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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 Sub- : Lubricant

stance/Mixture

Recommended restrictions

on use

Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Company : Klüber Lubrication München

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 : mcm@klueber.com

responsible for the SDS Material Compliance Management

National contact : Klüber Lubrication Deutschland

Geisenhausenerstraße 7

81379 München Deutschland Tel.: +49 89 7876 0 Fax: +49 89 7876 565

customer.service.de@klueber.com

www.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)

Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.



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Chronic aquatic toxicity, Category 3 H412: Harmful to aquatic life with long lasting ef-

fects.

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.

Additional Labelling

EUH208 Contains N-alkylated benzotriazole. May produce an allergic reaction.

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Synthetic hydrocarbon oil

silicate solid lubricant

Hazardous components

Chemical name	CAS-No. EC-No.	Classification	Concentration limits	Concentration
	EC-INO.		M-Factor	(% w/w)
	Index-No.		Notes	
	Registration number			
copper	7440-50-8	Acute Tox.4; H302		>= 2,5 - < 10
		Aquatic Acute1;	M-Factor: 10/1	
	231-159-6	H400		
		Aquatic Chronic2;		
		H411		
	01-2119480154-42-			
	XXXX			
Amines, N-tallow al-	61791-53-5	Skin Irrit.2; H315		>= 1 - < 2,5
kyltrimethylenedi-,		Eye Irrit.2; H319	M-Factor: 10/1	

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oleates	263-186-4 94270-86-7	STOT RE2; H373 Aquatic Acute1; H400 Aquatic Chronic1; H410		0.1 40.25
N-alkylated benzotria- zole	94270-86-7	Skin Irrit.2; H315 Skin Sens.1B; H317 Aquatic Acute1; H400 Aquatic Chronic2; H411	M-Factor: 1/1	>= 0,1 - < 0,25
Substances with a work	place exposure limit:			
Graphite (synthetic)	7782-42-5			>= 1 - < 10
	231-955-3			
	01-2119486977-12- XXXX			
titanium dioxide	13463-67-7			>= 1 - < 10
	236-675-5			
	01-2119489379-17- XXXX			
aluminium	7429-90-5	Flam. Sol.1; H228		>= 1 - < 10
	231-072-3			
	01-2119529243-45- XXXX			

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : Remove person to fresh air. If signs/symptoms continue, get

medical attention.

Keep patient warm and at rest.

If unconscious, place in recovery position and seek medical

advice.

Keep respiratory tract clear.

If breathing is irregular or stopped, administer artificial respira-

ion.

In case of skin contact : Take off all contaminated clothing immediately.



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Wash off immediately with soap and plenty of water.

Get medical attention immediately if irritation develops and

persists.

Wash clothing before reuse.

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 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 : No information available.

Risks : None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or car-

bon dioxide.

Unsuitable extinguishing

media

High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Fire may cause evolution of:

Carbon oxides Metal oxides

Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment :

for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. In the case of respirable

dust and/or fumes, use self-contained breathing apparatus.

Exposure to decomposition products may be a hazard to

health.



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Further information : Standard procedure for chemical fires.

Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release

(dust).

Avoid breathing dust.

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 : Clean up promptly by sweeping or vacuum.

Keep in suitable, closed containers for disposal.

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 ap-

plication 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



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> may still contain product residues. Keep container closed when not in use. Avoid inhalation of vapour or mist.

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) Consult the technical guidelines for the use of this sub-

stance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form	Control parameters	Basis
		of exposure)		
Graphite	7782-42-5	AGW (Inhalable	10 mg/m3	DE TRGS
		fraction)	_	900
Peak-limit: excur-	2;(II)			
sion factor (catego-				
ry)				
Further information	General dust value. For this substance no specific occupational exposure limit			
	value is estab	value is established, since the AGS does not yet have information regarding		



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			y organs in excess of the n	
	Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
	compounds a	AGW (Alveolate	1,25 mg/m3	DE TRGS
		fraction)	, .,_og,o	900
Peak-limit: excursion factor (category)	2;(II)	,		
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
aluminium	7429-90-5	AGW (Inhalable fraction)	10 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	value is estab unspecific act Commission f	lished, since the AG ion on the respirator or dangerous substated the work place dangerous substated in the	ance no specific occupatio S does not yet have inform y organs in excess of the nances, Senate commission gerous for the health (MAK	ation regarding ormal values., for the review of
		AGW (Alveolate fraction)	1,25 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
Graphite (synthetic)	7782-42-5	AGW (Inhalable fraction)	10 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
		AGW (Alveolate fraction)	1,25 mg/m3	DE TRGS 900
Peak-limit: excur- sion factor (catego- ry)	2;(II)			
Further information	value is estab unspecific act	lished, since the AG ion on the respirator	ance no specific occupatio S does not yet have inform y organs in excess of the n unces, Senate commission	ation regarding ormal values.,

