

1. Chemical product and company identification ▶

Product name : TUBALL MATRIX 602
 Type of product : Nanoform embedded in a matrix

Company information

東京都千代田区内神田 1-11-13

楠本化成株式会社

Japan:

東京都千代田区内神田

1-11-13

楠本化成株式会社

+81-3-3292-8687

Info_tuball@kusumoto.co.jp

T +81-3-3292-8687

09:00-17:00; GMT+9

Info_tuball@kusumoto.co.jp

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	
	Desensitized explosives	classification not possible	
	Health hazards	Acute toxicity (oral)	classification not possible
		Acute toxicity (dermal)	classification not possible
		Acute toxicity (inhalation:gas)	classification not possible
Acute toxicity		No classification	

	(inhalation:vapours)	
	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
	Aspiration hazard	classification not possible
Environmental hazards	Hazardous to the aquatic environment, short-term (acute)	classification not possible
	Hazardous to the aquatic environment, long-term (chronic)	classification not possible
	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)

Precautionary statements (GHS JP)

Prevention : Wash hands thoroughly after handling. (P264)
Wear eye protection, face protection, 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)

3. Composition/information on ingredients ►

Distinction of substance or
mixture : Mixture

Chemical name : TUBALL MATRIX 602

Name	Concentration (%)	Formula	Reference number in the gazette list		CAS-No.
			CSCL No.	ISHL No.	
Siloxanes and silicones, vinyl group-terminated	90	Fórmula química no especific	-	-	Trade secret

TUBALL MATRIX 602

Issue date: 2020/07/13

Issue date: 2021/12/27

Version: 3.1

		ada			
Single wall carbon nanotubes*	10	C	-	-	N/A

Comments : * Single wall carbon nanotubes TUBALL™.
Judging by the carbon content of the carbon nanotubes (CNTs), carbon nanotubes do not fall under the new chemical substance inventory of the Chemical Substances Control Law.

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 : Rinse mouth out of water. Get medical advice/attention.

Most Important Symptoms/Effects

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.

Symptoms/effects after eye contact : Eye irritation.

Notes to physician

Other medical advice or treatment : Treat symptomatically.

5. Fire fighting measures

Suitable extinguishing media : Water spray, Dry powder, Foam

Unsuitable extinguishing media : None known

Fire hazard : None known.

Explosion hazard : None known.

Hazardous decomposition products in case of fire : Toxic fumes may be released

Protection 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 inhalation of vapours.

Environmental precautions

- Environmental precautions : Avoid release to the environment.

Methods and Equipment for Containment and Cleaning up

- For containment : Clean spills promptly.
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Ventilate affected area.
Stop leak if safe to do so.
- 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
- 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.

8. Exposure controls / Personal protection equipment**Single wall carbon nanotubes****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
------------------------	---

- Appropriate engineering controls : Ensure good ventilation of the work station
- Protective equipment**
- Personal protective equipment : Safety glasses, Protective clothing, Gloves
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment

Hand protection : Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Use neoprene or rubber gloves		>0.18		

Eye protection : 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	: Paste
Colour	: Black
Odour	: Odourless
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: > 130 ° C (Siloxanes and Silicones, vinyl group-terminated)
Auto-ignition temperature	: Not applicable
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	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Explosive limits (vol %)	: Not applicable
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 ►

TUBALL MATRIX 602

Issue date: 2020/07/13

Issue date: 2021/12/27

Version: 3.1

Acute toxicity (oral)	: classification not possible
Acute toxicity (dermal)	: classification not possible
Acute toxicity (inhalation)	: No data available
Acute toxicity (inhalation)	: classification not possible (gas) Not applicable (Vapour) classification not possible (dust, mist)
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

NOAEL (oral, rat, 90 days)	> 1000 mg/kg bodyweight/day - OECD 422
----------------------------	--

Aspiration hazard	: classification not possible
-------------------	-------------------------------

TUBALL MATRIX 602

Viscosity, kinematic	Not applicable
----------------------	----------------

Siloxanes and silicones, vinyl group-terminated

Viscosity, kinematic	90 - 110 mm ² /s
----------------------	-----------------------------

Single wall carbon nanotubes

Viscosity, kinematic	Not applicable
----------------------	----------------

12. Ecological information

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)	: classification not possible
Hazardous to the aquatic environment, long-term (chronic)	: classification not possible

Persistence and degradability

TUBALL MATRIX 602

Persistence and degradability	No data available
-------------------------------	-------------------

Single wall carbon nanotubes

Not rapidly degradable

Bioaccumulative potential

TUBALL MATRIX 602

Bioaccumulative potential	No data available
---------------------------	-------------------

Mobility in soil

TUBALL MATRIX 602

Mobility in soil	No data available
------------------	-------------------

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) : Disposal must be done according to official regulations.
 Sewage disposal recommendations : Prevent entry to sewers and public waters.

14. Transport information**International Regulations****Overland transport (UN RTDG)**

UN-No. (UN RTDG) : Not regulated
 Proper Shipping Name (UN RTDG) : Not regulated
 Packing group (UN RTDG) : Not regulated
 Transport hazard class(es) (UN RTDG) : Not regulated

Regulations in Japan

Other information : No supplementary information available

15. Regulatory information ►**National law**

Foreign Exchange and Foreign Trade Control Act : Export Trade Control Order, Appended Table 1, Para.16

Single walled carbon nanotubes are listed with its element "Carbon" ; others are all listed

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
COD	Chemical oxygen demand (COD)
CAS-No.	Chemical Abstract Service number
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
vPvB	Very Persistent and Very Bioaccumulative
TLM	Median Tolerance Limit
STP	Sewage treatment plant
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
PNEC	Predicted No-Effect Concentration
PBT	Persistent Bioaccumulative Toxic

TUBALL MATRIX 602

Issue date: 2020/07/13

Issue date: 2021/12/27

Version: 3.1

OECD	Organisation for Economic Co-operation and Development
IARC	International Agency for Research on Cancer
NOEC	No-Observed Effect Concentration
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
EC50	Median effective concentration
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
DNEL	Derived-No Effect Level
DMEL	Derived Minimal Effect level
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road

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.

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable