

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

**1.1. Product identifier**

Product form : Mixture  
 Product name : TUBALL MATRIX 201  
 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 : The plasticizer is to be used for thermoset compounds to add electrical conductivity

**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]**

Serious eye damage/eye irritation, Category 2 H319  
 Skin sensitisation, Category 1 H317  
 Germ cell mutagenicity, Category 2 H341  
 Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411  
 Full text of H statements : see section 16

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

Suspected of causing genetic defects. May cause an allergic skin reaction. Causes serious eye irritation. 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      GHS08      GHS09

Signal word (CLP) : Warning  
 Hazardous ingredients : 2,3-epoxypropyl neodecanoate  
 Hazard statements (CLP) : H317 - May cause an allergic skin reaction.  
 H319 - Causes serious eye irritation.  
 H341 - Suspected of causing genetic defects.  
 H411 - Toxic to aquatic life with long lasting effects.

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Precautionary statements (CLP) : P201 - Obtain special instructions before use.  
P261 - Avoid breathing dust, fume.  
P264 - Wash hands thoroughly after handling.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, eye protection.  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

### 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]
2,3-epoxypropyl neodecanoate	(CAS-No.) 26761-45-5 (EC-No.) 247-979-2	90	Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411
Single wall carbon nanotubes*	(CAS-No.) Not assigned for EU-REACH (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. Get medical attention.  
First-aid measures after skin contact : Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.  
Wash with plenty of soap and water.  
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.  
First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. Get medical attention.

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

Symptoms/effects after skin contact : May cause an allergic skin reaction.

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

Treat symptomatically. Call a physician immediately if large quantities have been ingested or inhaled.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).  
Unsuitable extinguishing media : None known.

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

Fire hazard : Flammable vapours can accumulate in head space of closed systems. Residue may be flammable and explosive.  
Explosion hazard : May form flammable/explosive vapour-air mixture.  
Hazardous decomposition products in case of fire : Carbon dioxide. Carbon monoxide.

#### 5.3. Advice for firefighters

Protection during firefighting : Full face mask. Positive pressure self-contained breathing apparatus (SCBA).

### 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 : Ensure adequate ventilation. Evacuate area.

##### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection. In case of fire: Positive pressure self-contained breathing apparatus (SCBA).  
Emergency procedures : Provide adequate ventilation. Evacuate area. Avoid inhalation of vapours.

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Collect contaminated extinguishing water separately and must not enter the sewage system.

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

For containment : Clean spills promptly. Ventilate affected area. Stop leak if safe to do so.  
Methods for cleaning up : Clear up rapidly by scoop or vacuum. Collect in closed container and remove to a safe place for disposal by burning.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Avoid breathing dust, fume. To prevent thermal burns avoid contact with hot product.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

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

Storage conditions : Store in dry, well-ventilated area. Store at ambient temperature. Keep container tightly closed. Protect from sunlight.  
Storage temperature : -40 / +40 °C  
Heat and ignition sources : Keep away from open flames, hot surfaces and sources of ignition.  
Information on mixed storage : Store away from water (including sewage plant).  
Special rules on packaging : Keep container tightly closed.

#### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 2,3-epoxypropyl neodecanoate

###### DNEL/DMEL (Workers)

Acute - systemic effects, inhalation	2.7 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	1.9 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2.7 mg/m <sup>3</sup>

###### DNEL/DMEL (General population)

Long-term - systemic effects, oral	1.1 mg/kg bw/day
Long-term - systemic effects, inhalation	1.6 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	1.15 mg/kg bodyweight/day

###### PNEC (Water)

PNEC aqua (freshwater)	0.0012 mg/l
PNEC aqua (marine water)	0.12 µg/l
PNEC aqua (intermittent, freshwater)	12 µg/l

###### PNEC (STP)

PNEC sewage treatment plant	50 mg/l
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##### 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)
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)

###### DNEL/DMEL (General population)

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

###### PNEC (Water)

PNEC aqua (freshwater)	No hazard identified
PNEC aqua (marine water)	No hazard identified

###### PNEC (Sediment)

PNEC sediment (freshwater)	No hazard identified
PNEC sediment (marine water)	No hazard identified

###### PNEC (Soil)

PNEC soil	No hazard identified
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###### PNEC (Oral)

PNEC oral (secondary poisoning)	No potential to cause toxic effects if accumulated (in higher organisms) via the food chain
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### PNEC (STP)

PNEC sewage treatment plant

No data available: testing technically not feasible

## 8.2. Exposure controls

### Personal protective equipment:

Gloves. Protective clothing. Gas mask.

