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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revised on / Version: 23.09.2013 / 0001
Replaces revision of / Version: 23.09.2013 / 0001
Valid from: 23.09.2013
PDF print date: 23.09.2013
Nanoprotech Anticorrosion (Aerosol)

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

Nanoprotech Anticorrosion (Aerosol)

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

Relevant identified uses of the substance or mixture:

Moisture proof

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

NANOPROTECH OÜ, Uus-Sadama 21, 10120 Tallinn, Estonia

Telephone: +3726816270, Fax: +3726816271

info@nano-protech.com ; www.nano-protech.com

E-mail address of the competent person: info@nano-protech.com

1.4 Emergency telephone

Emergency information services / official advisory body:

+49 89 19240 (D-81675 Munich, 24 hour)

Telephone number of the company in case of emergencies:

Tel.: +3726816270 (08:00 - 17:00 h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) 1272/2008 (CLP)

Not determined

2.1.2 Classification according to Directives 67/548/EEC and 1999/45/EC (including amendments)

F+, Extremely flammable

Dangerous for the environment, R52-53

2.2 Label elements

2.2.1 Labeling according to Regulation (EC) 1272/2008 (CLP)

Not determined

2.2.2 Labeling according to Directives 67/548/EEC and 1999/45/EC (including amendments)



Symbols: F+

Indications of danger:

Extremely flammable

R-phrases:

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases:

23 Do not breathe spray.

35 This material and its container must be disposed of in a safe way.

(46) If swallowed, seek medical advice immediately and show this container or label.

51 Use only in well-ventilated areas.

Additions:

Pressurized container:

protect from sunlight and do not expose to temperatures exceeding 50°C.

Do not pierce or burn, even after use.

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Do not spray on a naked flame or any incandescent material.
 Keep away from sources of ignition - No smoking.
 Keep out of the reach of children.
 Without adequate ventilation, formation of explosive mixtures may be possible.

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006.

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006.

SECTION 3: Composition/information on ingredients

Aerosol

3.1 Substance

n.a.

3.2 Mixture

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics	
Registration number (REACH)	01-2119473851-33-XXXX
Index	---
EINECS, ELINCS, NLP	920-750-0 (REACH-IT List-No.)
CAS	CAS ---
content %	2,5-<15
Classification according to Directive 67/548/EEC	Highly flammable, F, R11 Dangerous for the environment, N, R51 Dangerous for the environment, R53 Harmful, Xn, R65 R66 R67
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 2, H225 Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411

Hydrocarbons, C10, aromatics, <1% naphthalene	
Registration number (REACH)	01-2119463583-34-XXXX
Index	---
EINECS, ELINCS, NLP	918-811-1 (REACH-IT List-No.)
CAS	(64742-94-5)
content %	1-5
Classification according to Directive 67/548/EEC	Dangerous for the environment, N, R51 Dangerous for the environment, R53 Harmful, Xn, R65 R66 R67
Classification according to Regulation (EC) 1272/2008 (CLP)	Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411

2,6-Di-t-butyl-4-methyl-phenol	
Registration number (REACH)	01-2119555270-46-XXXX
Index	---
EINECS, ELINCS, NLP	204-881-4
CAS	CAS 128-37-0
content %	0,1-<1
Classification according to Directive 67/548/EEC	Dangerous for the environment, N, R50 Dangerous for the environment, R53
Classification according to Regulation (EC) 1272/2008 (CLP)	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

For the text of the R-phrases / H-phrases and classification codes (GHS/CLP), see Section 16.

SECTION 4: First aid measures

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4.1 Description of first aid measures

Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Typically no exposure pathway.

Rinse the mouth thoroughly with water.

Do not induce vomiting. Consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

The following may occur:

Irritation of the eyes

Irritation of the respiratory tract

Coughing

Headaches

Dizziness

With long-term contact:

Drying of the skin.

Dermatitis (skin inflammation)

Ingestion:

Nausea

gastrointestinal disturbances

4.3 Indication of any immediate medical attention and special treatment needed

n.c.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

CO₂

Extinguishment powder

Water jet spray

Alcohol resistant foam

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Oxides of sulphur

Toxic gases

Danger of bursting (explosion) when heated

Explosive vapour/air mixture

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove possible causes of ignition - do not smoke.

