

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

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

### 1.1 Product identifier

Product name : WOLFRACOAT C

Article-No. : 099113

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

Use of the Substance/Mixture : Lubricant

Recommended restrictions on use : Restricted to professional users.

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

Company : Klüber Lubrication München GmbH & Co. KG  
Geisenhausenerstr. 7  
81379 München  
Deutschland  
Tel.: +49 (0) 89 7876 0  
Fax: +49 (0) 89 7876 333  
info@klueber.com

E-mail address of person responsible for the SDS : mcm@klueber.com

National contact : Klüber Lubrication Deutschland GmbH & Co. KG  
Geisenhausenerstraße 7  
81379 München  
Deutschland  
Tel.: +49 (0) 89 7876 0  
Fax: +49 (0) 89 7876 565  
customer.service.de@klueber.com

### 1.4 Emergency telephone number

Emergency telephone number : +49 89 7876 700 (24 hrs)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Short-term (acute) aquatic hazard, H400: Very toxic to aquatic life.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE

**KLÜBER**  
LUBRICATION

## WOLFRACOAT C

Version	Revision Date:	Date of last issue:	Print Date:
5.4	24.06.2024	13.06.2023 Date of first issue: 20.05.2016	24.06.2024

Category 1

Long-term (chronic) aquatic hazard,  
Category 1

H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P273 Avoid release to the environment.  
**Response:**  
P391 Collect spillage.

#### Additional Labelling

EUH208 Contains N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)  
. May produce an allergic reaction.

EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

Chemical nature : Synthetic hydrocarbon oil  
silicate  
solid lubricant

#### Components

Chemical name	CAS-No. EC-No.  Index-No. Registration number	Classification	specific concentration limit M-Factor Notes Acute toxicity estimate	Concentration (% w/w)
copper flakes (coated with aliphatic acid)	7440-50-8  029-019-01-X 01-2119480154-42- XXXX	Acute Tox.4; H302 Acute Tox.3; H331 Eye Irrit.2; H319 Aquatic Acute1; H400 Aquatic Chronic1; H410	M-Factor: 10/10  ATE (Oral): 500 mg/kg; ATE (Inhalation): 0,733 mg/l;	>= 2,5 - < 10
Amines, N-C16-C18- alkyl-(evennumbered, C18 unsaturated) propane-1,3- diaminium di[(9Z)- octadec-9-enoate]	800-362-7  01-2119974117-33- XXXX	Skin Irrit.2; H315 Eye Irrit.2; H319 STOT RE2; H373 Aquatic Acute1; H400 Aquatic Chronic2; H411	M-Factor: 10/1	>= 1 - < 2,5
N,N-bis(2-ethylhexyl)- 5-methyl-1H- benzotriazole-1- methylamine, N,N- bis(2-ethylhexyl)-4- methyl-1H- benzotriazole-1- methylamine, 2H- Benzotriazole-2- methanamine, N,N- bis(2-ethylhexyl)-4- methyl-, 2H- Benzotriazole-2-	939-700-4  01-2119982395-25- XXXX	Skin Irrit.2; H315 Skin Sens.1B; H317 Aquatic Acute1; H400 Aquatic Chronic2; H411	M-Factor: 1/	>= 0,1 - < 0,25

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)				
Substances with a workplace exposure limit :				
Graphite (synthetic)	7782-42-5 231-955-3  01-2119486977-12-XXXX	Not classified		$\geq 1 - < 10$
aluminium powder (stabilised)	7429-90-5 231-072-3  013-002-00-1 01-2119529243-45-XXXX	Flam. Sol.1; H228	Note T	$\geq 1 - < 10$
titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter $\leq 10 \mu\text{m}$ ]	13463-67-7 236-675-5  01-2119489379-17-XXXX	Not classified		$\geq 1 - < 10$

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- |                         |  |
|-------------------------|--|
| If inhaled              | : Take victim immediately to hospital.<br>Remove person to fresh air. If signs/symptoms continue, get medical attention.<br>Keep patient warm and at rest.<br>If unconscious, place in recovery position and seek medical advice.<br>Keep respiratory tract clear.<br>If breathing is irregular or stopped, administer artificial respiration. |
| In case of skin contact | : Take off all contaminated clothing immediately.<br>Wash off immediately with soap and plenty of water.<br>Get medical attention immediately if irritation develops and persists.<br>Wash clothing before reuse.  |

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Thoroughly clean shoes before reuse.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.  
If eye irritation persists, consult a specialist.

