

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

**1.1. Product identifier**

Product form : Mixture  
 Product name : TUBALL MATRIX 301  
 Type of product : Nanoform embedded in a matrix

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

**1.2.1. Relevant identified uses**

Use of the substance/mixture : Additive

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet**

Europe:	USA:	Asia:	China:	India:
OCSiAI Europe S.a.r.l. L-3364, Leudelange, 1, rue de la Poudrerie, Grand Duchy of Luxembourg	OCSiAI LLC 500 S Front St., Suite 860, Columbus, OH 43215, USA	OCSiAI Asia Pacific Co., Ltd. Office 208, Pilot Plant Bldg., Incheon Technopark 12 Gaetbeol-ro, Yeonsu-gu, Incheon, 406-840 Republic of Korea	OCSiAI Hong Kong Limited No. 1102, 11/F, Lippo Sun Plaza, 28 Canton Road, Tsim Sha Tsui, Kowloon, Hong Kong	OCSiAI PRIVATE LIMITED A504 Universal BusinessPark, Ansa Industrial Estate, Chandivali, Andheri (E) Mumbai 400072
T +352 27 99 03 73 09.00-17.00 GMT+2 europe@ocsial.com	T +1 415 906 5271 09.00-17.00 GMT-4 usa@ocsial.com	T +82 32 260 0407 09.00-17.00 GMT+9 asiapacific@ocsial.com	T +852 3575 3943 09:00-17:00; GMT+8 china@ocsial.com	T +91 22 4120 8615 09:00-17:00; GMT+5.5 india@ocsial.com

**1.4. Emergency telephone number**

**EMEA** : +44 1865 407333 (English) (Carechem 24)  
**East/South East Asia** : +65 3158 1074 (English, Hindi, Japanese, Korean, Malay, Mandarin) (Carechem 24)

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin corrosion/irritation, Category 2 H315  
 Serious eye damage/eye irritation, Category 2 H319  
 Hazardous to the aquatic environment — Acute Hazard, Category 1 H400  
 Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412  
 Full text of H statements : see section 16

**Adverse physicochemical, human health and environmental effects**

Causes skin irritation. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.

**2.2. Label elements**

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS07 GHS09

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H315 - Causes skin irritation.  
 H319 - Causes serious eye irritation.  
 H410 - Very toxic to aquatic life with long lasting effects.

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Precautionary statements (CLP) : P264 - Wash hands, forearms and face thoroughly after handling.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P302+P352 - IF ON SKIN: Wash with plenty of water.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P501 - Dispose of container, contents to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients ►

### 3.1. Substances

Not applicable

### 3.2. Mixtures ►

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Alcohols, C12-15-branched and linear, ethoxylated propoxylated	(CAS No) 120313-48-6	90	Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Single wall carbon nanotubes*	(EC No) 943-098-9 (REACH No.) 01-2120130006-75-0000	10	Eye Irrit. 2, H319

Full text of H-statements: see section 16

### \*Single wall carbon nanotubes TUBALL™

Name of (set of) nanoform(s)	Tuball™ - grades 1RW02 / 1RW03 are part of one set of nanoform
Value	-
Number based particle size distribution d10	1.2 - 1.45 nm
d50	1.6 - 1.8 nm
d90	1.9 - 2.2 nm
Shape and aspect ratio of particles	Elongated tubes; length to diameter ratio 2000 – 10000:1
Crystallinity	Amorphous
Surface functionalisation / treatment	No
Process	Chemical vapor deposition (CVD)
Specific surface area	300 – 1500 m <sup>2</sup> /g
Additional information	G/D range : 40 (RAMAN at 532 nm)

## SECTION 4: First aid measures ►

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.  
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact : Irritation.  
Symptoms/effects after eye contact : Eye irritation.

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

Treat symptomatically.

## SECTION 5: Firefighting measures ►

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures ►

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

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing.  
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".  
Emergency procedures : Provide adequate ventilation. Evacuate area. Avoid inhalation of vapours.

### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Collect spillage.  
Methods for cleaning up : Mechanically recover the product.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.  
Handling temperature : < 70 °C  
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store in a well-ventilated place. Keep cool.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters ►

#### Single wall carbon nanotubes

##### DNEL/DMEL (Workers)

Acute - systemic effects, dermal	No hazard identified
Acute - systemic effects, inhalation	Low hazard (no threshold identified)
Acute - local effects, dermal	No hazard identified
Acute - local effects, inhalation	Low hazard (no threshold identified)

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Long-term - systemic effects, dermal	No hazard identified
Long-term - local effects, dermal	No hazard identified
Long-term - systemic effects, inhalation	Low hazard (no threshold identified)
Long-term - local effects, inhalation	Low hazard (no threshold identified)
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	No hazard identified
Acute - systemic effects, inhalation	Low hazard (no threshold identified)
Acute - systemic effects, oral	No hazard identified
Acute - local effects, dermal	No hazard identified
Acute - local effects, inhalation	No hazard identified
Long-term - systemic effects, oral	No hazard identified
Long-term - systemic effects, inhalation	Low hazard (no threshold identified)
Long-term - systemic effects, dermal	No hazard identified
Long-term - local effects, dermal	No hazard identified
Long-term - local effects, inhalation	No hazard identified
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	No hazard identified
PNEC aqua (marine water)	No hazard identified
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	No hazard identified
PNEC sediment (marine water)	No hazard identified
<b>PNEC (Soil)</b>	
PNEC soil	No hazard identified
<b>PNEC (Oral)</b>	
PNEC oral (secondary poisoning)	No potential to cause toxic effects if accumulated (in higher organisms) via the food chain
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	No data available: testing technically not feasible

### 8.2. Exposure controls ►

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Personal protective equipment:

Gloves. Protective clothing. Safety glasses.

#### Hand protection:

Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	3 (> 60 minutes)	> 0.35		EN 374

#### Eye protection:

Safety glasses

Type	Field of application	Characteristics	Standard
Safety glasses		With side shields	EN 166

#### Skin and body protection:

Wear suitable protective clothing. EN 14605

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Device	Filter type	Condition	Standard
Gas filters	Filter A1/B1		EN 14387

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### Personal protective equipment symbol(s):



### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties ►

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Flakes. Pasty.
Colour	: Black.
Odour	: Slight.
Odour threshold	: No data available
pH	: ≈ 7 (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
pH solution	: 50 g/l (23°C) (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: ≈ 190 °C (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
Freezing point	: Not applicable
Boiling point	: > 250 °C (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
Flash point	: Not applicable
Auto-ignition temperature	: > 200 °C (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: Not applicable
Particle size	: See section 3.2
Particle size distribution	: See section 3.2
Particle shape	: See section 3.2
Particle aspect ratio	: See section 3.2
Particle aggregation state	: Bundles of nanotubes
Particle agglomeration state	: Single wall carbon nanotubes is embedded in a matrix
Particle specific surface area	: See section 3.2
Particle dustiness	: 1660 mg/kg (DIRM - Single wall carbon nanotubes)

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity ►

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

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### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes skin irritation. pH: ≈ 7 (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
Serious eye damage/irritation	: Causes serious eye irritation. pH: ≈ 7 (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified

#### Single wall carbon nanotubes

NOAEL (animal/female, F0/P)	> 1000 mg/kg bw/day - OECD 422
NOAEL (animal, F1)	> 1000 mg/kg bw/day - for adverse effects on prenatal development (conceptus to birth) - OECD 422
NOAEL (animal, F1)	> 1000 mg/kg bw/day - for adverse effects on postnatal development (pup) - OECD 422

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

#### Single wall carbon nanotubes

NOAEL (oral, rat, 90 days)	> 1000 mg/kg bodyweight/day - OECD 422
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Aspiration hazard : Not classified

#### TUBALL MATRIX 301

Viscosity, kinematic	Not applicable
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## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

#### Alcohols, C12-15-branched and linear, ethoxylated propoxylated

EC50 crustacea - 48h	1 mg/l Daphnia magna (Water flea)
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### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

#### Component

Single wall carbon nanotubes	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
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### 12.6. Other adverse effects

No additional information available

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### SECTION 13: Disposal considerations ►

#### 13.1. Waste treatment methods

Regional legislation (waste)	: Dispose of this material and its container at hazardous or special waste collection point.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Prevent entry to sewers and public waters.