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	compounds at the work place dangerous for the health (MAK-commission).			
titanium dioxide	13463-67-7	AGW (Inhalable fraction)	10 mg/m3 (Titanium dioxide)	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
		AGW (Alveolate fraction)	1,25 mg/m3 (Titanium dioxide)	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
aluminium	7429-90-5	AGW (Inhalable fraction)	10 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission). AGW (Alveolate 1,25 mg/m3 DE TRGS 900			
Peak-limit: excursion factor (category)	2;(II)		I	1
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			

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	3,2 mg/m3
	Workers	Skin contact	Long-term systemic effects	4,3 mg/kg bw/day
copper	Workers	Inhalation	Long-term systemic	20 mg/m3

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			effects	
	Workers	Skin contact	Long-term systemic effects	137 mg/kg
	Workers	Skin contact	Acute systemic ef- fects	237 mg/kg
Graphite (synthetic)	Workers	Inhalation	Long-term systemic effects	1,2 mg/m3
titanium dioxide	Workers	Inhalation	Long-term local ef- fects	10 mg/m3
aluminium	Workers	Inhalation	Long-term systemic effects	3,72 mg/m3
	Workers	Inhalation	Long-term local ef- fects	3,72 mg/m3
Amines, N-tallow al- kyltrimethylenedi-, oleates	Workers	Skin contact	Long-term systemic effects	0,04 mg/kg
	Workers	Inhalation	Long-term systemic effects	0,29 mg/m3
N-alkylated benzotria- zole	Industrial use	Inhalation	Long-term systemic effects	1,3 mg/m3
	Industrial use	Skin contact	Long-term systemic effects	0,4 mg/kg

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 Treat- ment Systems	2 mg/l
	Fresh water sediment	1,65 mg/kg
	Marine sediment	0,165 mg/kg
	Soil	0,329 mg/kg
copper	Fresh water	0,0078 mg/l
	Marine water	0,0052 mg/l
	Sewage treatment plant	0,230 mg/l
	Fresh water sediment	87 mg/kg
	Marine sediment	676 mg/kg
	Soil	65 mg/kg
titanium dioxide	Fresh water	0,127 mg/l
	Marine water	1 mg/l
	Fresh water sediment	1000 mg/kg
	Marine sediment	100 mg/kg
aluminium	Fresh water	0,0749 mg/l
	Sewage treatment plant	20 mg/l



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Amines, N-tallow alkyltrimethyle- nedi-, oleates	Fresh water	0,00638 mg/l
	Marine water	0,000638 mg/l
	Intermittent use/release	0,00509 mg/l
	Microbiological Activity in Sewage Treat- ment Systems	98,6 mg/l
	Fresh water sediment	204 mg/kg
	Marine sediment	20,4 mg/kg
	Soil	9,93 mg/kg
N-alkylated benzotriazole	Fresh water	0,000976 mg/l
	Marine water	0,000098 mg/l
	Intermittent use/release	0,00976 mg/l
	Soil	0,00184 - 0,842 mg/kg
	Fresh water sediment	0,0121 - 4,23 mg/kg
	Marine sediment	0,00121 - 0,423 mg/kg
	Microbiological Activity in Sewage Treatment Systems	0,69 mg/l

8.2 Exposure controls

Engineering measures

Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Tightly fitting safety goggles

Hand protection

Material : Nitrile rubber Protective index : Class 1

Remarks : Wear protective gloves. The selected protective gloves have

to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for

each case.

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.

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the spe-

cific work-place.



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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : paste

Colour : grey

Odour : characteristic

Odour Threshold : No data available

pH : Not applicable

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : Combustible Solids, Not classified as a flammability hazard

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : < 0,001 hPa (20 °C)

Relative vapour density : No data available

Density : 1,01 g/cm3

(20 °C)

Bulk density : No data available

Solubility(ies)

Water solubility : insoluble

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

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Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : No data available

9.2 Other information

Sublimation point : No data available

Self-ignition : No data available

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 toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Remarks: This information is not available.



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Acute dermal toxicity : Remarks: This information is not available.

Components:

copper:

Acute oral toxicity : LD50 (Rat): 482 mg/kg

Method: OECD Test Guideline 401

GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 5,11 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 436

GLP: yes

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

Assessment: The substance or mixture has no acute dermal

toxicity

Amines, N-tallow alkyltrimethylenedi-, oleates:

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

N-alkylated benzotriazole:

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 tox-

icity

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 inhala-

tion toxicity

titanium dioxide:



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

Method: OECD Test Guideline 425

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

aluminium:

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 inhala-

tion toxicity

Skin corrosion/irritation

Product:

Remarks: This information is not available.

