

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

**1.1. Product identifier**

Product form : Mixture  
Product name : TUBALL MATRIX 203  
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 : Industrial use as additive in polymers, resins and/or coatings

**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.<br>L-3364, Leudelange,<br>1, rue de la Poudrerie,<br>Grand Duchy of<br>Luxembourg | OCSiAI LLC<br>500 S Front St.,<br>Suite 860, Columbus,<br>OH 43215, USA | OCSiAI Asia Pacific Co., Ltd.<br>Office 208, Pilot Plant Bldg.,<br>Incheon Technopark<br>12 Gaetbeol-ro, Yeonsu-gu,<br>Incheon, 406-840<br>Republic of Korea | OCSiAI Hong Kong Limited<br>No. 1102, 11/F, Lippo Sun<br>Plaza, 28 Canton Road,<br>Tsim Sha Tsui, Kowloon,<br>Hong Kong | VIMAL INTERTRADE PVT<br>LTD. Shivam Centrum,<br>Sahar Road, Koldongri,<br>Above Nexa Showroom,<br>Andheri East,<br>Mumbai – 400 069 |
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**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- and EUH-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

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, forearms and face 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

Other hazards which do not result in classification : None under normal conditions.

## 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<br>(EC-No.) 247-979-2<br>(REACH-No.) 01-2119431597-33                     | 70      | Skin Sens. 1, H317<br>Muta. 2, H341<br>Aquatic Chronic 2, H411 (M=0)                                      |
| Polymer                       | Trade Secret   | 10 – 14 | Not classified  |
| Single wall carbon nanotubes* | (CAS-No.) Not assigned for EU-REACH<br>(EC-No.) 943-098-9<br>(REACH-No.) 01-2120130006-75-0000 | 10      | Eye Irrit. 2, H319  |
| Alkylolammonium salt          | (CAS-No.) 398475-96-2  | 6 – 10  | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Aquatic Acute 1, H400 (M=1)<br>Aquatic Chronic 1, H410 (M=1) |

Full text of H- and EUH-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 : Get medical attention.  
First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. Get medical attention.

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

Symptoms/effects after skin contact : May cause an allergic skin reaction.  
Symptoms/effects after eye contact : Causes serious eye irritation.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Powder, Alcohol-resistant foam, Water spray, 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. 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 ►

| <b>2,3-epoxypropyl neodecanoate</b>      |                           |
|--|---------------------------|
| <b>DNEL/DMEL (Workers)</b>               |                           |
| 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>     |
| <b>DNEL/DMEL (General population)</b>    |                           |
| 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 |
| <b>PNEC (Water)</b>                      |                           |
| PNEC aqua (freshwater)                   | 0.0012 mg/l               |
| PNEC aqua (marine water)                 | 0.12 µg/l                 |
| PNEC aqua (intermittent, freshwater)     | 12 µg/l                   |
| <b>PNEC (STP)</b>                        |                           |
| PNEC sewage treatment plant              | 50 mg/l                   |

| <b>Single wall carbon nanotubes</b>   |   |
|---------------------------------------|---|
| <b>DNEL/DMEL (Workers)</b>            |   |
| 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 - 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, 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   |

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### 8.2. Exposure controls ►

#### Appropriate engineering controls:

Provide local exhaust or general room ventilation.

#### Personal protective equipment:

Gloves. Protective clothing. Gas mask.

#### Hand protection:

Wear suitable gloves. EN 374

| Type                                  | Material                              | Permeation        | Thickness (mm) | Penetration | Standard |
|---------------------------------------|---------------------------------------|-------------------|----------------|-------------|----------|
| Disposable gloves,<br>Reusable gloves | Nitrile rubber (NBR),<br>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  |

### Single wall carbon nanotubes

|                              |   |
|------------------------------|---|
| 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 are embedded in a matrix |

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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

#### Alkylolammonium salt

LD50 oral rat : > 5000 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

Aspiration hazard : Not available

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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

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                               |

##### Alkylolammonium salt

|                   |   |
|-------------------|---|
| LC50 fish - 96h   | 8 mg/l Oncorhynchus mykiss (Rainbow trout) - OECD 203 |
| ErC50 algae - 72h | > 1 mg/l Pseudokirchneriella subcapitata - OECD 201   |

#### 12.2. Persistence and degradability

##### Alkylolammonium salt

Persistence and degradability : Not readily biodegradable.

