state
Powder.

Colour
White.

Odour
Characteristic.

Melting point / freezing point
125 - 130 °C

Boiling point or initial boiling point and boiling range
No data available

Flammability
No data available

Lower and upper explosion limit
No data available

Flash point
No data available

Auto-ignition temperature
No data available

Decomposition temperature
No data available

pH
No data available

Kinematic viscosity
No data available

Solubility
Not soluble in water.

Partition coefficient n-octanol/water
No data available

Vapour pressure
No data available

Density and/or relative density
0.78 g/cm³

Relative vapour density
No data available

Explosive properties
Not classified as explosive.

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.
The following applies in general to flammable organic substances and mixtures: when finely distributed, the risk of a dust explosion may be assumed.

10.2. Chemical stability
Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Strong oxidising agents.

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

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Test animals	Remarks
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	Acute Toxicity (Oral LD50):	700mg/kg	Rat	(External MSDS)
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	Acute Toxicity (Dermal LD50):	700 - 1,000mg/kg	Guinea Pig	(ECHA)

Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species	Other
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	Skin irritation.	48 hours	Guinea Pig	(ECHA)

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species	Other
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	Causes serious eye irritation.	14 days	Rabbit	(ECHA)

Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Test type	Other
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	Positive.	In-vitro	(ECHA)

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	Remark
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	LC50	0.3 - 0.5mg/l	96 hours	Brachydanio rerio (Zebra Fish)	(External MSDS)

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Remark
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	ErC50	9.3mg/l	72 hours	Desmodesmus subspicatus (green algae)	(External MSDS)

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Remark
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	EC50	0.57mg/l	48 hours	Daphnia magna	(External MSDS)

12.2. Persistence and degradability

Persistence and degradability

Product / Substance name CAS / EC no.	Result	Degradation	Remark
2-(2-Methyl-2-propanyl)-1,4-benzenediol 1948-33-0 / 217-752-2	The product is biodegradable.	52.91%	(External MSDS)

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

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. (tert-Butylhydroquinone)

IMDG proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tert-Butylhydroquinone)

IATA proper shipping name

Environmentally hazardous substance, solid, n.o.s. (tert-Butylhydroquinone)

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

14.4. Packing group
ADR / RID / ADN: III
IMDG: III
IATA: III

14.5. Environmental hazards
Environmental hazards
ADR/RID/ADN: Hazardous for the environment

14.6. Special precautions for user
Special precautions for user
Tunnel restriction code: -
Transport category: 3

IMDG EmS
F-A, S-F

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.
This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

National regulations
No data available

15.2. Chemical safety assessment
No data available

SECTION 16: Other information

Phrase meaning

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4
Acute Tox. 4 - dermal - Acute toxicity, dermal, hazard category 4
Skin Irrit. 2 - Skin irritation, hazard category 2
Skin Sens. 1 - Skin sensitisation, hazard category 1
Eye Irrit. 2 - Eye irritation, hazard category 2
Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1
Aquatic Chronic 1 - Hazardous to the aquatic environment — Chronic hazard category 1
H302 Harmful if swallowed.
H302 + H312 Harmful if swallowed or in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.