Components:

copper:

Species: Rabbit

Assessment: No skin irritation Method: OECD Test Guideline 404

Result: No skin irritation

GLP: yes

Amines, N-tallow alkyltrimethylenedi-, oleates:

Species: Rabbit

Assessment: Irritating to skin. Result: Irritating to skin.

N-alkylated benzotriazole:

Species: Rabbit

Assessment: Irritating to skin.

Method: Draize Test Result: Irritating to skin.

Graphite (synthetic):

Species: Rabbit

Assessment: No skin irritation Method: OECD Test Guideline 404

Result: No skin irritation

titanium dioxide:

Assessment: No skin irritation Result: No skin irritation



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aluminium:

Species: Rabbit

Assessment: No skin irritation Result: No skin irritation

Serious eye damage/eye irritation

Product:

Remarks: This information is not available.

Components:

copper:

Species: Rabbit

Assessment: No eye irritation Method: OECD Test Guideline 405

Result: No eye irritation

GLP: yes

Amines, N-tallow alkyltrimethylenedi-, oleates:

Species: Rabbit

Assessment: Irritating to eyes. Method: OECD Test Guideline 405

Result: Irritating to eyes.

N-alkylated benzotriazole:

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

titanium dioxide:

Assessment: No eye irritation Result: No eye irritation

aluminium:

Species: Rabbit

Assessment: No eye irritation Result: No eye irritation



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Respiratory or skin sensitisation

Product:

Remarks: This information is not available.

Components:

copper:

Test Type: Maximisation Test

Species: Guinea pig

Assessment: Does not cause skin sensitisation.

Method: OECD Test Guideline 406 Result: Does not cause skin sensitisation.

GLP: yes

Amines, N-tallow alkyltrimethylenedi-, oleates:

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

N-alkylated benzotriazole:

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

titanium dioxide:

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

aluminium:

Species: Guinea pig

Assessment: Did not cause sensitisation on laboratory animals. Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

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Components:

copper:

Germ cell mutagenicity- As-

sessment

Tests on bacterial or mammalian cell cultures did not show

mutagenic effects.

Amines, N-tallow alkyltrimethylenedi-, oleates:

Germ cell mutagenicity- As-

sessment

Tests on bacterial or mammalian cell cultures did not show

mutagenic effects.

N-alkylated benzotriazole:

Genotoxicity in vitro : Test Type: Ames test

Method: OECD Test Guideline 471

Result: negative

Germ cell mutagenicity- As-

sessment

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

Carcinogenicity

Product:

Remarks: No data available

Components:

copper:

Carcinogenicity - Assess-

ment

Not classifiable as a human carcinogen.

Amines, N-tallow alkyltrimethylenedi-, oleates:

Carcinogenicity - Assess-

: No evidence of carcinogenicity in animal studies.

ment



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N-alkylated benzotriazole:

Carcinogenicity - Assess-

ment

Carcinogenicity classification not possible from current data.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal develop-

ment

Remarks: No data available

Components:

copper:

Reproductive toxicity - As-

sessment

No toxicity to reproduction No toxicity to reproduction

Amines, N-tallow alkyltrimethylenedi-, oleates:

Reproductive toxicity - As-

sessment

No toxicity to reproduction No toxicity to reproduction

N-alkylated benzotriazole:

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 develop-

ment

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

Method: OECD Test Guideline 422

Reproductive toxicity - As-

sessment

No evidence of adverse effects on sexual function and fertility.

or on development, based on animal experiments.

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

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STOT - single exposure

Components:

copper:

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

Amines, N-tallow alkyltrimethylenedi-, oleates:

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

N-alkylated benzotriazole:

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

titanium dioxide:

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

STOT - repeated exposure

Components:

copper:

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

Amines, N-tallow alkyltrimethylenedi-, oleates:

Exposure routes: Ingestion

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

N-alkylated benzotriazole:

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

titanium dioxide:

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.



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Components:

N-alkylated benzotriazole:

Species: Rat NOAEL: 45 mg/kg Application Route: Oral Exposure time: 28

Method: OECD Test Guideline 422

Graphite (synthetic):

Species: Rat NOAEL: 813 mg/kg Application Route: Oral

Method: OECD Test Guideline 422

Species: Rat

Application Route: inhalation (dust/mist/fume)

Method: OECD Test Guideline 412

Aspiration toxicity

Product:

This information is not available.

Components:

copper:

No aspiration toxicity classification

N-alkylated benzotriazole:

No aspiration toxicity classification

titanium dioxide:

No aspiration toxicity classification

Further information

Product:

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



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SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: Very toxic to aquatic organisms.

Toxicity to daphnia and other :

aquatic invertebrates

Remarks: No data available

Toxicity to algae : Remarks: No data available

Toxicity to microorganisms

Remarks: No data available

Components:

copper:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,094 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0,0338 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 37,6

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to fish (Chronic toxic-:

itv)

NOEC: 0,021 mg/l Exposure time: 27 d

M-Factor (Chronic aquatic

toxicity)

1

Ecotoxicology Assessment

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

Amines, N-tallow alkyltrimethylenedi-, oleates:

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

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Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0,01

- 0,1 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

EC10: > 0,1 - 1 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: Reproduction 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 : Very toxic to aquatic life with long lasting effects.

N-alkylated benzotriazole:

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 202 T1

Toxicity to algae : 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 tox-

icity)

1

Toxicity to microorganisms : EC20 (activated sludge): 15 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition

Method: OECD 209

M-Factor (Chronic aquatic

toxicity)

: 1



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Ecotoxicology Assessment

Acute aquatic toxicity Very toxic to aquatic life.

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

Graphite (synthetic):

LC50 (Danio rerio (zebra fish)): > 100 mg/l Toxicity to fish

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 EC50 (Pseudokirchneriella subcapitata (green algae)): > 100

mq/l

Exposure time: 72 h

Method: OECD Test Guideline 201

titanium dioxide:

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

aluminium:

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.

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removabili- : Remarks: No data available

ty



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Components:

copper:

Biodegradability : Remarks: The methods for determining biodegradability are

not applicable to inorganic substances.

Amines, N-tallow alkyltrimethylenedi-, oleates:

Biodegradability : Result: rapidly biodegradable

N-alkylated benzotriazole:

Biodegradability : Test Type: Primary biodegradation

Inoculum: activated sludge Result: Not rapidly biodegradable

Biodegradation: < 10 % Exposure time: 28 d Method: OECD 301 B

Graphite (synthetic):

Biodegradability : Remarks: The methods for determining biodegradability are

not applicable to inorganic substances.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to

be persistent, bioaccumulating and toxic (PBT).

This mixture contains no substance considered to be very

persistent and very bioaccumulating (vPvB).

Components:

Amines, N-tallow alkyltrimethylenedi-, oleates:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

N-alkylated benzotriazole:

Bioaccumulation : Bioconcentration factor (BCF): 1.676

Partition coefficient: n-

octanol/water

Remarks: Not applicable

12.4 Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environ-

mental compartments

Remarks: No data available



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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:

copper:

Assessment : Remarks: Not applicable

Amines, N-tallow alkyltrimethylenedi-, oleates:

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

stance.

titanium dioxide:

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

stance.

12.6 Other adverse effects

Product:

Additional ecological informa: :

tion

Very toxic to aquatic organisms, may cause long-term adverse

effects in the aquatic environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water

courses or the soil.

Waste codes should be assigned by the user based on the

application for which the product was used.

Contaminated packaging : Empty containers can be landfilled, when in accordance with

the local regulations.

SECTION 14: Transport information

14.1 UN number

ADR : UN 3077 IMDG : UN 3077



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IATA : UN 3077

14.2 UN proper shipping name

ADR : 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)

 ADR
 : 9

 IMDG
 : 9

 IATA
 : 9

14.4 Packing group

ADR

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 : 956

aircraft)

Packing instruction (LQ) : Y956
Packing group : III

Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passen- : 956

ger aircraft)

Packing instruction (LQ) : Y956
Packing group : III

Labels : Miscellaneous

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

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Environmentally hazardous yes

IATA (Cargo)

Environmentally hazardous yes

14.6 Special precautions for user

No special precautions required.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

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 - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH),

Article 57).

Regulation (EC) No 1005/2009 on substances that dep-

lete the ozone layer

Not applicable

Regulation (EC) No 850/2004 on persistent organic pol-

lutants

Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import

of dangerous chemicals

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.

Quantity 1

Quantity 2

E1 **ENVIRONMENTAL**

HAZARDS

200 t 100 t

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-

accident hazards involving dangerous substances

9a Dangerous for the envi-100 t 200 t

ronment

Water contaminating class

(Germany)

WGK 3 highly water endangering

Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany) Total dust:

others: 21,47 %

Inorganic substances in powdered form:

portion Class 3: 8 %

Inorganic substances in vapour or gaseous form:

a brand of FREUDENBERG

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Not applicable Organic Substances: others: 70,53 %

Carcinogenic substances:

Not applicable Mutagenic: Not applicable Toxic to reproduction: Not applicable

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial

emissions (integrated pollution prevention and control)

Remarks: 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 eve irritation.

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

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; 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 - In-



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ternational 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; TCSI - Taiwan Chemical Substance 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: Classification procedure:

Aquatic Acute 1 H400 Calculation method
Aquatic Chronic 3 H412 Calculation method

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