Ensure sufficient supply of air.

Avoid inhalation, and contact with eyes or skin.

If applicable, caution - risk of slipping

6.2 Environmental precautions

Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.

Prevent surface and ground-water infiltration, as well as ground penetration.

If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

If spray or gas escapes, ensure ample fresh air is available.

Without adequate ventilation, formation of explosive mixtures may be possible.

Active substance:

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.

Avoid inhalation of the vapours.

Avoid contact with eyes or skin.

Keep away from sources of ignition - Do not smoke.

Take measures against electrostatic charging, if appropriate.

Do not use on hot surfaces.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.

Not to be stored in gangways or stair wells.

Store product closed and only in original packing.

Observe special regulations for aerosols!

Observe special storage conditions (in Germany, e.g., in accordance with the regulations in the "Betriebssicherheitsverordnung").

Keep protected from direct sunlight and temperatures over 50°C.

Store in a well ventilated place.

Store cool

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):

800 mg/m³

(GB)	Chemical Name	Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics	Content %:2,5- <15
	WEL-TWA:	1200 mg/m ³	WEL-STEL: ---
	BMGV:	---	Other information: ---
(GB)	Chemical Name	Hydrocarbons, C10, aromatics, <1% naphthalene	Content %:1-5
	WEL-TWA:	500 mg/m ³ (Aromatics)	WEL-STEL: ---
	BMGV:	---	Other information: ---
(GB)	Chemical Name	2,6-Di-t-butyl-4-methyl-phenol	Content %:0,1- <1
	WEL-TWA:	10 mg/m ³	WEL-STEL: ---

BMGV: ---	Other information: ---		
Chemical Name	Propane	Content %:	
WEL-TWA: 1000 ppm (ACGIH)	WEL-STEL: ---	---	
BMGV: ---	Other information: ---		
Chemical Name	Butane	Content %:	
WEL-TWA: 600 ppm (1450 mg/m ³)	WEL-STEL: 750 ppm (1810 mg/m ³)	---	
BMGV: ---	Other information: ---		
Chemical Name	Oil mist, mineral	Content %:	
WEL-TWA: 5 mg/m ³ (ACGIH)	WEL-STEL: 10 mg/m ³ (ACGIH)	---	
BMGV: ---	Other information: ---		

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period)
 EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

2,6-Di-<i>t</i>-butyl-4-methyl-phenol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	5,8	mg/m ³	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	1,74	mg/m ³	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	8,3	mg/kg bw/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	5	mg/kg bw/d	
	Environment - soil		PNEC	1,04	mg/kg wwt	
	Environment - sewage treatment plant		PNEC	100	mg/l	
	Environment - sediment		PNEC	1,29	mg/kg wwt	
	Environment - marine		PNEC	0,4	µg/l	
	Environment - periodic release		PNEC	4	µg/l	
	Environment - freshwater		PNEC	4	µg/l	

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	773	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2035	mg/m ³	
Consumer	Human - dermal	Long term, systemic effects	DNEL	699	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	608	mg/m ³	
	Human - oral	Long term, systemic effects	DNEL	699	mg/kg bw/d	

Hydrocarbons, C10, aromatics, <1% naphthalene						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers / employees	Human - dermal	Long term	DNEL	12,5	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term	DNEL	151	mg/m ³	

Consumer	Human - dermal	Long term	DNEL	7,5	mg/kg bw/day	
Consumer	Human - inhalation	Long term	DNEL	32	mg/m ³	
Consumer	Human - oral	Long term	DNEL	7,5	mg/kg bw/day	

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

With danger of contact with eyes.

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Chemical resistant protective gloves (EN 374).

If applicable

Protective nitrile gloves (EN 374)

Minimum layer thickness in mm:

0,35

Protective Viton gloves (EN 374)

Minimum layer thickness in mm:

0,4

Permeation time (penetration time) in minutes:

> 480

Protective hand cream recommended.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments)

Respiratory protection:

If OES or MEL is exceeded.

