

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

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

1.1 Product identifier

Identification of the substance	Tert-butyl-4-methoxyphenol
Registration number (REACH)	this information is not available
CAS number	25013-16-5
Article number	A0039607

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

Relevant identified uses	General use
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1.3 Details of the supplier of the safety data sheet

Chemos GmbH & Co. KG
Sonnenring 7
84032 Altdorf
Germany

Telephone: +49 871-966346-0
Telefax: +49 871-966346-13
e-mail: chemos@chemos.de
Website: <http://www.chemos.de/>

e-mail (competent person) chemos@chemos.de

1.4 Emergency telephone number

Emergency information service +49 89 1 92 40

Poison centre				
Country	Name	Postal code/ city	Telephone	Telefax
United Kingdom	National Poison Information Centre Medical Toxicology Unit	SE14 5ER Lon- don	+44 171 635 91 91	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.6	carcinogenicity	2	Carc. 2	H351
3.7	reproductive toxicity	2	Repr. 2	H361
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16.

Tert-butyl-4-methoxyphenolVersion number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

The most important adverse physicochemical, human health and environmental effects
Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word warning

- Pictograms

GHS07, GHS08, GHS09



- Hazard statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.

- Precautionary statements

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.
P501	Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Name of substance	tert-butyl-4-methoxyphenol
Identifiers	
CAS No	25013-16-5
EC No	246-563-8
Molecular formula	C ₁₁ H ₁₆ O ₂
Molar mass	180.2 g _{mol}

SECTION 4: First aid measures**4.1 Description of first aid measures**

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Following skin contact

Rinse skin with water/shower.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, ABC-powder

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Deposited combustible dust has considerable explosion potential.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains, Take up mechanically

Advice on how to clean up a spill

Take up mechanically.

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Other information relating to spills and releases
Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Ventilation requirements

Use local and general ventilation.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
GB	dust		WEL		10					i	EH40/2005
GB	dust		WEL		4					r	EH40/2005

Notation

Ceiling-C

i

r

STEL

ceiling value is a limit value above which exposure should not occur

inhalable fraction

respirable fraction

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Notation

TWA time-weighted average (long-term exposure limit); measured or calculated in relation to a reference period of 8 hours
time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

In the case of wanting to use the gloves again, clean them before taking off and air them well.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

Particulate filter device (EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	solid
Colour	white - colourless
Particle size	75 – 1,000 µm
Odour	characteristic

Other safety parameters

pH (value)	not applicable
Melting point/freezing point	≥57 – ≤59 °C at 977 hPa
Initial boiling point and boiling range	>240 °C at 980.2 hPa
Flash point	116.6 °C at 981 hPa
Evaporation rate	not determined
Flammability (solid, gas)	this material is combustible, but will not ignite readily

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Explosion limits of dust clouds	not determined
Vapour pressure	0.311 Pa at 25 °C
Density	0.69 g/cm ³ at 28.6 °C
Vapour density	this information is not available

Solubility(ies)

- Water solubility	610 mg/l at 29 °C
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Partition coefficient

- n-octanol/water (log KOW)	2.82 (25 °C) (ECHA)
- Soil organic carbon/water (log KOC)	3.145 (ECHA)

Auto-ignition temperature	not determined
Viscosity	not relevant (solid matter)
Explosive properties	none
Oxidising properties	none

9.2 Other information

Solid content	100 %
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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if swallowed.

GHS of the United Nations, annex 4: May be harmful in contact with skin.

- Acute toxicity estimate (ATE)

Oral 1,100 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Suspected of damaging the unborn child. Suspected of damaging fertility.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Process of degradability		
Process	Degradation rate	Time
oxygen depletion	34.41 %	28 d

12.3 Bioaccumulative potential

Data are not available.

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

n-octanol/water (log KOW)	2.82 (25 °C) (ECHA)
BCF	≥16 – ≤21 (ECHA)

12.4 Mobility in soil

Henry's law constant	0.009 Pa m ³ /mol at 25 °C
The Organic Carbon normalised adsorption coefficient	3.145 (ECHA)

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number	3077
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Technical name	tert-butyl-4-methoxyphenol
14.3 Transport hazard class(es)	
Class	9 (environmentally hazardous)
14.4 Packing group	III (substance presenting low danger)
14.5 Environmental hazards	hazardous to the aquatic environment
14.6 Special precautions for user	
	Provisions for dangerous goods (ADR) should be complied within the premises.
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	
	The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class	9
Classification code	M7
Packing group	III
Danger label(s)	9, fish and tree



Environmental hazards	YES (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90
Emergency Action Code	2Z

International Maritime Dangerous Goods Code (IMDG)