If swallowed : Move the victim to fresh air.  
If accidentally swallowed obtain immediate medical attention.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.  
Do not induce vomiting without medical advice.  
Never give anything by mouth to an unconscious person.

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

Symptoms : Inhalation may provoke the following symptoms:  
Nausea

Risks : May cause an allergic skin reaction.

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

Treatment : Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

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

Hazardous combustion products : Carbon oxides  
Nitrogen oxides (NOx)  
Metal oxides

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

Further information : Standard procedure for chemical fires.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

### SECTION 6: Accidental release measures

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

Personal precautions : Evacuate personnel to safe areas.  
Ensure adequate ventilation.  
Do not breathe vapours, aerosols.  
Refer to protective measures listed in sections 7 and 8.

#### 6.2 Environmental precautions

Environmental precautions : Do not allow contact with soil, surface or ground water.  
If the product contaminates rivers and lakes or drains inform  
respective authorities.

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

Methods for cleaning up : Pick up and transfer to properly labelled containers.

#### 6.4 Reference to other sections

For personal protection see section 8.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours or spray mist.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Persons with a history of skin sensitisation problems or  
asthma, allergies, chronic or recurrent respiratory disease  
should not be employed in any process in which this mixture is  
being used.  
Smoking, eating and drinking should be prohibited in the  
application area.  
Wash hands and face before breaks and immediately after  
handling the product.  
Do not get in eyes or mouth or on skin.  
Do not get on skin or clothing.  
Do not ingest.  
Do not repack.  
Do not re-use empty containers.  
These safety instructions also apply to empty packaging which  
may still contain product residues.  
Keep container closed when not in use.  
Avoid inhalation of vapour or mist.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Do not use in areas without adequate ventilation.  
In case of insufficient ventilation, wear suitable respiratory equipment.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Wash hands and face before breaks and immediately after handling the product.  
Do not get in eyes or mouth or on skin.  
Do not get on skin or clothing.  
Do not ingest.  
Do not repack.  
These safety instructions also apply to empty packaging which may still contain product residues.  
Keep container closed when not in use.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

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

Requirements for storage areas and containers : Store in original container. Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with the particular national regulations. Keep in properly labelled containers.

Storage class (TRGS 510) : 11, Combustible Solids

### 7.3 Specific end use(s)

Specific use(s) : Specific instructions for handling, not required.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
copper flakes (coated with aliphatic acid)	7440-50-8	MAK (measured as the alveolate fraction)	0,01 mg/m <sup>3</sup>	DE DFG MAK (2023-07-01)
Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed				
Graphite	7782-42-5	MAK (measured	0,3 mg/m <sup>3</sup>	DE DFG MAK

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version 5.4      Revision Date: 24.06.2024      Date of last issue: 13.06.2023      Print Date: 24.06.2024  
Date of first issue: 20.05.2016

(synthetic)		as the alveolate fraction)		(2023-07-01)
	Further information: Substances that cause cancer in humans or animals or that are considered to be carcinogenic for humans and for which a MAK value can be derived., Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
		MAK (inhalable fraction)	4 mg/m3	DE DFG MAK (2023-07-01)
	Further information: Substances that cause cancer in humans or animals or that are considered to be carcinogenic for humans and for which a MAK value can be derived., Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
		AGW (Inhalable fraction)	10 mg/m3	DE TRGS 900 (2014-04-02)
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Alveolate fraction)	1,25 mg/m3	DE TRGS 900 (2014-04-02)
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		BM (Alveolar dust fraction)	0,5 mg/m3	DE TRGS 527 (2020-02-19)
aluminium powder (stabilised)	7429-90-5	AGW (Inhalable fraction)	10 mg/m3	DE TRGS 900 (2014-04-02)
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Alveolate fraction)	1,25 mg/m3	DE TRGS 900 (2014-04-02)
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		BM (Alveolar dust fraction)	0,5 mg/m3	DE TRGS 527 (2020-02-19)
titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]	13463-67-7	MAK (measured as the alveolate fraction)	0,3 mg/m3	DE DFG MAK (2023-07-01)
	Further information: Substances that cause cancer in humans or animals or that are considered to be carcinogenic for humans and for which a MAK value			