Filter A2 P2 (EN 14387), code colour brown, white

At high concentrations:

Respiratory protection appliance (insulation device) (e.g. EN 137 or EN 138)

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:

Aerosol, Substance: Liquid

Colour:

Light brown, Turbid

Odour:	Mineral oil
Odour threshold:	Not determined
pH-value:	n.a.
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	Not determined
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	Not determined
Upper explosive limit:	Not determined
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	0,84 g/cm ³ (Active substance)
Bulk density:	Not determined
Solubility(ies):	Not determined
Water solubility:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	40-45 mm ² /s (40°C, Active substance)
Explosive properties:	Product is not explosive. When using: development of explosive vapour/air mixture possible.
Oxidising properties:	No
9.2 Other information	
Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

See also section 7.

Heating, open flame, ignition sources

Pressure increase will result in danger of bursting.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

SECTION 11: Toxicological information

Possibly more information on health effects, see Section 2.1 (classification).

Nanoprotech Anticorrosion (Aerosol)

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.

Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Respiratory tract irritation:						n.d.a.
Repeated dose toxicity:						n.d.a.
Symptoms:						n.d.a.
Other information:						Classification according to calculation procedure.

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2800	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>23,3	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit		Not irritant
Serious eye damage/irritation:						Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitising
Germ cell mutagenicity (in vitro):					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity (in vivo):		2000	mg/kg	Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Reproductive toxicity:	LOAEL	9000	ppm	Rat	OECD 416 (Two-generation Reproduction Toxicity Study)	Negative
Aspiration hazard: Symptoms:						Yes dizziness, unconsciousness, heart/circulatory disorders, headaches, cramps, drowsiness, mucous membrane irritation, dizziness, nausea and vomiting.

Hydrocarbons, C10, aromatics, <1% naphthalene						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>5	mg/l/4h	Rat		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant

Skin corrosion/irritation:						Repeated exposure may cause skin dryness or cracking. Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitising
Germ cell mutagenicity (in vitro):					OECD 479 (Genetic Toxicology - In Vitro Sister Chromatid Exchange assay in Mammalian Cells)	Negative
Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Negative
Specific target organ toxicity - repeated exposure (STOT-RE):					OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Negative
Aspiration hazard:						Yes
Aspiration hazard:						Yes
Symptoms:						dizziness, headaches, drowsiness, dizziness
Symptoms:						dizziness, headaches, drowsiness, dizziness

2,6-Di-*t*-butyl-4-methyl-phenol

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:						Slightly irritant
Serious eye damage/irritation:				Rabbit	(Draize-Test)	Slightly irritant
Respiratory or skin sensitisation:				Human being		Not sensitising
Germ cell mutagenicity:				Mammalian		Negative
Reproductive toxicity:	NOAEL	100	mg/kg	Rat		
Repeated dose toxicity:	NOEL	25	mg/kg	Rat		(28d)
Symptoms:						mucous membrane irritation

Propane

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Germ cell mutagenicity (bacterial):					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Symptoms:						breathing difficulties, unconsciousness, frostbite, headaches, cramps, mucous membrane irritation, dizziness, nausea and vomiting.

Butane

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative

Symptoms:							ataxia, breathing difficulties, dizziness, unconsciousness, frostbite, disturbed heart rhythm, headaches, cramps, intoxication, dizziness, nausea and vomiting.
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SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

Nanoprotech Anticorrosion (Aerosol)

Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:							n.d.a.
Toxicity to daphnia:							n.d.a.
Toxicity to algae:							n.d.a.
Persistence and degradability:							n.d.a.
Bioaccumulative potential:							n.d.a.
Mobility in soil:							n.d.a.
Results of PBT and vPvB assessment:							n.d.a.
Other adverse effects:							n.d.a.

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LL50	96h	3 -10	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to fish:	LL50	96h	3 - 10	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to daphnia:	NOELR	21d	1 -1,6	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
Toxicity to daphnia:	EL50	48h	4,6-10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to daphnia:	EL50	48h	4,6 - 10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae:	EbL50	72h	10-30	mg/kg	Pseudokirchnerie lla subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
Toxicity to algae:	NOEC/NO EL	72h	10	mg/l	Pseudokirchnerie lla subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
Persistence and degradability:		28d	98	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Completely biodegradable.

