

1. Chemical product and company identification ▶

Substance name : TUBALL MATRIX 202
 Type of product : Nanoform embedded in a matrix
 Product group : Trade product

Company information

Supplier

OCSiAl Europe S. a. r. l.

Europe:	USA:	Asia:	China:	India:
OCSiAl Europe S.a.r.l. L-3364, Leudelange, 1, rue de la Poudrerie, Grand Duchy of Luxembourg	OCSiAl LLC 500 S Front St., Suite 860, Columbus, OH 43215, USA	OCSiAl Asia Pacific Co., Ltd. Office 208, Pilot Plant Bldg., Incheon Technopark 12 Gaetbeol-ro, Yeonsu- gu, Incheon, 406-840 Republic of Korea	OCSiAl Hong Kong Limited No. 1102, 11/F, Lippo Sun Plaza, 28 Canton Road, Tsim Sha Tsui, Kowloon, Hong Kong	VIMAL INTERTRADE PVT LTD. Shivam Centrum, Sahar Road, Koldongri, Above Nexa Showroom, Andheri East, Mumbai - 400 069 T +91 22 6288 4200 09:00-17:00; GMT+5.5 india@ocsial.com
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Emergency phone number

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

2. Hazards identification

GHS classification

Physical hazards	Explosives	classification not possible
	Flammable gases	No classification
	Aerosol	classification not possible
	Oxidizing gases	No classification
	Gases under pressure	No classification
	Flammable liquids	No classification
	Flammable solids	classification not possible
	Self-reactive substances and mixtures	classification not possible
	Pyrophoric liquids	No classification
	Pyrophoric solids	classification not possible
	Self-heating substances and mixtures	classification not possible
	Substances and mixtures which in contact with water emit flammable gases	classification not possible
	Oxidizing liquids	No classification
	Oxidizing solids	classification not possible
	Organic peroxides	classification not possible
	Corrosive to metals	classification not possible

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Health hazards	Desensitized explosives	classification not possible
	Acute toxicity (oral)	classification not possible
	Acute toxicity (dermal)	classification not possible
	Acute toxicity (inhalation:gas)	classification not possible
	Acute toxicity (inhalation:vapours)	No classification
	Acute toxicity (inhalation:dust/mist)	classification not possible
	Skin corrosion/irritation	classification not possible
	Serious eye damage/eye irritation	Category 2
	Respiratory sensitization	classification not possible
	Skin sensitization	classification not possible
	Germ cell mutagenicity	classification not possible
	Carcinogenicity	classification not possible
	Reproductive toxicity	classification not possible
	Specific target organ toxicity (single exposure)	classification not possible
	Specific target organ toxicity (repeated exposure)	classification not possible
Environmental hazards	Aspiration hazard	classification not possible
	Hazardous to the aquatic environment, short-term (acute)	classification not possible
	Hazardous to the aquatic environment, long-term (chronic)	Category 2
	Hazardous to the ozone layer	classification not possible

Hazard pictograms (GHS JP)



Signal word (GHS JP) : Warning

Hazard statements (GHS JP) : Causes serious eye irritation. (H319)
Toxic to aquatic life with long lasting effects. (H411)

Precautionary statements (GHS JP)

Prevention : Wash hands thoroughly after handling. (P264)
Avoid release to the environment. (P273)
Wear eye protection, protective clothing, protective gloves. (P280)

Response : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
If eye irritation persists: Get medical advice/attention. (P337+P313)
Collect spillage. (P391)

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. (P501)

3. Composition/information on ingredients ►

Distinction of substance or mixture : Mixture

Generic name : TUBALL MATRIX 202

Name	Concentration (%)	Formula	Reference number in the gazette list		CAS-No.
			CSCL No.	ISHL No.	
Fatty carboxylic acid esters derivatives	90	-	-	-	Trade secret
Single wall carbon nanotubes	10	C	-	-	7440-44-0

Comments : * Single wall carbon nanotubes TUBALLTM.

4. First aid measures**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.

First-aid measures after eye contact : Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

Most Important Symptoms/EffectsSymptoms/effects after eye contact : Causes serious eye irritation.
Eye irritation.**Notes to physician**

Other medical advice or treatment : Treat symptomatically.

5. Fire fighting measuresSuitable extinguishing media : Powder, Alcohol-resistant foam, Water spray, Carbon dioxide (CO₂), Water spray, Dry powder, Foam

Unsuitable extinguishing media : None known

Fire hazard : Combustible.

Hazardous decomposition products in case of fire : Carbon dioxide,
Carbon monoxideProtection during firefighting : Do not attempt to take action without suitable protective equipment.
Self-contained breathing apparatus.
Complete protective clothing.**6. Accidental release measures****Personal Precautions, Protective Equipment and Emergency Procedures****For non-emergency personnel**

Protective equipment : Wear suitable protective clothing.

Emergency procedures : Ventilate spillage area.
Avoid contact with skin and eyes.**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 contact with skin and eyes.

Environmental precautions

Environmental precautions : Avoid release to the environment.

Methods and Equipment for Containment and Cleaning up

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

7. Handling and storage

Handling

Technical measures : No data available
Precautions for safe handling : Ensure good ventilation of the work station.
Avoid contact with skin and eyes.
Wear personal protective equipment.
Prevents handling of incompatible substances or mixtures : No data available
Hygiene measures : Do not eat, drink or smoke when using this product.
Always wash hands after handling the product.

Storage ►

Storage conditions : Store in a well-ventilated place.
Keep cool.
Material used in packaging/containers : No data available
Incompatible products : Strong oxidizing agents.
Heat and ignition sources : Keep away from open flames, hot surfaces and sources of ignition.
Special rules on packaging : Keep container tightly closed.
Storage temperature : -40 / +40 ° C

8. Exposure controls / Personal protection equipment

Single wall carbon nanotubes (7440-44-0)

Japan – Occupational Exposure Limits

Exposure limits (JSOH)	【Occupational exposure limits for dusts】 (Class 1) Respirable dust 0.5mg/m ³ Total dust 2mg/m ³
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Appropriate engineering controls : Ensure good ventilation of the work station

Protective equipment

Personal protective equipment : Gloves, Safety glasses, Protective clothing
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment
Hand protection : Chemically resistant protective gloves.

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

Eye protection : Chemical goggles or safety glasses, EN 166, Safety glasses

Skin and body protection : Wear suitable protective clothing

Personal protective equipment symbol(s)



Environmental exposure controls : Avoid release to the environment.

9. Physical and chemical properties

Physical state	: Solid
Appearance	: Viscous, Paste
Colour	: Black
Odour	: Slight
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: 394 ° C (Fatty carboxylic acid esters derivatives)
Flash point	: 224 ° C (Fatty carboxylic acid esters derivatives)
Auto-ignition temperature	: 330 ° C (Fatty carboxylic acid esters derivatives)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative density	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Poorly soluble in water. Soluble in organic solvents.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Explosive properties	: Not explosive.
Explosive limits (vol %)	: Not applicable
Oxidising properties	: Non oxidizing
Viscosity, kinematic	: Not applicable

10. Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: None under recommended storage and handling conditions (see section 7).
Incompatible materials	: Strong oxidizing agents.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information ►

Acute toxicity (oral)	: classification not possible
Acute toxicity (dermal)	: classification not possible
Acute toxicity (inhalation)	: No data available

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Acute toxicity (inhalation) : classification not possible (gas)
Not applicable (Vapour)
classification not possible (dust, mist)

Fatty carboxylic acid esters derivatives	
LD50 oral rat	> 5000 mg/kg - OECD 423
LD50 dermal rat	> 2000 mg/kg - OECD 402

Skin corrosion/irritation : classification not possible
 Serious eye damage/irritation : Causes serious eye irritation.
 Respiratory sensitization : classification not possible
 Skin sensitization : classification not possible
 Germ cell mutagenicity : classification not possible
 Carcinogenicity : classification not possible
 Reproductive toxicity : classification not possible
 STOT-single exposure : classification not possible

STOT-repeated exposure : classification not possible

Single wall carbon nanotubes (7440-44-0)	
NOAEL (oral, rat, 90 days)	> 1000 mg/kg bodyweight/day - OECD 422
Aspiration hazard	: classification not possible

TUBALL MATRIX 202	
Viscosity, kinematic	Not applicable

Single wall carbon nanotubes (7440-44-0)	
Viscosity, kinematic	Not applicable

12. Ecological information**Ecotoxicity**

Ecology - general : Toxic to aquatic life with long lasting effects.
 Hazardous to the aquatic environment, short-term (acute) : classification not possible
 Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

Fatty carboxylic acid esters derivatives	
LC50 fish - 96h	> 100 mg/l Brachydanio rerio (zebra-fish) - OECD 203 - ISO 7346 - 84/449/EEC
EC50 crustacea - 48h	> 100 mg/l Daphnia magna (Water flea) - OECD 202
EC50 algae - 72h	> 100 mg/l (Growth rate) Scenedesmus subspicatus - OECD 201
NOEC chronic fish	≥ 0.021 mg/l Daphnia magna (Water flea) - OECD 211
Bioconcentration factor (BCF REACH)	189 - 30 days - Brachydanio rerio (zebra-fish) - OECD 305E
Partition coefficient n-octanol/water (Log Kow)	10

Persistence and degradability

TUBALL MATRIX 202	
Persistence and degradability	No data available

Fatty carboxylic acid esters derivatives	
Persistence and degradability	Readily biodegradable.
Biodegradation	70 - 80 % - 28 days - OECD 301B - ISO 9439 - 92/69/EEC, C.4-C

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Single wall carbon nanotubes (7440-44-0)

Not rapidly degradable

Bioaccumulative potential

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Bioaccumulative potential	No data available
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Fatty carboxylic acid esters derivatives

Bioaccumulative potential	Does not significantly accumulate in organisms.
Bioconcentration factor (BCF REACH)	189 - 30 days - Brachydanio rerio (zebra-fish) - OECD 305E
Partition coefficient n-octanol/water (Log Kow)	10

Mobility in soil

TUBALL MATRIX 202

Mobility in soil	No data available
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Fatty carboxylic acid esters derivatives

Partition coefficient n-octanol/water (Log Kow)	10
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Hazardous to the ozone layer

Ozone : classification not possible
Other adverse effects : No additional information available


13. Disposal considerations

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

14. Transport information

International Regulations

Overland transport (UN RTDG)

UN-No. (UN RTDG) : 3077
Proper Shipping Name (UN RTDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : Fatty carboxylic acid esters derivatives)
Packing group (UN RTDG) : III
Transport hazard class(es) (UN RTDG) : 9
Danger labels (UN RTDG) : 9

Class (UN RTDG) : 9
Limited quantities (UN RTDG) : 5 kg
Excepted quantities (UN RTDG) : E1
Packing instruction (UN RTDG) : P002, IBC08, LP02
Special packing provisions (UN RTDG) : PP12, B3
Portable tank and bulk container special instructions (UN RTDG) : T1, BK2, BK3

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Portable tank and bulk container special provisions (UN RTDG) : TP33

Regulations in Japan

Regulatory information by sea : Conform to the provisions of the Ship Safety Law.
Regulatory information by air : Conform to the provisions of the Civil Aeronautics Law.
MFAG-No : 171
Other information : No supplementary information available

15. Regulatory information ►

National law

Ship Safety Act : Miscellaneous dangerous substances & articles (Dangerous Goods Notification Schedule first second and third Article Dangerous Goods Regulations)
Civil Aeronautics Law : Miscellaneous dangerous substances & articles (Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)

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

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WGK	Water Hazard Class
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- 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.

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