#### 12.3. Bioaccumulative potential

##### 2,3-epoxypropyl neodecanoate

Partition coefficient n-octanol/water (Log Pow) : 4.4 @ 20 °C

#### 12.4. Mobility in soil

##### TUBALL MATRIX 203

Ecology - soil : Not 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.  
Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.  
Additional information : Clean up even minor leaks or spills if possible without unnecessary risk.  
European List of Waste (LoW) code : 06 13 99 - wastes not otherwise specified

### 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 ; Alkylolammonium salt) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate ; Alkylolammonium salt) | Environmentally hazardous substance, solid, n.o.s. (CONTAINS : 2,3-epoxypropyl neodecanoate ; Alkylolammonium salt) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate ; Alkylolammonium salt) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : 2,3-epoxypropyl neodecanoate ; Alkylolammonium salt) |

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### Transport document description

|  |   |   |   |   |
|--|---|---|---|---|
| UN 3077<br>ENVIRONMENTALLY<br>HAZARDOUS<br>SUBSTANCE, SOLID,<br>N.O.S. (CONTAINS : 2,3-<br>epoxypropyl neodecanoate<br>; Alkylolammonium salt), 9,<br>III, (-) | UN 3077<br>ENVIRONMENTALLY<br>HAZARDOUS<br>SUBSTANCE, SOLID,<br>N.O.S. (CONTAINS : 2,3-<br>epoxypropyl neodecanoate<br>; Alkylolammonium salt), 9,<br>III, MARINE POLLUTANT | UN 3077 Environmentally<br>hazardous substance, solid,<br>n.o.s. (CONTAINS : 2,3-<br>epoxypropyl neodecanoate<br>; Alkylolammonium salt), 9,<br>III | UN 3077<br>ENVIRONMENTALLY<br>HAZARDOUS<br>SUBSTANCE, SOLID,<br>N.O.S. (CONTAINS : 2,3-<br>epoxypropyl neodecanoate<br>; Alkylolammonium salt), 9,<br>III | UN 3077<br>ENVIRONMENTALLY<br>HAZARDOUS<br>SUBSTANCE, SOLID,<br>N.O.S. (CONTAINS : 2,3-<br>epoxypropyl neodecanoate<br>; Alkylolammonium salt), 9,<br>III |
|--|---|---|---|---|

### 14.3. Transport hazard class(es)

|   |   |   |   |   |
|---|---|---|---|---|
| 9 | 9 | 9 | 9 | 9 |
|   |   |   |   |   |

### 14.4. Packing group

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| III | III | III | III | III |
|-----|-----|-----|-----|-----|

### 14.5. Environmental hazards

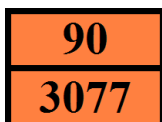
|                                     |   |                                     |                                     |                                     |
|-------------------------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Dangerous for the environment : Yes | Dangerous for the environment : Yes<br>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       |
| 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) | : -  |
| EAC code                      | : 2Z |

#### 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                   |



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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  
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 ;<br>Alkylolammonium salt | 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 |

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|      |  |   |
|------|--|---|
| 3(c) | 2,3-epoxypropyl neodecanoate ;<br>Alkylolammonium salt | 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 : None of the components are listed

giftige stoffen – Borstvoeding

NIET-limitatieve lijst van voor de voortplanting : None of the components are listed

giftige stoffen – Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting : None of the components are listed

giftige stoffen – Ontwikkeling

#### 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

#### Switzerland

Storage class (LK) : LK 6.1 - Toxic materials

### 15.2. Chemical safety assessment

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

Single wall carbon nanotubes  
2,3-epoxypropyl neodecanoate

## 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               |
| CAS-No. | Chemical Abstract Service number  |
| CLP     | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008                       |
| DIRM    | Mass-based Dustiness Index  |
| 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  |
| NOAEL   | No-Observed Adverse Effect Level  |
| NOEC    | No-Observed Effect Concentration  |
| 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                      |

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

|  |   |
|--|---|
| SDS  | Safety Data Sheet   |
| vPvB                                       | Very Persistent and Very Bioaccumulative                          |
| WGK  | Water Hazard Class  |
| <b>Full text of H- and EUH-statements:</b> |   |
| Aquatic Acute 1                            | Hazardous to the aquatic environment — Acute Hazard, Category 1   |
| Aquatic Chronic 1                          | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Aquatic Chronic 2                          | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Eye Irrit. 2                               | Serious eye damage/eye irritation, Category 2                     |
| H315                                       | Causes skin irritation.   |
| H317                                       | May cause an allergic skin reaction.                              |
| H319                                       | Causes serious eye irritation.                                    |
| H341                                       | Suspected of causing genetic defects.                             |
| 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.                  |
| Muta. 2                                    | Germ cell mutagenicity, Category 2                                |
| Skin Irrit. 2                              | Skin corrosion/irritation, Category 2                             |
| Skin Sens. 1                               | Skin sensitisation, Category 1                                    |

- 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.