UN number	3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class	9
Marine pollutant	YES (hazardous to the aquatic environment)
Packing group	III
Danger label(s)	9, fish and tree



Special provisions (SP)	274, 335, 966, 967, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-F
Stowage category	A


International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Class	9
Environmental hazards	YES (hazardous to the aquatic environment)

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Packing group	III
Danger label(s)	9, fish and tree
	
Special provisions (SP)	A97, A158, A179, A197
Exempted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Relevant provisions of the European Union (EU)

Deco-Paint Directive (2004/42/EC)

VOC content	100 %
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15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.1	Identification of the substance: 3(2)-tert-Butyl-4-hydroxyanisole	Identification of the substance: Tert-butyl-4-methoxyphenol	yes
1.4	Emergency information service: This number is only available during the following office hours: Mon - Thu 08:00 AM - 05:00 PM, Fri 08:00 AM - 12:00 PM	Emergency information service: +49 89 1 92 40	yes
1.4		Poison centre: change in the listing (table)	yes
2.1		Classification according to Regulation (EC) No 1272/2008 (CLP): change in the listing (table)	yes
2.2		- Hazard statements: change in the listing (table)	yes
2.2		- Precautionary statements: change in the listing (table)	yes
3.1	Name of substance: 3(2)-tert-Butyl-4-hydroxyanisole	Name of substance: tert-butyl-4-methoxyphenol	yes
3.1		EC No: 246-563-8	yes
5.2	Hazardous combustion products: Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)	Hazardous combustion products: Carbon monoxide (CO), Carbon dioxide (CO2)	yes
9.1	Colour: white	Colour: white - colourless	yes
9.1		Particle size: 75 - 1,000 µm	yes

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
9.1	Melting point/freezing point: 48 – 55 °C	Melting point/freezing point: ≥57 – ≤59 °C at 977 hPa	yes
9.1	Initial boiling point and boiling range: 264 – 270 °C	Initial boiling point and boiling range: >240 °C at 980.2 hPa	yes
9.1	Flash point: 113 °C	Flash point: 116.6 °C at 981 hPa	yes
9.1	Vapour pressure: not determined	Vapour pressure: 0.311 Pa at 25 °C	yes
9.1	Density: not determined	Density: 0.69 g/cm ³ at 28.6 °C	yes
9.1	Relative density: information on this property is not available		yes
9.1	Solubility(ies): not determined	Solubility(ies)	yes
9.1		Water solubility: 610 mg/l at 29 °C	yes
9.1	- n-octanol/water (log KOW): this information is not available	- n-octanol/water (log KOW): 2.82 (25 °C) (ECHA)	yes
9.1		Soil organic carbon/water (log KOC): 3.145 (ECHA)	yes
11.1	Acute toxicity: Harmful if swallowed.	Acute toxicity: Harmful if swallowed.GHS of the United Nations, annex 4: May be harmful in contact with skin.	yes
11.1		- Acute toxicity estimate (ATE): change in the listing (table)	yes
11.1	Skin corrosion/irritation: Shall not be classified as corrosive/irritant to skin.	Skin corrosion/irritation: Causes skin irritation.	yes
11.1	Reproductive toxicity: Shall not be classified as a reproductive toxicant.	Reproductive toxicity: Suspected of damaging the unborn child. Suspected of damaging fertility.	yes
11.1	Specific target organ toxicity - single exposure: May cause respiratory irritation.	Specific target organ toxicity - single exposure: Shall not be classified as a specific target organ toxicant (single exposure).	yes
12.2	Persistence and degradability: Data are not available.	Persistence and degradability	yes
12.2		Process of degradability: change in the listing (table)	yes
12.3		n-octanol/water (log KOW): 2.82 (25 °C) (ECHA)	yes
12.3		BCF: ≥16 – ≤21 (ECHA)	yes
12.4	Mobility in soil: Data are not available.	Mobility in soil	yes
12.4		Henry's law constant: 0.009 Pa m ³ /mol at 25 °C	yes
12.4		The Organic Carbon normalised adsorption coefficient: 3.145 (ECHA)	yes

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.2		Technical name: tert-butyl-4-methoxyphenol	yes
15.1		Relevant provisions of the European Union (EU)	yes
15.1		Deco-Paint Directive (2004/42/EC)	yes
15.1		VOC content: 100 %	yes
16		Abbreviations and acronyms: change in the listing (table)	yes
16		List of relevant phrases (code and full text as stated in chapter 2 and 3): change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

Tert-butyl-4-methoxyphenol

Version number: GHS 2.0
Replaces version of: 2019-05-21 (GHS 1)

Revision: 2019-09-27

Abbr.	Descriptions of used abbreviations
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.