according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



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Butylated hydroxytoluene ROTICHROM® Working standard

article number: **NC05** Version: **4.0 en** Replaces version of: 2022-03-15 Version: (3)

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

1.1 Product identifier

Identification of the substance

Article number

Registration number (REACH)

Butylated hydroxytoluene ROTICHROM® Working standard

NC05

204-881-4

128-37-0

It is not required to list the identified uses because the substance is not subject to registration according to REACH (< 1 t/a).

EC number CAS number

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

Relevant identified uses:

Laboratory chemical Laboratory and analytical use

Uses advised against:

Do not use for private purposes (household). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data Department Health, Safety and Environment sheet:

e-mail (competent person):

sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Centre Beaumont Hospital	Beaumont Road	Dublin 9	+353 1 809 2166	https:// www.poisons.ie/

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

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

Section	Hazard class		Hazard class and category	Hazard statement
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

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	
GHS09	₩
Hazard stateme	nts
H410	Very toxic to aquatic life with long lasting effects
Precautionary s	tatements
Precautionary s	tatements - prevention
P273	Avoid release to the environment
Precautionary s	tatements - response
P391	Collect spillage
Labelling of package Signal word: Warning Symbol(s)	es where the contents do not exceed 125 ml g
×	
Other hazards	
Results of PBT a	nd vPvB assessment
According to the	results of its assessment, this substance is not a PBT or a vPvB.
Endocrine disru	pting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

2.3

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

SECTION 3: Composition/information on ingredients

3.1	Substances	
	Name of substance	Butylated hydroxytoluene
	Molecular formula	$C_{15}H_{24}O$
	Molar mass	220,4 ^g / _{mol}
	CAS No	128-37-0
	EC No	204-881-4

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

In case of respiratory tract irritation, consult a physician.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Irrigate copiously with clean, fresh water, holding the eyelids apart. Protect uninjured eye.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

co-ordinate firefighting measures to the fire surroundings! water, foam, dry extinguishing powder, ABC-powder

Unsuitable extinguishing media

water jet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

5.2 Special hazards arising from the substance or mixture

Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe dust.

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. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal.

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

Provision of sufficient ventilation. Avoid dust formation.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage.

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

Control parameters 8.1

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

	Coun try	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m ³]	Nota- tion	Source
of 20	IE	2,6-di-tert-butyl-p-cresol	128-37-0	OELV	2				S.I. No. 619 of 2001

Ceiling-C Ceiling value is a limit value above which exposure should not occur

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) 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) STEL TWA

Human health values

Relevant DN	Relevant DNELs and other threshold levels							
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time				
DNEL	19 mg/kg bw/ day	human, dermal	worker (industry)	acute - systemic effects				
DNEL	18 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects				
DNEL	3,5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects				
DNEL	0,5 mg/kg bw/ day	human, dermal	worker (industry)	chronic - systemic effects				

Environmental values

Relevant PNECs and other threshold levels							
End- point	Threshold level	Organism	Environmental com- partment	Exposure time			
PNEC	8,33 ^{mg} / _{kg}	aquatic organisms	water	short-term (single instance)			
PNEC	1,99 ^{µg} / _l	aquatic organisms	water	intermittent release			
PNEC	0,199 ^{µg} / _l	aquatic organisms	freshwater	short-term (single instance)			
PNEC	0,02 ^{µg} / _l	aquatic organisms	marine water	short-term (single instance)			
PNEC	0,17 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)			

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

Relevant PNECs and other threshold levels								
End- point	Threshold level	Organism	Environmental com- partment	Exposure time				
PNEC	99,6 ^{µg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single instance)				
PNEC	9,96 ^{µg} / _{kg}	aquatic organisms	marine sediment	short-term (single instance)				
PNEC	47,69 ^{µg} / _{kg}	terrestrial organisms	soil	short-term (single instance)				

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a consider-able reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

Butyl caoutchouc (butyl rubber)

material thickness

0,5 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

Environmental exposure controls

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
Form	crystals
Colour	white
Odour	odourless
Melting point/freezing point	69 – 71 °C
Boiling point or initial boiling point and boiling range	265 °C at 1.013 hPa
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	127 °C (c.c.)
Auto-ignition temperature	not determined
Decomposition temperature	320 °C
pH (value)	not applicable
Kinematic viscosity	not relevant
Solubility(ies)	
Water solubility	0,4 ^g / _l at 20 °C (practically insoluble)
Partition coefficient	
Partition coefficient n-octanol/water (log value):	5,1 (ECHA)
Soil organic carbon/water (log KOC)	4,169 (ECHA)
Vapour pressure	0,011 hPa at 20 °C
Density and/or relative density	
Density	1,03 ^g / _{cm³} at 20 °C (ECHA)
Relative vapour density	7,61 (air = 1)
Bulk density	~450 ^{kg} / _{m³}
Particle characteristics	No data available.
Other safety parameters	
Oxidising properties	none

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

9.2 Other information

Information with regard to physical hazard classes:

Other safety characteristics:

Temperature class (EU, acc. to ATEX)

hazard classes acc. to GHS (physical hazards): not relevant

T2 Maximum permissible surface temperature on the equipment: 300°C

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: 320 °C.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

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

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity						
Exposure route	Endpoint	Value	Species	Method	Source	
oral	LD50	>6.000 ^{mg} / _{kg}	rat		ECHA	
dermal	LD50	>2.000 ^{mg} / _{kg}	rat		ECHA	

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

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.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

Data are not available.

