NANOBYK-3605

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

1.1 Product identifier

Trade name	:	NANOBYK-3605
UFI	:	73RA-40RS-8000-NC8Y
Product code	:	000000000000126547

This substance/ mixture contains nanoforms (according to REACH Regulation)

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

Use of the Substance/Mixture	:	Additive to Improve Mechanical Properties

1.3 Details of the supplier of the safety data sheet

Company	:	BYK-Chemie GmbH Abelstrasse 45 46483 Wesel
Telephone	:	+49 281 670-0
Telefax	:	+49 281 65735
Information	:	Regulatory Affairs
Telephone	:	+49 281 670-23532
Telefax	:	+49 281 670-23533
E-mail address	:	GHS.BYK@altana.com

1.4 Emergency telephone number

Europe	+44 1235 239670
Middle East/Africa	+44 1235 239671
Americas	+1 215 207 0061
East/South East Asia	+65 3158 1074
(Local India: 000 800 100 7479)	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 2	H411: 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 :

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P261	Avoid breathing mist or vapours.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.

Response:

P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P391	Collect spillage.

Hazardous components which must be listed on the label:

- 13048-33-4 hexamethylene diacrylate

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Nanoparticle dispersion

Components

Chemical name	CAS-No. EC-No.	Classification	Concentration (% w/w)

	Index-No. Registration number		
hexamethylene diacrylate	13048-33-4 235-921-9 01-2119484737-22	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1	>= 30 - < 50
2,6-di-tert-butyl-p-cresol	128-37-0 204-881-4 01-2119565113-46	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0,1 - < 0,25
cyclohexane	110-82-7 203-806-2	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0,1 - < 0,25

For explanation of abbreviations see section 16.

This substance/ mixture contains nanoforms (according to REACH Regulation)

Components:

Silicon dioxide:

Particle characteristics

Particle Size Distribution : D50 = 20 nm ± 5 nm
Measurement technique: Transmission Electron Microscopy / Electron Microscopy (TEM/EM) calculation

Assessment	:	This substance/ mixture contains nanoforms (according to REACH Regulation)
Shape	:	Shape: spheres Measurement technique: TEM
Crystallinity	:	Crystallinity: amorphous
Surface treatment /Coatings	:	Surface treatment /Coatings: yes Properties of Coated Particle: hydrophobic

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	:	Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	No information available.
Risks	:	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

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	:	Foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides silicone compounds

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment.

6.2 Environmental precautions

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. 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	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal considerations see section 13., 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/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to 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.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
cyclohexane	110-82-7	TWA	200 ppm 700 mg/m3	2006/15/EC
	Further information: Indicative			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
hexamethylene diacrylate	Workers	Inhalation	Long-term exposure, Systemic effects	24,48 mg/m3
	Workers	Skin contact	Long-term systemic effects	2,77 mg/kg

	Professional use	Skin contact	Long-term systemic effects	1,66 mg/kg
	Professional use	Inhalation	Long-term systemic effects	7,26 mg/m3
2,6-di-tert-butyl-p-cresol	Workers	Inhalation	Long-term systemic effects	1,76 mg/m3
	Workers	Skin contact	Long-term systemic effects	0,5 mg/kg
	Consumers	Oral	Long-term systemic effects	0,25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0,435 mg/m3
	Consumers	Dermal	Long-term systemic effects	0,25 mg/kg
cyclohexane	Workers	Inhalation	Long-term local effects	700 mg/m3
	Workers	Inhalation	Long-term systemic effects	700 mg/m3
	Workers	Dermal	Long-term systemic effects	2016 mg/kg
	Consumers	Inhalation	Long-term systemic effects	206 mg/m3
	Consumers	Inhalation	Long-term local effects	206 mg/m3
	Consumers	Dermal	Long-term systemic effects	1186 mg/kg
	Consumers	Oral	Long-term systemic effects	59,4 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
hexamethylene diacrylate	Fresh water	0,0015 mg/l
	Marine water	0,00015 mg/l
	Fresh water sediment	0,0137 mg/kg
	Soil	0,00397 mg/kg
	Sewage treatment plant	2,7 mg/l
2,6-di-tert-butyl-p-cresol	Fresh water	0,000199 mg/l
	Marine water	0,00002 mg/l
	Soil	0,04769 mg/l
	Intermittent releases	0,00199 mg/l
	Fresh water sediment	0,0996 mg/kg
	Marine sediment	0,00996 mg/kg
cyclohexane	Fresh water	0,207 mg/l
	Marine water	0,207 mg/l
	Water	0,207 mg/l
	Sewage treatment plant	3,24 mg/l
	Fresh water sediment	3,627 mg/kg
	Marine sediment	3,627 mg/kg
	Soil	2,99 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Hand protection		
Material	:	Nitrile rubber
Break through time	:	> 480 min
Glove thickness	:	0,4 mm
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Environmental exposure controls

General advice	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	dispersion
Colour	:	colourless, translucent, clear
Odour	:	acrylic-like
Odour Threshold	:	No data available
Melting point/ range	:	< 10 °C Method: derived
Initial boiling point	:	107 °C Method: derived
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	ca. 79 °C Method: 48 (Abel-Pensky) DIN 51755
Auto-ignition temperature	:	> 200 °C Method: DIN 51794