### SECTION 14: Transport information ►

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
UN 3077	UN 3077	UN 3077	UN 3077	UN 3077
<b>14.2. UN proper shipping name</b>				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated)	Environmentally hazardous substance, solid, n.o.s. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
<b>Transport document description</b>				
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated), 9, III, (-)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated), 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, solid, n.o.s. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Alcohols, C12-15-branched and linear, ethoxylated propoxylated), 9, III
<b>14.3. Transport hazard class(es)</b>				
9	9	9	9	9
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

#### 14.6. Special precautions for user

##### Overland transport

Classification code (ADR)	: M7
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC08, LP02, R001
Special packing provisions (ADR)	: PP12, B3
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T1, BK1, BK2, BK3

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Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAV, LGBV

Vehicle for tank carriage : AT

Transport category (ADR) : 3

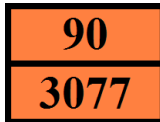
Special provisions for carriage - Packages (ADR) : V13

Special provisions for carriage - Bulk (ADR) : VC1, VC2

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13

Hazard identification number (Kemler No.) : 90

Orange plates :



Tunnel restriction code (ADR) : -

### Transport by sea

Special provisions (IMDG) : 274, 335, 966, 967, 969

Limited quantities (IMDG) : 5 kg

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : LP02, P002

Special packing provisions (IMDG) : PP12

IBC packing instructions (IMDG) : IBC08

IBC special provisions (IMDG) : B3

Tank instructions (IMDG) : BK1, BK2, BK3, T1

Tank special provisions (IMDG) : TP33

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-F

Stowage category (IMDG) : A

Stowage and handling (IMDG) : SW23

### Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y956

PCA limited quantity max net quantity (IATA) : 30kgG

PCA packing instructions (IATA) : 956

PCA max net quantity (IATA) : 400kg

CAO packing instructions (IATA) : 956

CAO max net quantity (IATA) : 400kg

Special provisions (IATA) : A97, A158, A179, A197

ERG code (IATA) : 9L

### Inland waterway transport

Classification code (ADN) : M7

Special provisions (ADN) : 274, 335, 375, 601

Limited quantities (ADN) : 5 kg

Excepted quantities (ADN) : E1

Equipment required (ADN) : PP, A

Number of blue cones/lights (ADN) : 0

Additional requirements/Remarks (ADN) : \* Only in the molten state. \*\* For carriage in bulk see also 7.1.4.1. \*\*\* Only in the case of transport in bulk.

### Rail transport

Classification code (RID) : M7

Special provisions (RID) : 274, 335, 375, 601

Limited quantities (RID) : 5kg

Excepted quantities (RID) : E1

Packing instructions (RID) : P002, IBC08, LP02, R001

Special packing provisions (RID) : PP12, B3

Mixed packing provisions (RID) : MP10

Portable tank and bulk container instructions (RID) : T1, BK1, BK2, BK3

Portable tank and bulk container special provisions (RID) : TP33

Tank codes for RID tanks (RID) : SGAV, LGBV

Transport category (RID) : 3

Special provisions for carriage – Packages (RID) : W13



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Special provisions for carriage – Bulk (RID) : VC1, VC2  
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31  
Colis express (express parcels) (RID) : CE11  
Hazard identification number (RID) : 90

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

Not applicable

## SECTION 15: Regulatory information ►

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

#### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Reference code	Applicable on	Entry title or description
3(b)	Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	Alcohols, C12-15-branched and linear, ethoxylated propoxylated	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

#### 15.1.2. National regulations

##### Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)  
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

### 15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out

Single wall carbon nanotubes

## SECTION 16: Other information

### Abbreviations and acronyms:

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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level

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DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

### Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Revision : All recent revision(s) are noted by a bold triangle pointed to right '►'.  
Disclaimer : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. It is the user's responsibility to take mentioned precaution measures and ensure that this information is complete and sufficient for the use of this product.

### SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.