Persistence and degradability:		28d	98	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Analogous conclusion
Results of PBT and vPvB assessment:							No PBT substance, No vPvB substance
Results of PBT and vPvB assessment:							n.a.
Toxicity to bacteria:	EL50	48h	11,14	mg/l			calculated value
Water solubility:							Insoluble
Water solubility:			2	mg/l			Insoluble

Hydrocarbons, C10, aromatics, <1% naphthalene							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LL50	96h	2 - 5	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to daphnia:	EL50	48h	3 -10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae:	NOELR	72h	2,5	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
Toxicity to algae:	EL50	72h	11	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
Persistence and degradability:		28d	49,56	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Not readily but inherent biodegradable.
Persistence and degradability:		28d	49,6	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Not readily but inherent biodegradable.
Water solubility:							Insoluble

2,6-Di-<i>t</i>-butyl-4-methyl-phenol							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	>=0,57	mg/l	Brachydanio rerio		
Toxicity to daphnia:	NOEC/NOEL	21d	0,316	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to daphnia:	EC50	48h	0,61	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae:	IC50	72h	>0,4	mg/l	Desmodesmus subspicatus	84/449/EEC C.3	
Persistence and degradability:		28d	4,5	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	
Bioaccumulative potential:	Log Pow		5,1				

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 PDF print date: 23.09.2013
 Nanoprotech Anticorrosion (Aerosol)

Results of PBT and vPvB assessment:							No PBT substance
Toxicity to bacteria:	EC50	3h	>1000 0	mg/l	activated sludge		
Other information:							Does not contain any organically bound halogens which can contribute to the AOX value in waste water.
Water solubility:			0,0007 6	g/l			

Propane							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Bioaccumulative potential:	Log Pow		2,28				A notable biological accumulation potential is not to be expected (LogPow 1-3).
Results of PBT and vPvB assessment:							No PBT substance, No vPvB substance

Butane							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Bioaccumulative potential:	Log Pow		2,98				A notable biological accumulation potential is not to be expected (LogPow 1-3).
Results of PBT and vPvB assessment:							No PBT substance, No vPvB substance

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2001/118/EC, 2001/119/EC, 2001/573/EC)

11 01 98 other wastes containing dangerous substances

16 05 04 gases in pressure containers (including halons) containing dangerous substances

Recommendation:

Pay attention to local and national official regulations

Take full aerosol cans to problem waste collection.

Take emptied aerosol cans to valuable material collection.

For contaminated packing material

Pay attention to local and national official regulations

Recommendation:

Do not perforate, cut up or weld uncleaned container.

Recycling

15 01 04 metallic packaging

SECTION 14: Transport information

General statements

UN number: 1950

Transport by road/by rail (ADR/RID)

UN proper shipping name:

UN 1950 AEROSOLS

Transport hazard class(es): 2.1

Packing group: -

Classification code: 5F

LQ (ADR 2013): 1 L

LQ (ADR 2009): 2

Environmental hazards: Not applicable



Tunnel restriction code:

D

Transport by sea (IMDG-code)

UN proper shipping name:

AEROSOLS

Transport hazard class(es):

2.1

Packing group:

-

EmS:

F-D, S-U

Marine Pollutant:

n.a

Environmental hazards:

Not applicable

**Transport by air (IATA)**

UN proper shipping name:

Aerosols, flammable

Transport hazard class(es):

2.1

Packing group:

-

Environmental hazards:

Not applicable

**Special precautions for user**

Persons employed in transporting dangerous goods must be trained.

All persons involved in transporting must observe safety regulations.

Precautions must be taken to prevent damage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Freighted as packaged goods rather than in bulk, therefore not applicable.

Minimum amount regulations have not been taken into account.

Danger code and packing code on request.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

For classification and labelling see Section 2.

Observe restrictions:

Yes

Comply with trade association/occupational health regulations.