Decomposition temperature	:	No data available
pH	:	7 (20 °C) Concentration: 1 % Method: Universal pH-value indicator
Viscosity		
Viscosity, dynamic	:	ca. 50 mPa.s (20 °C) Method: P/K 20°C
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	max. 0,00001 g/l
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	0,02 hPa (20 °C) Method: derived
Relative density	:	No data available
Density	:	ca. 1,390 g/cm3 (20 °C, 1.013 hPa) Method: 4 deaerated (20°C oscillating U-tube)
Bulk density	:	Not applicable
Relative vapour density	:	No data available
Particle characteristics		
Assessment	:	This substance/ mixture contains nanoforms (according to REACH Regulation)
Particle size	:	Further particle properties for nanomaterials see section 3

9.2 Other information

Flammability (liquids)	:	Sustains combustion
Evaporation rate	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : No data available

10.5 Incompatible materials

Materials to avoid : Acids and bases
Strong oxidizing agents

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

Not classified due to lack of data.

Product:

Acute oral toxicity : Remarks: No data available

Components:

hexamethylene diacrylate:

Acute oral toxicity : LD50 (Rat, male and female): > 5.000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit): 3.650 mg/kg
Method: OECD Test Guideline 402

2,6-di-tert-butyl-p-cresol:

Acute oral toxicity : LD50 (Rat): > 6.000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

cyclohexane:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401
GLP: No information available.

Acute inhalation toxicity : LC50 (Rat): > 32,88 mg/l
Test atmosphere: dust/mist

Method: OECD Test Guideline 403
GLP: no

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: No information available.

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks : May irritate skin.
May cause skin irritation and/or dermatitis.

Components:

hexamethylene diacrylate:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	Skin irritation
GLP	:	yes

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks : Causes serious eye irritation.

Components:

hexamethylene diacrylate:

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

cyclohexane:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	slight irritation
GLP	:	No information available.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Remarks : Causes sensitisation.

Components:

hexamethylene diacrylate:

Test Type : Maximisation Test
Exposure routes : Dermal
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Causes sensitisation.

Germ cell mutagenicity

Not classified due to lack of data.

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Carcinogenicity

Not classified due to lack of data.

Product:

Remarks : No data available

Reproductive toxicity

Not classified due to lack of data.

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

STOT - single exposure

Not classified due to lack of data.

Product:

Remarks : No data available

STOT - repeated exposure

Not classified due to lack of data.

Product:

Remarks : No data available

Repeated dose toxicity

Product:

Remarks : No data available

Aspiration toxicity

Not classified due to lack of data.

Product:

No data available

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 : No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

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

Components:

hexamethylene diacrylate:

M-Factor (Acute aquatic toxicity) : 1

2,6-di-tert-butyl-p-cresol:

Toxicity to fish : LC50 : 199 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 0,42 mg/l
Exposure time: 72 h
Test Type: static test
Method: Regulation (EC) No. 440/2008, Annex, C.3
GLP: yes

M-Factor (Acute aquatic toxicity)	:	1
M-Factor (Chronic aquatic toxicity)	:	1

cyclohexane:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 4,53 mg/l Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203 GLP: No information available.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,9 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: no
Toxicity to algae/aquatic plants	:	(Pseudokirchneriella subcapitata (green algae)): 9,317 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes
M-Factor (Acute aquatic toxicity)	:	1
M-Factor (Chronic aquatic toxicity)	:	1

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Components:

hexamethylene diacrylate:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 310 GLP: yes

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: No data available

Components:

hexamethylene diacrylate:

Partition coefficient: n-	:	log Pow: 2,81 (25 °C)

octanol/water | Method: OECD Test Guideline 107

cyclohexane:

Partition coefficient: n-octanol/water : log Pow: 3,44 (25 °C)
pH: 7
GLP: No information available.

12.4 Mobility in soil

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.

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 : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

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 contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number or ID number

ADR	:	UN 3082
RID	:	UN 3082
IMDG	:	UN 3082
IATA	:	UN 3082

14.2 UN proper shipping name

ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hexandiol diacrylate)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hexandiol diacrylate)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hexandiol diacrylate)
IATA	:	Environmentally hazardous substance, liquid, n.o.s. (Hexandiol diacrylate)

14.3 Transport hazard class(es)

ADR	:	9
RID	:	9
IMDG	:	9
IATA	:	9

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	-

RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Remarks	:	IMDG Code segregation group - none

IATA (Cargo)

Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous Dangerous Goods

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous Dangerous Goods

14.5 Environmental hazards

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : 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

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 3
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)		Number on list 57: cyclohexane
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)		Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.
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).

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Fire Hazard Class : A III: Flash Point > 55 °C up to 100 °C, at 15 °C not miscible with water

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

15.2 Chemical safety assessment

Not applicable

SECTION 16: Other information

Items where relevant changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
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.

Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure
2006/15/EC	:	Europe. Indicative occupational exposure limit values
2006/15/EC / TWA	:	Limit Value - eight hours

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:		**Classification procedure:**
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 2	H411	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

REG_EU / EN