### Hand protection:

Wear suitable gloves. EN 374

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR), Butyl rubber	6 (> 480 minutes)	0.4		EN 374

### Eye protection:

Chemical goggles or safety glasses. EN 166

### Skin and body protection:

Protective clothing (with elasticated cuffs and closed neck). EN 14605

### Respiratory protection:

Wear respiratory protection. Selection of respiratory protection must be based on the result of the risk assessment

### Personal protective equipment symbol(s):



## 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	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -60 °C (2,3-epoxypropyl neodecanoate)
Freezing point	: Not applicable
Boiling point	: 278 °C (2,3-epoxypropyl neodecanoate)
Flash point	: 126 °C (2,3-epoxypropyl neodecanoate)
Auto-ignition temperature	: 397 (2,3-epoxypropyl neodecanoate)
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Slightly soluble in water. Soluble in organic solvents.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: Product is 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	: Bundle of nanotubes

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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

Stable under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

## 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

#### 2,3-epoxypropyl neodecanoate

LD50 oral rat	> 9700 mg/kg
LD50 dermal rat	3800 mg/kg

Skin corrosion/irritation : Not available  
Serious eye damage/irritation : Causes serious eye irritation.  
Respiratory or skin sensitisation : May cause an allergic skin reaction.  
Germ cell mutagenicity : Suspected of causing genetic defects.  
Carcinogenicity : Not available  
Reproductive toxicity : Not available

#### 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 available  
STOT-repeated exposure : Not available

#### Single wall carbon nanotubes

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

#### TUBALL MATRIX 201

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

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

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

2,3-epoxypropyl neodecanoate	
LC50 fish - 96h	9.6 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 crustacea - 48h	4.8 mg/l Daphnia magna (Water flea)
EC50 algae - 96h	3.5 mg/l algae

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

2,3-epoxypropyl neodecanoate	
Partition coefficient n-octanol/water (Log Pow)	4.4 @ 20 °C

### 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

### 12.6. Other adverse effects

No additional information available

## 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 : Disposal through controlled incineration or authorised waste dump.  
Sewage disposal recommendations : Prevent entry to sewers and public waters.

## SECTION 14: Transport information

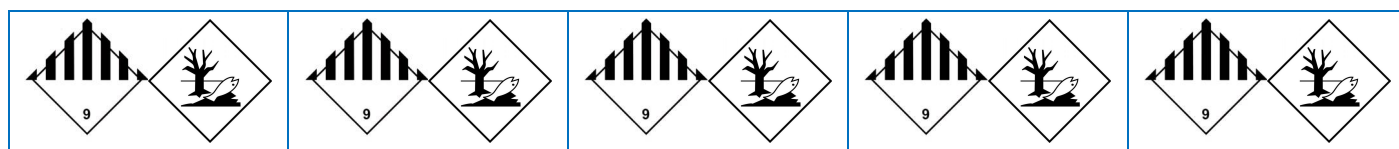
In accordance with ADR / IMDG / IATA / ADN / RID

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 : 2,3-epoxypropyl neodecanoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate)	Environmentally hazardous substance, solid, n.o.s. (CONTAINS : 2,3-epoxypropyl neodecanoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate)
<b>Transport document description</b>				
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate), 9, III, (-)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate), 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, solid, n.o.s. (CONTAINS : 2,3-epoxypropyl neodecanoate), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate), 9, III
<b>14.3. Transport hazard class(es)</b>				
9	9	9	9	9

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### 14.4. Packing group

III	III	III	III	III
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### 14.5. Environmental hazards

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
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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
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



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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  
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)	2,3-epoxypropyl neodecanoate	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)	2,3-epoxypropyl neodecanoate	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)

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### 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

### Denmark

Danish National Regulations	: Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product
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## 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
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
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
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

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

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H411	Toxic to aquatic life with long lasting effects.

Revision : All recent revision(s) are noted by a bold triangle pointed to right '►'.

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### 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)

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