Observe youth employment law (German regulation).

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

These details refer to the product as it is delivered.

Revised sections:

n.a.

The following phrases represent the posted R phrases / H phrases, Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

11 Highly flammable.

50 Very toxic to aquatic organisms.

51 Toxic to aquatic organisms.

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

53 May cause long-term adverse effects in the aquatic environment.

65 Harmful: may cause lung damage if swallowed.

66 Repeated exposure may cause skin dryness or cracking.

67 Vapours may cause drowsiness and dizziness.

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H336 May cause drowsiness or dizziness.

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.

Flam. Liq. — Flammable liquid

Asp. Tox. — Aspiration hazard

STOT SE — Specific target organ toxicity - single exposure - narcotic effects

Aquatic Chronic — Hazardous to the aquatic environment - chronic

Aquatic Acute — Hazardous to the aquatic environment - acute

Any abbreviations and acronyms used in this document:

AC Article Categories

acc., acc. to according, according to

ACGIH American Conference of Governmental Industrial Hygienists

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL Acceptable Operator Exposure Level

AOX Adsorbable organic halogen compounds

approx. approximately

Art., Art. no. Article number

ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)

BHT Butylhydroxytoluol (= 2,6-Di-*t*-butyl-4-methyl-phenol)

BMGV Biological monitoring guidance value (EH40, UK)

BOD Biochemical oxygen demand

BSEFBromine Science and Environmental Forum

bw body weight

CAS Chemical Abstracts Service

CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids

CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques

CIPAC Collaborative International Pesticides Analytical Council

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

COD Chemical oxygen demand

CTFA Cosmetic, Toiletry, and Fragrance Association

DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level

DOC Dissolved organic carbon

DT50 Dwell Time - 50% reduction of start concentration

DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)

dw dry weight

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EC European Community

ECHA European Chemicals Agency

EEA European Economic Area

EEC European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America)

ERC Environmental Release Categories

ES Exposure scenario

etc. et cetera

EU European Union

EWCEuropean Waste Catalogue

Fax. Fax number

gen. general

GHS Globally Harmonized System of Classification and Labelling of Chemicals

GWP Global warming potential

HET-CAM Hen's Egg Test - Chorionallantoic Membrane

HGWP Halocarbon Global Warming Potential

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IBC Intermediate Bulk Container

IBC (Code) International Bulk Chemical (Code)

IC Inhibitory concentration

IMDG-code International Maritime Code for Dangerous Goods

incl. including, inclusive

IUCLID International Uniform Chemical Information Database

LC lethal concentration

LC50 lethal concentration 50 percent kill

LCLo lowest published lethal concentration

LD Lethal Dose of a chemical

LD50 Lethal Dose, 50% kill

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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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Nanoprotech Anticorrosion (Aerosol)

LDLo Lethal Dose Low

LOAELLowest Observed Adverse Effect Level

LOECLowest Observed Effect Concentration

LOELLowest Observed Effect Level

LQ Limited Quantities

MARPOL International Convention for the Prevention of Marine Pollution from Ships

n.a. not applicable

n.av. not available

n.c. not checked

n.d.a. no data available

NIOSHNational Institute of Occupational Safety and Health (United States of America)

NOAEC No Observed Adverse Effective Concentration

NOAEL No Observed Adverse Effect Level

NOECNo Observed Effect Concentration

NOELNo Observed Effect Level

ODP Ozone Depletion Potential

OECDOrganisation for Economic Co-operation and Development

org. organic

PAH polycyclic aromatic hydrocarbon

PBT persistent, bioaccumulative and toxic

PC Chemical product category

PE Polyethylene

PNECPredicted No Effect Concentration

POCPPhotochemical ozone creation potential

ppm parts per million

PROCPProcess category

PTFEPolytetrafluorethylene

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SADTSelf-Accelerating Decomposition Temperature

SAR Structure Activity Relationship

SU Sector of use

SVHCSubstances of Very High Concern

Tel. Telephone

ThODTheoretical oxygen demand

TOC Total organic carbon

TRGSTechnische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)

UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))

VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).

WHOWorld Health Organization

wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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