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACAT C

Version 5.4      Revision Date: 24.06.2024      Date of last issue: 13.06.2023      Print Date: 24.06.2024  
Date of first issue: 20.05.2016

	can be derived., Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
		AGW (Inhalable fraction)	10 mg/m <sup>3</sup> (Titanium dioxide)	DE TRGS 900 (2014-04-02)
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Alveolate fraction)	1,25 mg/m <sup>3</sup> (Titanium dioxide)	DE TRGS 900 (2014-04-02)
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		BM (Alveolar dust fraction)	0,5 mg/m <sup>3</sup>	DE TRGS 527 (2020-02-19)

### Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
aluminium powder (stabilised)	7429-90-5	Aluminium: 50 µg/g creatinine (Urine)	end of shift, for long-term exposures after several previous shifts	DE DFG BAT (2023-07-01)
		Aluminium: 50 µg/g creatinine (Urine)	In case of long-term exposure: after more than one shift	TRGS 903 (2019-03-29)

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Benzene, mono-C10-13-alkyl derivs., distn. residues	Workers	Inhalation	Long-term systemic effects	2,2 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	3,15 mg/kg bw/day
Graphite (synthetic)	Workers	Inhalation	Long-term systemic effects	1,2 mg/m <sup>3</sup>
aluminium powder (stabilised)	Workers	Inhalation	Long-term systemic effects	3,72 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	3,72 mg/m <sup>3</sup>
Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]	Workers	Skin contact	Long-term systemic effects	0,04 mg/kg

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

	Workers	Inhalation	Long-term systemic effects	0,29 mg/m3
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### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Benzene, mono-C10-13-alkyl derivs., distn. residues	Fresh water	0,001 mg/l
	Intermittent use/release	0,001 mg/l
	Marine water	0 mg/l
	Microbiological Activity in Sewage Treatment Systems	2 mg/l
	Fresh water sediment	16,5 mg/kg
copper flakes (coated with aliphatic acid)	Marine sediment	1,65 mg/kg
	Soil	3,7 mg/kg
	Fresh water	0,0078 mg/l
	Marine water	0,0052 mg/l
	Fresh water sediment	87 mg/kg
Amines, N-C16-C18-alkyl- (evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]	Marine sediment	676 mg/kg
	Microbiological Activity in Sewage Treatment Systems	0,230 mg/l
	Soil	65,5 mg/kg
	Fresh water	0,00638 mg/l
	Marine water	0,000638 mg/l
	Intermittent use/release	0,00509 mg/l
	Microbiological Activity in Sewage Treatment Systems	98,6 mg/l
	Fresh water sediment	204 mg/kg
	Marine sediment	20,4 mg/kg
	Soil	9,93 mg/kg

## 8.2 Exposure controls

### Engineering measures

Handle only in a place equipped with local exhaust (or other appropriate exhaust).

