

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

1.1. Product identifier

Product form : Mixture
Trade name : TUBALL MATRIX 201

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

1.2.1. Relevant identified uses

Use of the substance/mixture : The plasticizer is to be used for thermoset compounds to add electrical conductivity

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Europe:	USA:	Asia:	China	India:
OCSiAl Europe S.a.r.l.	OCSiAl LLC	OCSiAl Asia Pacific Co., Ltd.	OCSiAl Hong Kong Limited	OCSiAl PRIVATE LIMITED
L-3364, Leudelange, 1, rue de la Poudrerie, Grand Duchy of Luxembourg	500 S Front St., Suite 860, Columbus, OH 43215, USA	Office 208, Pilot Plant Bldg., Incheon Technopark 12 Gaetbeol-ro, Yeonsu-gu, Incheon, 406-840 Republic of Korea	Unit 914, 9/F, Miramar Tower, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong	A504 Universal Business Park, Ansa Industrial Estate, Chandivali, Andheri (E) Mumbai 400072
T +352 27 99 03 73 europe@ocsial.com	T +1 415 906 5271 usa@ocsial.com	T +82 32 260 0407 asiapacific@ocsial.com	T +852 3180 9317 china@ocsial.com	T +91 22 4120 8615 india@ocsial.com

1.4. Emergency telephone number

Europe:	USA:	Asia:	China	India:
+352 27 99 03 73 09.00-17.00; GMT+2	+1 415 906 5271 09.00-17.00; GMT-4	+82 32 260 0407 09.00-17.00; GMT+9	+852 3180 9317 09:00-17:00; GMT+8	+91 22 4120 8615 09:00-17:00; GMT+5.5

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 1A	H317
Germ cell mutagenicity, Category 2	H341
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.

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2.3. Other hazards not contributing to the classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2,3-epoxypropyl neodecanoate	(CAS-No.) 26761-45-5 (EC-No.) 247-979-2 (REACH-no) 01-2119431597-33	90	Skin Sens. 1A, H317 Muta. 2, H341 Aquatic Chronic 2, H411
Single wall carbon nanotubes	(CAS-No.) Not available (EC-No.) 943-098-9 (REACH-no) 01-2120130006-75	10	Eye Irrit. 2, H319

Full text of H-statements: see section 16

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 : Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Wash hands with water and soap.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

- Symptoms/effects : Excessive exposure may lead to burning sensation in the mouth and throat, salivation, nausea, abdominal pain, vomiting, and diarrhoea.
- Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact : May cause moderate irritation, including burning sensation, tearing, redness or swelling.

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 : Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).
- 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

- Protective equipment for firefighters : In case of fire: Wear self-contained breathing apparatus.

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: Wear self-contained breathing apparatus.
- 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 fire extinguishing water separately. This must not be discharged into drains.

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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 containers for disposal.

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 clothes. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Avoid breathing dust/fume/gas/mist/vapours/spray. 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, cool, well-ventilated area. Keep container tightly closed. Protect from sunlight.
Maximum storage period : 2 year
Storage temperature : 5 - 60 °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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment:

Gloves. Protective clothing. High gas/vapour concentration: gas mask with filter type A.

Materials for protective clothing:

Wear suitable protective clothing. EN 14605

Hand protection:

Wear suitable gloves tested to EN 374. Thickness of glove material: > 0.18 mm. Breakthrough time : > 480 min. Use neoprene or rubber gloves. The use of thermally-resistant gloves is recommended when there is potential for exposure to molten wax.

Eye protection:

Chemical goggles or safety glasses. EN 166

Skin and body protection:

Protective clothing (with elasticated cuffs and closed neck)

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.



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

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Freezing point	: No data available
Boiling point	: 278 °C
Flash point	: 126 °C
Auto-ignition temperature	: 397 °C ►
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.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: No data available

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 (26761-45-5)	
LD50 oral rat	> 10 g/kg
LD50 dermal rat	> 4000 mg/kg
LC50 inhalation rat (mg/l)	> 240 mg/m ³ (Exposure time: 4 h)

Skin corrosion/irritation	: Not classified
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 classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

2,3-epoxypropyl neodecanoate (26761-45-5)	
LC50 fish 1	5 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 Daphnia 1	4,8 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 96h algae (1)	3,5 mg/l (Species: Pseudokirchneriella subcapitata)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

2,3-epoxypropyl neodecanoate (26761-45-5)	
Log Pow	4,4 (at 20 °C)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Single wall carbon nanotubes (Not available)	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



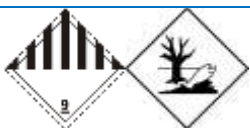


SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Dispose of this material and its container to hazardous or special waste collection point.
Waste treatment methods : Disposal through controlled incineration or authorised waste dump.
Sewage disposal recommendations : Prevent entry to sewers and public waters.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
3077	3077	3077	3077	3077
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	Environmentally hazardous substance, solid, n.o.s.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport document description				
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, solid, n.o.s., 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, 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 Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

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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	:



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)	: P002, LP02
Special packing provisions (IMDG)	: PP12
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: T1, BK1, BK2, BK3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-F
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW23
MFAG-No	: 127;128

- 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

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Limited quantities (ADN)	: 5 kg
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T* B**
Equipment required (ADN)	: PP, A
Number of blue cones/lights (ADN)	: 0

- 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
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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 2, significant hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Recommendations Danish Regulation : 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
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

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15.2. Chemical safety assessment

CSA has not been established

SECTION 16: Other information

Full text of H- and EUH-statements:

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, category 2
Muta. 2	Germ cell mutagenicity, category 2
Skin Sens. 1A	Skin sensitisation, category 1A
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

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Eye Irrit. 2	H319	
Skin Sens. 1A	H317	
Muta. 2	H341	
Aquatic Chronic 2	H411	

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 (Chemical Abstracts Service) number
	CLP - Classification, Labelling and Packaging
	CSR - Chemical Safety Report
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
PBT	Persistent Bioaccumulative Toxic
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
vPvB	Very Persistent and Very Bioaccumulative

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)

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