

SECTION 1: Identification of the substance or mixture and of the supplier

1.1. Product identifier

Product form : Mixture
Trade name : TUBALL MATRIX 822
Type of product : Nanoform embedded in a matrix

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

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

China:
OCSiAl Hong Kong Limited
No. 1102, 11/F, Lippo Sun
Plaza, 28 Canton Road,
Tsim Sha Tsui, Kowloon,
Hong Kong
T +852 3575 3946
09:00-17:00; GMT+8
china@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 MOI notification B.E. 2555 (2012)

Serious eye damage/eye irritation, Category 2 H319

2.2. Label elements

Labelling according to MOI notification B.E. 2555 (2012)

Hazard pictograms (GHS TH) :



Signal word (GHS TH) : Warning
Hazard statements (GHS TH) : H319 - Causes serious eye irritation
Precautionary statements (GHS TH) : P264 - Wash hands thoroughly after handling.
P280 - Wear Protective gloves, eye protection, protective clothing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

No additional information available

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According to the MOI Notification B.E. 2555 (2012)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Polyol ester	Trade Secret	75
Single wall carbon nanotubes*	Trade Secret	25

Comments : * Single wall carbon nanotubes TUBALL™

SECTION 4: First aid measures

4.1. Description of necessary 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. 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 : 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 eye contact : Causes serious eye irritation.

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

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry chemical. Carbon dioxide (CO2). Water spray. Water fog. Foam.
Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Carbon dioxide. Carbon monoxide.

5.3. Special protective actions for fire-fighters

Protection during firefighting : Full face mask. Positive pressure self-contained breathing apparatus (SCBA). 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 breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Evacuate area.

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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Wear suitable protective clothing, gloves and eye/face protection. In case of fire: Positive pressure self-contained breathing apparatus (SCBA). For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Avoid formation of dust. Provide adequate ventilation. Evacuate area.

6.2. Environmental precautions

Avoid release to the environment. 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 materials for containment and cleaning up

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

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, eyes and clothing. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Avoid breathing dust. Take precautionary measures against static discharge. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Always wash hands after handling the product.

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. 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.

SECTION 8: Exposure controls / Personal protection equipment

8.1. Control parameters

No additional information available

Exposure limit values for the other components

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

Appropriate engineering controls	: Provide local exhaust or general room ventilation. Ensure good ventilation of the work station.
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8.4. Personal protective equipment

Hand protection	: Chemically resistant protective gloves.
Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Protective clothing (with elasticated cuffs and closed neck).
Respiratory protection	: In case of inadequate ventilation wear respiratory protection. Selection of respiratory protection must be based on the result of the risk assessment

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Environmental exposure controls

: Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state	: Solid
Appearance	: Pellets.
Colour	: Black
Odour	: Odourless
Odour threshold	: No additional information available
pH	: No additional information available
Melting point, Freezing point	: Freezing point: Not applicable
Boiling point	: No data available
Flash point	: > 270 °C (Polyol ester)
Auto-ignition temperature	: Not applicable
Flammability	: Non flammable.
Vapour pressure	: No additional information available
Evaporation rate	: No additional information available
Explosive limits	: Not applicable
Explosive properties	: No data available
Minimum ignition energy	: No data available
Solubility	: No additional information available
Density	: No additional information available
Relative density	: No additional information available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available

SECTION 10: Stability and reactivity

Chemical stability	: Stable under normal conditions.
Conditions to avoid	: Keep away from open flames, hot surfaces and sources of ignition.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Incompatible materials	: Strong oxidizing agents.
Possibility of hazardous reactions	: None known.
Reactivity	: Stable under normal conditions.

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

Polyol ester

LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified

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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

SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

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

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Polyol ester	
LC50 fish - 96h	> 100 mg/l <i>Cyprinus carpio</i> (Common carp)
EC50 crustacea - 48h	> 100 mg/l <i>Daphnia magna</i> (Water flea)
EC50 algae - 72h	> 100 mg/l <i>Pseudokirchnerella subcapitata</i>

12.2. Persistence and degradability

Polyol ester	
Persistence and degradability	Readily biodegradable.
Biodegradation	72 % - 28 days - OECD 301B

12.3. Bioaccumulative potential

Polyol ester	
Bioconcentration factor (BCF REACH)	3.16
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

Polyol ester	
Partition coefficient n-octanol/water (Log Pow)	30.81

12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

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According to the MOI Notification B.E. 2555 (2012)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Disposal 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.
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.

SECTION 14: Transport information

IMDG	IATA	UNRTDG
14.1. UN number		
Not regulated for transport		
Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available		

14.6. Special precautions for user

UN RTDG

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

15.2. International agreements

No additional information available

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According to the MOI Notification B.E. 2555 (2012)

SECTION 16: Other information

Version : 1.0
Issue date : 13/12/2022

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
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
SDS - Safety Data Sheet
vPvB - Very Persistent and Very Bioaccumulative
WGK - Water Hazard Class

Full text of H-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H319	Causes serious eye irritation

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), Thailand

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.