

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

#### 1.1. Product identifier ►

Product form : Mixture  
 Generic name : TUBALL MATRIX 301  
 UFI : XUT0-V0RR-Y00X-XJ6M  
 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 ►

##### Supplier

Europe:  
 OCSiAl Europe S.a.r.l.  
 L-3364, Leudelange,  
 1, rue de la Poudrerie,  
 Grand Duchy of Luxembourg  
 T +352 27 99 03 73  
 09.00-17.00 GMT+2  
 europe@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- and EUH-statements: see section 16

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

Causes serious eye irritation. Very toxic to aquatic life.

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

GHS09

Signal word (CLP) :

Warning

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Hazard statements (CLP)	: H315 - Causes skin irritation. H319 - Causes serious eye irritation. H410 - Very toxic to aquatic life with long lasting effects.
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 to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards ►

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## 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 (M=1) Aquatic Chronic 3, H412 (M=1)
Single wall carbon nanotubes*	EC-No.: 943-098-9 REACH-No.: 01-2120130006-75-0000	10	Eye Irrit. 2, H319

Comments : \* Single wall carbon nanotubes TUBALL™

Full text of H- and EUH-statements: see section 16

### Components – Nanoform ►

*Single wall carbon nanotubes	
Name of (set of) nanoform(s)	Tuball™ - all grades are part of one set of nanoform
Number based particle size distribution	d10 1.2-1.45 nm d50 1.2-1.45 nm d90 1.9-2.2 nm
Particle shape	Elongated tubes
Particle aspect ratio	length to diameter ratio 2000 – 10000:1
Crystallinity	Amorphous

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Surface functionalisation/treatment - Process	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	: Rinse mouth out with water. Do not induce vomiting. Get medical advice/attention.

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

Symptoms/effects after eye contact : Eye irritation.

#### 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 ►

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 : Collect spillage.  
Methods for cleaning up : Mechanically recover the product. Clear up rapidly by scoop or vacuum. Collect in closed container and remove to a safe place for disposal by burning.  
Other information : Dispose of materials or solid residues at an authorized site.

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 6.4. Reference to other sections ►

For disposal of contaminated materials refer to section 13 : "Disposal considerations". For further information refer to section 8: "Exposure controls/personal protection".

## 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.
- Hygiene measures : 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.
- 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

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

No additional information available

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

Single wall carbon nanotubes	
<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

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Single wall carbon nanotubes	
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
PNEC (Oral)	
PNEC oral (secondary poisoning)	No potential to cause toxic effects if accumulated (in higher organisms) via the food chain
PNEC (STP)	
PNEC sewage treatment plant	No data available: testing technically not feasible

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls ►

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Gloves. Safety glasses. Protective clothing.

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety glasses with side shields. Use eye protection according to EN 166

#### 8.2.2.2. Skin protection

##### Skin and body protection:

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

##### Hand protection:

Chemically resistant protective gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves, Reusable gloves	Nitrile rubber (NBR), Butyl rubber		≥ 0.11		EN 374

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 8.2.2.3. Respiratory protection

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Selection of respiratory protection must be based on the result of the risk assessment

### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### 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
Colour	: Black.
Appearance	: Flakes. Pasty.
Odour	: Slight.
Odour threshold	: Not 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)
Flammability	: Non flammable.
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing.
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: ≈ 190 °C (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
Auto-ignition temperature	: > 200 °C (Alcohols, C12-15-branched and linear, ethoxylated propoxylated)
Decomposition temperature	: Not 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)
Viscosity, kinematic	: Not applicable
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: 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
Particle specific surface area	: See section 3.2
Particle dustiness	: 1660 mg/kg (DIRM - Single wall carbon nanotubes)

See section 3 for more information about nano properties.

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 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).

#### 10.5. Incompatible materials

Strong oxidizing agents.

#### 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 hazard classes as defined in Regulation (EC) No 1272/2008

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. Not classified.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Not classified.
Reproductive toxicity	: Not classified.

Single wall carbon nanotubes	
NOAEL (animal/female, F0/P)	no adverse effects seen at highest dose tested > 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)	no adverse effects seen at highest dose tested > 1000 mg/kg bodyweight/day - OECD 422
Aspiration hazard	: Not classified.

#### 11.2. Information on other hazards ►

##### 11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : No additional information available

##### 11.2.2. Other information

No additional information available

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### SECTION 12: Ecological information

#### 12.1. Toxicity

- Ecology - general : Very toxic to aquatic life.  
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.  
Not rapidly degradable

#### 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. Endocrine disrupting properties ►

- Adverse effects on the environment caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

#### 12.7. 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 : Dispose through controlled incineration or authorised waste dump. Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Sewage disposal recommendations : Prevent entry to sewers and public waters. Disposal must be done according to official regulations.  
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





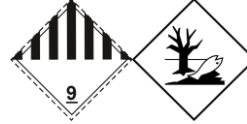
In accordance with ADR / IMDG / IATA / ADN / RID



# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID 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

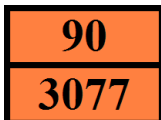
Classification code (ADR)	: M7
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC08, LP02, R001
Special packing provisions (ADR)	: PP12, B3
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container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

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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, A215  
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

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Colis express (express parcels) (RID) : CE11  
Hazard identification number (RID) : 90

### 14.7. Maritime transport in bulk according to IMO instruments

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

##### REACH Annex XVII (Restriction List)

###### EU restriction list (REACH Annex XVII)

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

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 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  
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

### 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
WGK	Water Hazard Class
VOC	Volatile Organic Compounds
OEL	Occupational Exposure Limit
N.O.S.	Not Otherwise Specified
IOELV	Indicative Occupational Exposure Limit Value
EN	European Standard
EC-No.	European Community number
CAS-No.	Chemical Abstract Service number
BLV	Biological limit value
vPvB	Very Persistent and Very Bioaccumulative
TLM	Median Tolerance Limit
COD	Chemical oxygen demand (COD)
SDS	Safety Data Sheet
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
PNEC	Predicted No-Effect Concentration
OECD	Organisation for Economic Co-operation and Development
NOEC	No-Observed Effect Concentration
PBT	Persistent Bioaccumulative Toxic
NOAEL	No-Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
LOAEL	Lowest Observed Adverse Effect Level
LD50	Median lethal dose
LC50	Median lethal concentration
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
IARC	International Agency for Research on Cancer
DNEL	Derived-No Effect Level
EC50	Median effective concentration
DMEL	Derived Minimal Effect level
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

# TUBALL MATRIX 301

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### Abbreviations and acronyms:

ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
BOD	Biochemical oxygen demand (BOD)
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
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
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
Skin Irrit. 2	Skin corrosion/irritation, Category 2

The classification complies with

: ATP 12

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.

Safety Data Sheet (SDS), EU

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