### Personal protective equipment

Eye/face protection : Safety glasses

#### Hand protection

Material : Nitrile rubber  
Break through time : > 10 min  
Protective index : Class 1

Remarks : Wear protective gloves. The break through time depends amongst other things on the material, the thickness and the

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

- type of glove and therefore has to be measured for each case.  
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
- Respiratory protection : Not required; except in case of aerosol formation.
- Filter type : Filter type P
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state : paste
- Colour : grey
- Odour : characteristic
- Odour Threshold : No data available
- Melting point/range : No data available
- Boiling point/boiling range : No data available
- Flammability (solid, gas) : Combustible Solids, Not classified as a flammability hazard
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available
- Flash point : Not applicable
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version 5.4	Revision Date: 24.06.2024	Date of last issue: 13.06.2023 Date of first issue: 20.05.2016	Print Date: 24.06.2024
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pH	:	Not applicable
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	< 0,001 hPa (20 °C)
Relative density	:	1,01 (20 °C) Reference substance: Water The value is calculated
Density	:	1,01 g/cm <sup>3</sup> (20 °C)
Bulk density	:	No data available
Relative vapour density	:	No data available
Particle characteristics		
Particle size	:	Not applicable
Particle Size Distribution	:	Not applicable

### 9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	No data available
Self-ignition	:	No data available
Evaporation rate	:	No data available
Sublimation point	:	No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No hazards to be specially mentioned.

#### 10.2 Chemical stability

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

#### 10.4 Conditions to avoid

Conditions to avoid : No conditions to be specially mentioned.

#### 10.5 Incompatible materials

Materials to avoid : No materials to be especially mentioned.

#### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

### SECTION 11: Toxicological information

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

##### Acute toxicity

##### Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Remarks: Toxic by inhalation.

Acute toxicity estimate: > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : Symptoms: Redness, Local irritation

##### Components:

##### **copper flakes (coated with aliphatic acid):**

Acute oral toxicity : Acute toxicity estimate: 500 mg/kg  
Method: Acute toxicity estimate according to Regulation (EC)  
No. 1272/2008

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue:	Print Date:
5.4	24.06.2024	13.06.2023 Date of first issue: 20.05.2016	24.06.2024

LD50 (Rat): > 300 - 500 mg/kg  
Method: OECD Test Guideline 423  
GLP: yes

Acute inhalation toxicity : Acute toxicity estimate: 0,733 mg/l  
Test atmosphere: dust/mist  
Method: Acute toxicity estimate according to Regulation (EC)  
No. 1272/2008

Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Acute oral toxicity : LD50 (Rat): 3.313 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### Graphite (synthetic):

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 423  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 2.000 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

inhalation toxicity

### aluminium powder (stabilised):

Acute inhalation toxicity : LC50 (Rat): > 5,09 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute  
inhalation toxicity

### titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute inhalation toxicity : (Rat): > 5,09 mg/l  
Method: OECD Test Guideline 403  
GLP: no

### Skin corrosion/irritation

#### Product:

Remarks : This information is not available.

#### Components:

### copper flakes (coated with aliphatic acid):

Species : Rabbit  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
Result : No skin irritation  
GLP : yes

### Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Species : Rabbit  
Assessment : Irritating to skin.  
Result : Irritating to skin.

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Species : Rabbit  
Assessment : Irritating to skin.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Method : Draize Test  
Result : Irritating to skin.

### Graphite (synthetic):

Species : Rabbit  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
Result : No skin irritation

### aluminium powder (stabilised):

Species : Rabbit  
Assessment : No skin irritation  
Result : No skin irritation

### titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

Species : Rabbit  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
Result : No skin irritation  
GLP : no

### Serious eye damage/eye irritation

#### Product:

Remarks : This information is not available.

#### Components:

##### copper flakes (coated with aliphatic acid):

Assessment : Irritating to eyes.  
Result : Irritating to eyes.

##### Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Species : Rabbit  
Assessment : Irritating to eyes.  
Method : OECD Test Guideline 405  
Result : Irritating to eyes.

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	Draize Test
Result	:	No eye irritation

### Graphite (synthetic):

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

### aluminium powder (stabilised):

Species	:	Rabbit
Assessment	:	No eye irritation
Result	:	No eye irritation

### titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter $\leq 10 \mu\text{m}$ ]:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

### Respiratory or skin sensitisation

#### Product:

Remarks	:	This information is not available.
---------	---	------------------------------------

#### Components:

##### copper flakes (coated with aliphatic acid):

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	Did not cause sensitisation on laboratory animals.
Result	:	Did not cause sensitisation on laboratory animals.

##### Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:

Assessment	:	Does not cause skin sensitisation.
Result	:	Does not cause skin sensitisation.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	The product is a skin sensitiser, sub-category 1B.
Method	:	OECD Test Guideline 406
Result	:	The product is a skin sensitiser, sub-category 1B.

### Graphite (synthetic):

Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	negative

### aluminium powder (stabilised):

Species	:	Guinea pig
Assessment	:	Did not cause sensitisation on laboratory animals.
Result	:	Did not cause sensitisation on laboratory animals.

### titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

Species	:	Mouse
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.

### Germ cell mutagenicity

#### Product:

Genotoxicity in vitro	:	Remarks: No data available
Genotoxicity in vivo	:	Remarks: No data available

#### Components:

#### **Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:**

Genotoxicity in vitro	:	Test Type: Ames test Result: negative
Germ cell mutagenicity-Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Genotoxicity in vitro : Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

Germ cell mutagenicity-Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

### Graphite (synthetic):

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

**titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]:**

Germ cell mutagenicity-Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

### Carcinogenicity

#### Product:

Remarks : No data available

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

#### Components:

**Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:**

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

**titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:**

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

### Reproductive toxicity

#### Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

#### Components:

**Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:**

Reproductive toxicity - Assessment : - Fertility -  
No toxicity to reproduction  
- Teratogenicity -  
No toxicity to reproduction

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Effects on fertility : Species: Rat  
Application Route: Oral  
General Toxicity - Parent: NOAEL: 45 mg/kg body weight  
General Toxicity F1: NOAEL: 45 mg/kg body weight  
Fertility: NOAEL: 150 mg/kg body weight  
Method: OECD Test Guideline 422

Effects on foetal development : Species: Rat  
Application Route: Oral  
Duration of Single Treatment: 28 h  
General Toxicity Maternal: NOAEL: 45 mg/kg body weight  
Developmental Toxicity: NOAEL: 45 mg/kg body weight

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Method: OECD Test Guideline 422

Reproductive toxicity -  
Assessment

: - Fertility -

No evidence of adverse effects on sexual function and fertility,  
or on development, based on animal experiments.

- Teratogenicity -

No evidence of adverse effects on sexual function and fertility,  
or on development, based on animal experiments.

### Graphite (synthetic):

Effects on fertility

: Species: Rat

Application Route: Oral

General Toxicity F1: NOAEL: 813 mg/kg body weight

Method: OECD Test Guideline 422

**titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:**

Reproductive toxicity -  
Assessment

: - Fertility -

No toxicity to reproduction

- Teratogenicity -

No effects on or via lactation

### STOT - single exposure

#### Product:

Remarks

: No data available

#### Components:

**Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:**

Assessment

: The substance or mixture is not classified as specific target  
organ toxicant, single exposure.

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Assessment

: The substance or mixture is not classified as specific target  
organ toxicant, single exposure.

**titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

### STOT - repeated exposure

#### Product:

Remarks : No data available

#### Components:

**Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:**

Exposure routes : Ingestion  
Assessment : May cause damage to organs through prolonged or repeated exposure.

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Product:

Remarks : This information is not available.

#### Components:

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Species : Rat  
NOAEL : 45 mg/kg  
Application Route : Oral  
Exposure time : 28  
Method : OECD Test Guideline 422

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

### Graphite (synthetic):

Species : Rat  
NOAEL : 813 mg/kg  
Application Route : Oral  
Method : OECD Test Guideline 422

Species : Rat  
NOAEL : > 2 mg/l  
Application Route : inhalation (dust/mist/fume)  
Method : OECD Test Guideline 412

### Aspiration toxicity

#### Product:

This information is not available.

#### Components:

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

No aspiration toxicity classification

**titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:**

No aspiration toxicity classification

## 11.2 Information on other hazards

### Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### Further information

#### Product:

Remarks : Information given is based on data on the components and the toxicology of similar products.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

Toxicity to fish : Remarks: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

#### Components:

##### **copper flakes (coated with aliphatic acid):**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0,0384 mg/l  
Exposure time: 96 h  
Test Type: flow-through test

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 10

#### **Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

##### **Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 0,1 - 1 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0,1 - 1 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0,01 - 0,1 mg/l



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 10

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50: 1,41 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 1,3 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2,05 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 0,762 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC20 (activated sludge): 15 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.  
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

### Graphite (synthetic):

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Toxicity to daphnia and other aquatic invertebrates : (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

### aluminium powder (stabilised):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,12 mg/l  
Exposure time: 96 h  
Test Type: static test  
Remarks: No toxicity at the limit of solubility

### Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.  
Chronic aquatic toxicity : This product has no known ecotoxicological effects.

### titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203  
Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202

## 12.2 Persistence and degradability

### Product:

Biodegradability : Remarks: No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Physico-chemical  
removability : Remarks: No data available

### Components:

**Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:**

Biodegradability : Test Type: aerobic  
Inoculum: activated sludge  
Result: rapidly biodegradable  
Biodegradation: 65 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D  
GLP: yes

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Biodegradability : Test Type: Primary biodegradation  
Inoculum: activated sludge  
Result: Not rapidly biodegradable  
Biodegradation: < 10 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

### **Graphite (synthetic):**

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

## 12.3 Bioaccumulative potential

### Product:

Bioaccumulation : Remarks: No data available

### Components:

**Amines, N-C16-C18-alkyl-(evennumbered, C18 unsaturated) propane-1,3-diaminium di[(9Z)-octadec-9-enoate]:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine, N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl-, 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl-, 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl-(Mixture)

:

Bioaccumulation : Bioconcentration factor (BCF): 1.676

Partition coefficient: n-octanol/water : log Pow: 7,6

### 12.4 Mobility in soil

#### Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### Components:

**titanium dioxide; [in powder form containing <1 % of particles with aerodynamic diameter ≤ 10 µm]:**

Assessment : Non-classified vPvB substance. Non-classified PBT substance

### 12.6 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

#### Product:

Additional ecological information : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

- Product : The product should not be allowed to enter drains, water courses or the soil.  
Do not dispose of with domestic refuse.  
Dispose of as hazardous waste in compliance with local and national regulations.
- Waste codes should be assigned by the user based on the application for which the product was used.
- Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.  
Dispose of waste product or used containers according to local regulations.
- The following Waste Codes are only suggestions:
- Waste Code : used product, unused product  
12 01 12\*\*, spent waxes and fats
- uncleaned packagings  
15 01 10\*, packaging containing residues of or contaminated by hazardous substances

## SECTION 14: Transport information

### 14.1 UN number or ID number

- ADN : UN 3077
- ADR : UN 3077
- RID : UN 3077
- IMDG : UN 3077
- IATA : UN 3077

### 14.2 UN proper shipping name

- ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Tallow aminoleate, Copper metal powder)
- ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Tallow aminoleate, Copper metal powder)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

**RID** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Tallow aminoleate, Copper metal powder)

**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Tallow aminoleate, Copper metal powder)

**IATA** : Environmentally hazardous substance, solid, n.o.s.  
(Tallow aminoleate, Copper metal powder)

### 14.3 Transport hazard class(es)

**ADN** : 9

**ADR** : 9

**RID** : 9

**IMDG** : 9

**IATA** : 9

### 14.4 Packing group

**ADN**

Packing group : III

Classification Code : M7

Hazard Identification Number : 90

Labels : 9

**ADR**

Packing group : III

Classification Code : M7

Hazard Identification Number : 90

Labels : 9

Tunnel restriction code : (-)

**RID**

Packing group : III

Classification Code : M7

Hazard Identification Number : 90

Labels : 9

**IMDG**

Packing group : III

Labels : 9

EmS Code : F-A, S-F

**IATA (Cargo)**

Packing instruction (cargo aircraft) : 956

Packing instruction (LQ) : Y956

Packing group : III

Labels : Miscellaneous Dangerous Goods

**IATA (Passenger)**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Packing instruction : 956  
(passenger aircraft)  
Packing instruction (LQ) : Y956  
Packing group : III  
Labels : Miscellaneous Dangerous Goods

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : yes

#### ADR

Environmentally hazardous : yes

#### RID

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes

#### IATA (Passenger)

Environmentally hazardous : yes

#### IATA (Cargo)

Environmentally hazardous : yes

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Remarks : Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 75  
If you intend to use this product as tattoo ink, please contact your vendor.

copper flakes (coated with aliphatic acid) (Number on list 75)

REACH - Candidate List of Substances of Very High : This product does not contain

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

Concern for Authorisation (Article 59).  
(EU SVHC)

substances of very high concern  
(Regulation (EC) No  
1907/2006 (REACH), Article 57).

Regulation (EC) No 1005/2009 on substances that  
deplete the ozone layer  
(EC 1005/2009)

: Not applicable

Regulation (EU) 2019/1021 on persistent organic  
pollutants (recast)  
(EU POP)

: Not applicable

Regulation (EU) No 649/2012 of the European  
Parliament and the Council concerning the export and  
import of dangerous chemicals  
(EU PIC)

: Not applicable

REACH - List of substances subject to authorisation  
(Annex XIV)  
(EU. REACH-Annex XIV)

: Not applicable

Regulation (EU) 2019/1148 on the marketing and use of  
explosives precursors

: Not applicable

Seveso III: Directive 2012/18/EU of the European  
Parliament and of the Council on the control of  
major-accident hazards involving dangerous  
substances.

E1 ENVIRONMENTAL HAZARDS

Water hazard class  
(Germany)

: WGK 3 highly hazardous to water  
Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany)

: 5.2.1: Total dust:  
others: 21,46 %  
5.2.2: Inorganic substances in powdered form:  
Class 3: 8 %  
5.2.4: Inorganic substances in gaseous form:  
Not applicable  
5.2.5: Organic Substances:  
Class 1: 0,6 %  
5.2.7.1.1: Carcinogenic substance:  
Not applicable  
5.2.7.1.1: Quartz fine dust PM4:  
others: 0,26 %



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

5.2.7.1.1: Formaldehyde:  
Not applicable  
5.2.7.1.1: fibres:  
Not applicable  
5.2.7.2: Poorly degradable, easily enrichable and highly toxic  
organic substances:  
Not applicable

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial  
emissions (integrated pollution prevention and control)  
Not applicable

### 15.2 Chemical safety assessment

This information is not available.

## SECTION 16: Other information

### Full text of H-Statements

H228 : Flammable solid.  
H302 : Harmful if swallowed.  
H315 : Causes skin irritation.  
H317 : May cause an allergic skin reaction.  
H319 : Causes serious eye irritation.  
H331 : Toxic if inhaled.  
H373 : May cause damage to organs through prolonged or repeated  
exposure if swallowed.  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.  
H411 : Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Note T : This substance may be marketed in a form which does not  
have the physical hazards as indicated by the classification in  
the entry in Part 3. If the results of the relevant method or  
methods in accordance with Part 2 of Annex I of this  
Regulation show that the specific form of substance marketed  
does not exhibit this physical property or these physical  
hazards, the substance shall be classified in accordance with  
the result or results of this test or these tests. Relevant  
information, including reference to the relevant test method(s)  
shall be included in the safety data sheet.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACOAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

DE DFG BAT	:	Germany. MAK BAT Annex XIII
DE DFG MAK	:	Germany. MAK BAT Annex IIa
DE TRGS 527	:	Germany. TRGS 527 - Activities with nanomaterials
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
TRGS 903	:	TRGS 903 - Biological limit values
DE DFG MAK / MAK	:	MAK value
DE TRGS 527 / BM	:	Assessment scale
DE TRGS 900 / AGW	:	Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

Calculation method
Calculation method

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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878 - DE



## WOLFRACAT C

Version	Revision Date:	Date of last issue: 13.06.2023	Print Date:
5.4	24.06.2024	Date of first issue: 20.05.2016	24.06.2024

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