

**2,6-di-tert-butyl- $\alpha$ -dimethylamino-p-cresol**

Version number: GHS 9.0  
Replaces version of: 2023-03-15 (GHS 8)

Revision: 2024-06-24

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Identification of the substance	<b>2,6-di-tert-butyl-<math>\alpha</math>-dimethylamino-p-cresol</b>
CAS number	88-27-7
Alternative name(s)	2,6-di-tert-butyl-4-[(dimethylamino)methyl]phenol, IONOL 103, ETHANOX 4703 (ALBEMARLE), IONOL 103 (OXIRIS)
Article number	A0011161

**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 London	+44 171 635 91 91	

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.4S	skin sensitisation	1B	Skin Sens. 1B	H317
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16.

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

## 2.2 Label elements

## Labelling

- Signal word
- Pictograms



### - Hazard statements

H302 Harmful if swallowed.  
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/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P333+P313 If skin irritation or rash 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.  
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 2,6-di-tert-butyl- $\alpha$ -dimethylamino-p-cresol  
Identifiers  
CAS No 88-27-7  
EC No 201-816-1

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	-	515 mg/kg	oral

Molecular formula	C17H29NO
Molar mass	263.4 g/mol

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**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. Provide fresh air.

**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, Alcohol resistant 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

Nitrogen oxides (NOx), 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.

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**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.

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.

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### 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/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
GB	dust		WEL		10					i	EH40/2005
GB	dust		WEL		4					r	EH40/2005

#### Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
i	inhalable fraction
r	respirable fraction
STEL	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)
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)

#### Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	2.11 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	19.75 µg/cm²	human, dermal	worker (industry)	acute - local effects
DNEL	0.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
DNEL	19.75 µg/cm²	human, dermal	worker (industry)	chronic - local effects

#### Environmental values

Relevant PNECs and other threshold levels				
Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.072 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.007 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	0.008 mg/kg	terrestrial organisms	soil	short-term (single instance)
PNEC	0.3 µg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	0.3 µg/l	aquatic organisms	water	intermittent release
PNEC	0.03 µg/l	aquatic organisms	marine water	short-term (single instance)

#### 8.2 Exposure controls

##### Appropriate engineering controls

General ventilation.

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**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**

Physical state	solid
Colour	light yellow
Odour	characteristic
Melting point/freezing point	93.9 °C
Boiling point or initial boiling point and boiling range	336.8 °C
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not relevant (solid)
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not applicable
Kinematic viscosity	not relevant

**Solubility(ies)**

Water solubility	8,840 mg/l at 20 °C
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**Partition coefficient**

Partition coefficient n-octanol/water (log value)	4.24 (ECHA)
Soil organic carbon/water (log KOC)	4.257 (ECHA)

Vapour pressure	0.00226 Pa at 25 °C
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**Density and/or relative density**

Density	not determined
Relative vapour density	not relevant (solid)

**Particle characteristics**

Particle size	661.4 $\mu$ m
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**9.2 Other information**

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
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**Other safety characteristics**

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.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Classification acc. to GHS**

Acute toxicity

Harmful if swallowed.

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

- Acute toxicity estimate (ATE)

Oral 515 mg/kg

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

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.

**11.2 Information on other hazards**

There is no additional information.

**SECTION 12: Ecological information****12.1 Toxicity**

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LC50	1.346 mg/l	fish	96 h
EC50	0.644 mg/l	algae	96 h

**12.2 Persistence and degradability**

Data are not available.

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**12.3 Bioaccumulative potential**

The substance fulfils the very bioaccumulative criterion.

n-octanol/water (log KOW)	4.24 (ECHA)
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**12.4 Mobility in soil**

The Organic Carbon normalised adsorption coefficient	4.257 (ECHA)
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**12.5 Results of PBT and vPvB assessment**

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

**12.6 Endocrine disrupting properties**

Information on this property is not available.

**12.7 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 or ID number**

ADR/RID	UN 3077
IMDG-Code	UN 3077
ICAO-TI	UN 3077

**14.2 UN proper shipping name**

ADR/RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
ICAO-TI	Environmentally hazardous substance, solid, n.o.s.
Technical name	2,6-di-tert-butyl- $\alpha$ -dimethylamino-p-cresol

**14.3 Transport hazard class(es)**

ADR/RID	9
IMDG-Code	9

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ICAO-TI 9

**14.4 Packing group**

ADR/RID III

IMDG-Code III

ICAO-TI III

**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 Maritime transport in bulk according to IMO instruments**

The cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations****Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information**

Classification code M7

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

**Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information**

Classification code M7

Danger label(s) 9, fish and tree



Environmental hazards yes (hazardous to water)

Special provisions (SP) 274, 335, 375, 601

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 kg

Transport category (TC) 3

Hazard identification No 90

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### International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant yes (hazardous to the aquatic environment) (2,6-di-tert-butyl- $\alpha$ -dimethylamino-p-cresol)

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) - Additional information

Environmental hazards yes (hazardous to the aquatic environment)

Danger label(s) 9, fish and tree



Special provisions (SP) A97, A158, A179, A197

Excepted 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

### 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
9.1	Lower and upper explosion limit: not determined	Lower and upper explosion limit: not relevant (solid)	yes
9.1	Relative vapour density: information on this property is not available	Relative vapour density: not relevant (solid)	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value

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Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
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 ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
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
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
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
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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

Code	Text
H302	Harmful if swallowed.
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.

**Disclaimer**

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