• If in eyes

slightly irritant but not relevant for classification

• If inhaled

Inhalation of dust may cause irritation of the respiratory system

• If on skin

Frequently or prolonged contact with skin may cause dermal irritation

Other information

none

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of \ge 0,1%.

11.3 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	Source	Exposure time			
LC50	>0,57 ^{mg} / _l	fish	ECHA	96 h			
EC50	0,48 ^{mg} / _l	aquatic invertebrates	ECHA	48 h			
ErC50	>0,4 ^{mg} / _l	algae	ECHA	72 h			

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

Aquatic toxicity (chronic)						
Endpoint	Value	Species	Source	Exposure time		
EC50	0,096 ^{mg} / _l	aquatic invertebrates	ECHA	21 d		

12.2 Persistence and degradability

Theoretical Oxygen Demand: 2,977 ^{mg}/_{mg} Theoretical Carbon Dioxide: 2,996 ^{mg}/_{mg}

Biodegradation

Not readily biodegradable.

Process of degradability		
Process	Degradation rate	Time
biotic/abiotic	<10 %	20 d

12.3 Bioaccumulative potential

The substance fulfils the very bioaccumulative criterion.

n-octanol/water (log KOW)	5,1 (ECHA)	
BCF	598,4	

12.4 Mobility in soil

Henry's law constant	318,9 ^{Pa m³} / _{mol} at 25 °C (ECHA)
The Organic Carbon normalised adsorption coefficient	4,169 (ECHA)

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

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

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

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

Waste treatment of containers/packagings

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

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Properties of waste which render it hazardous

HP 14 ecotoxic

13.3 Remarks

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

SECTION 14: Transport information

14.1 UN number or ID number

1-7.1				
	ADRRID	UN 3077		
	IMDG-Code	UN 3077		
	ICAO-TI	UN 3077		
14.2	UN proper shipping name			
	ADRRID	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	Butylated hydroxytoluene		
14.3	Transport hazard class(es)			
	ADRRID	9		
	IMDG-Code	9		
	ICAO-TI	9		
14.4	Packing group			
	ADRRID	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			

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.

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

14.8 Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Particulars in the transport document	UN3077, ENVIRONMENTALLY HAZARDOUS SUB- STANCE, SOLID, N.O.S., (Butylated hydroxytolu- ene), 9, III, (-)
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
Regulations concerning the International Carr information	iage of Dangerous Goods by Rail (RID)Additional
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

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping nameENVIRONMENTALLY HAZARDOUS SUBSTANCE,
SOLID, N.O.S.Particulars in the shipper's declarationUN3077, ENVIRONMENTALLY HAZARDOUS SUB-
STANCE, SOLID, N.O.S., (Butylated hydroxytolu-
ene), 9, IIIMarine pollutantYes (hazardous to the aquatic environment), (Butylated hydroxytolu-
droxytoluene)

90

Hazard identification No

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05	
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
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Particulars in the shipper's declaration	UN3077, Environmentally hazardous substance, solid, n.o.s., (Butylated hydroxytoluene), 9, III
Environmental hazards	Yes (hazardous to the aquatic environment)
Danger label(s)	9, "Fish and tree"
Special provisions (SP)	A97, A158, A179, A197, A215
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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

not listed

List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

Not listed.

Seveso Directive

2012/18/EU (Seveso III)				
Νο	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements		
E1	environmental hazards (hazardous to the aquatic en- vironment, cat. 1)	100 200	56)	

Notation

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: **NC05**

Deco-Paint Directive	
VOC content	0 %
VOC content	0 ^g / _l

Industrial Emissions Directive (IED)

VOC content	0 %
VOC content	0 ^g / _l

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Butylated hydroxytoluene	Substances and preparations, or the breakdown products of such, which have been proved to pos- sess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine- related functions in or via the aquatic environment		a)	

Legend

a) Indicative list of the main pollutants

Regulation on the marketing and use of explosives precursors

not listed

Regulation on drug precursors

not listed

Regulation on substances that deplete the ozone layer (ODS)

not listed

Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

Regulation on persistent organic pollutants (POP)

not listed

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: NC05

National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

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- relev- ant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
14.8	Classification code: 9	Classification code: M7	yes
15.1	VOC content: 0 % 0 ⁹ /ا	VOC content: 0 %	yes

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: **NC05**

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
15.1		VOC content: 0 ^g / _l	yes
15.1		National inventories: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations	
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concern- ing 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)	
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 identi- fier of substances commercially available within the EU (European Union)	
ED	Endocrine disruptor	
EINECS	European Inventory of Existing Commercial Chemical Substances	
ELINCS	European List of Notified Chemical Substances	
EmS	Emergency Schedule	
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control	
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na- tions	
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	
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval	
NLP	No-Longer Polymer	
PBT	Persistent, Bioaccumulative and Toxic	

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Butylated hydroxytoluene ROTICHROM® Working standard

article number: **NC05**

Abbr.	Descriptions of used abbreviations
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)
S.I. No. 619 of 2001	Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

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 2020/878/EU.

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).

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

Code	Text
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.