

SECTION 1 Chemical product and company identification

Chemical English name : TUBALL MATRIX 603

Supplier ▶

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Emergency number

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

China : 400 120 6011 (English, Mandarin) (toll-free, access from China only)

中国 (大陆, 24 小时应急电话) : **0532 8388 9090 (英语, 中文)

China (Mainland) : **0532 8388 9090 (English, Chinese; 24-hour emergency call)

Recommended use of the chemical : Industrial use as additive in polymers, resins and/or coatings

Restricted use of the chemical : No additional information available

SECTION 2 Hazards identification

Emergency overview ▶

Viscous. Paste. Black. Slight. Causes serious eye irritation.

GHS hazard classification

Health hazards : Serious eye damage/eye irritation, Category 2A

Other hazards not mentioned above are Not applicable or No data is available.

Label elements

Hazard pictograms (GHS CN) :



Signal word (GHS CN) : Warning.

Hazard statements (GHS CN) : H319 - Causes serious eye irritation.

Precautionary statements (GHS CN)

Prevention measures : P264 - Wash hands thoroughly after handling.

P280 - Wear eye protection, protective clothing, protective gloves.

Incident response : 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.

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Physical and chemical hazards

No additional information available

Health hazards ►

Causes serious eye irritation

Symptoms/effects after eye contact : Causes serious eye irritation, Eye irritation

Symptoms/effects after ingestion : Ingestion may cause nausea and vomiting, Diarrhea, Gastrointestinal complaints

Symptoms/effects after inhalation : May cause respiratory irritation, Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination

Symptoms/effects after skin contact : Prolonged or repeated contact may cause skin to become dry, Contact during a long period may cause light irritation

Environmental hazards

No additional information available

Other hazards

No additional information available

SECTION 3 Composition/information on ingredients ►

Product form : Mixture.

Ingredient(s)	Concentration or concentration ranges (w/w %)	CAS No.	Classification (GHS CN)
Distillates (petroleum), solvent refined heavy paraffinic	90	64741-88-4	Not classified
Single wall carbon nanotubes*	10	N/A	Serious eye damage/eye irritation, Category 2

Comments : * Single wall carbon nanotubes TUBALL™.

SECTION 4 First-aid measures

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.

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First-aid measures after ingestion : Rinse mouth out with water.
Do not induce vomiting.
Never give anything by mouth to an unconscious person.
Get medical attention

Most important symptoms/effects

Symptoms/effects after eye contact : Causes serious eye irritation.
Eye irritation

Symptoms/effects after ingestion : Ingestion may cause nausea and vomiting
Diarrhea
Gastrointestinal complaints

Symptoms/effects after inhalation : May cause respiratory irritation.
Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination

Symptoms/effects after skin contact : Prolonged or repeated contact may cause skin to become dry
Contact during a long period may cause light irritation

Advices for first aid responders

No additional information available

Notes for the doctor

Other medical advice or treatment : Treat symptomatically

SECTION 5 Fire-fighting measures

Extinguishing media

Suitable extinguishing media : For large fire:
Water fog
For small fire:
Dry chemical
Carbon dioxide (CO₂)
Sand/earth
ABC-powder
Water spray
Dry powder
Foam

Unsuitable extinguishing media : Do not use a heavy water stream

Specific hazards

Fire hazard : Vapours may form explosive mixture with air
Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level
Flash back over considerable distance

Hazardous decomposition products in case of fire : Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases

Advice for firefighters and protective measures

Firefighting instructions : Prevent fire fighting water from entering the environment

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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

Personal precautions, protective equipment and emergency procedures

Heat and ignition sources : Keep away from open flames, hot surfaces and sources of ignition
No smoking

General measures : No additional information available

Personal Precautions, Protective
Equipment and Emergency Procedures : No additional information available

For non-emergency personnel

Protective equipment : Wear suitable protective clothing

Emergency procedures : Ventilate spillage area
Ensure adequate ventilation
Evacuate area.
Avoid inhalation of vapours
Do not touch or walk on the spilled product
No open flames, no sparks, and no smoking
Avoid contact with skin and eyes

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 : Evacuate unnecessary personnel
Provide adequate ventilation
Avoid contact with skin and eyes
Avoid inhalation of vapours
Collect spillage

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

Methods and material for containment and cleaning up

Methods for cleaning : No additional information available

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For containment : Clean spills promptly
Ventilate affected area
Stop leak if safe to do so.

Prevention measures for secondary accidents

Prevention Measures for Secondary Accidents : No additional information available
Other information : Dispose of materials or solid residues at an authorized site

SECTION 7 Handling and storage ►

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, fume.
To prevent thermal burns avoid contact with hot product
Take precautionary measures against static discharge.
Avoid contact with skin and eyes
Wear personal protective equipment

Hygiene measures : Wash contaminated clothing before reuse.
Regular cleaning of equipment, work area and clothing
Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work
Gloves must be periodically inspected and changed in case of wear, perforations or contaminations.
Do not eat, drink or smoke when using this product.
Always wash hands after handling the product

Local and general ventilation : No additional information available

Storage

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.

Material used in packaging/containers : No additional information available

Incompatible products : Strong oxidizing agents. Strong acids. Halogens.

Heat and ignition sources : Keep away from open flames, hot surfaces and sources of ignition
No smoking

Information on mixed storage : Store away from water (including sewage plant)

Special rules on packaging : Keep container tightly closed

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SECTION 8 Exposure controls / Personal protection equipment ►

Occupational exposure limits

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

Biological limit values

No additional information available

Monitoring methods

No additional information available

Appropriate engineering controls

Ensure good ventilation of the work station

Personal protective equipment

- Personal protective equipment : Safety glasses
Gloves
Protective clothing
- Environmental exposure controls : Avoid release to the environment.
- Hand protection : Chemically resistant protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves, Reusable gloves.	Nitrile rubber (NBR).		≥ 0.11		

- Eye protection : Chemical goggles or safety glasses
- Skin and body protection : Protective clothing (with elasticated cuffs and closed neck)
antistatic boots
- Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.
Wear a respirator with Type A/P2 filter or better

Personal protective equipment symbol(s)



SECTION 9 Physical and chemical properties ►

- Physical state** : Solid
- Appearance** : Viscous. Paste
- Colour** : Black
- Odour** : Slight

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pH	: No data available
Melting point	: -60 – 0 (Distillates (petroleum), solvent refined heavy paraffinic)
Freezing point	: Not applicable
Boiling point	: 200 – 800 °C (Distillates (petroleum), solvent refined heavy paraffinic)
Flash point	: > 98 °C (Distillates (petroleum), solvent-refined heavy paraffinic)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Non flammable.
Vapour pressure	: < 0.1 hPa at 20 °C (Distillates (petroleum), solvent refined heavy paraffinic)
Relative vapour density at 20°C	: No data available
Density	: 0.81 – 0.97 g/cm ³ (Distillates (petroleum), solvent refined heavy paraffinic)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: 447 mm ² /s (Distillates (petroleum), solvent refined heavy paraffinic)
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Radioactive	: No
Explosive properties	: Not explosive
Oxidising properties	: Non oxidizing

SECTION 10 Stability and reactivity

Chemical stability	: Stable under normal conditions
Reactivity	: Stable under normal conditions
Possibility of hazardous reactions	: None under normal use
Conditions to avoid	: Take precautionary measures against static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Incompatible materials	: Strong oxidizing agents Strong acids Halogens
Hazardous decomposition products	: Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases
Other properties	: No additional information available

SECTION 11 Toxicological information ►

Acute toxicity

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.

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Distillates (petroleum), solvent refined heavy paraffinic	
LD50 oral rat	> 5000 mg/l (OECD 401)
LD50 dermal rabbit	> 2000 mg/kg (OECD 402)
LC50 Inhalation - Rat	> 5000 mg/m ³ (OECD 403)

Skin corrosion/irritation

Skin corrosion/irritation : Not classified.

Serious eye damage/eye irritation

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation

Respiratory or skin sensitisation : Not classified.

Germ cell mutagenicity

Germ cell mutagenicity : No data available

Carcinogenicity

Carcinogenicity : No data available

Reproductive toxicity

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 - no adverse effects seen at highest dose tested on prenatal development (conceptus to birth) - OECD 422
NOAEL (animal, F1)	> 1000 mg/kg bw/day - no adverse effects seen at highest dose tested on postnatal development (pup) - OECD 422

STOT - single exposure

STOT-single exposure : No data available

STOT - repeated exposure

STOT-repeated exposure : No data available

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

Aspiration hazard : Not classified.

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SECTION 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) : Not classified.
- Hazardous to the aquatic environment, long-term (chronic) : Not classified.
- No additional information available

Persistence and degradability

Distillates (petroleum), solvent refined heavy paraffinic	
Biodegradation	31 % - 28 days - OECD 301B-301F

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Other adverse effects

Classification procedure (Ozone) : Not classified.

SECTION 13 Disposal considerations ►

- Waste treatment methods** : Disposal through controlled incineration or authorised waste dump.
- Contaminated container and packaging** : No additional information available
- Additional information** : Clean up even minor leaks or spills if possible without unnecessary risk.
- 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.
- Sewage disposal recommendations** : Prevent entry to sewers and public waters
- Regional legislation (waste)** : Dispose of this material and its container at hazardous or special waste collection point

SECTION 14 Transport information

Overland transport (JT/T 617)	Transport by sea	Air transport
UN number		
Not regulated	Not regulated	Not regulated
Proper shipping name		
Not regulated	Not regulated	Not regulated

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Overland transport (JT/T 617)	Transport by sea	Air transport
Transport document description		
Not regulated	Not regulated	Not regulated
Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
Not regulated	Not regulated	Not regulated
Packing group		
Not regulated	Not regulated	Not regulated
Environmental hazards		
Not regulated	Not regulated	Not regulated

Special transport precautions

Special rules on packaging : Keep container tightly closed

Overland transport (JT/T 617)

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15 Regulatory information ►

New Chemical Substance Environmental Management Registration Measures (MEE Order 12 of 2020)

Inventory of Existing Chemical Substances in China (IECSC) : Contains listed substance(s)
Distillates (petroleum), solvent refined heavy paraffinic
Single wall carbon nanotubes are listed with its element “Carbon”

Regulations on the Safe Management of Hazardous Chemicals (Decree 591 of the State Council)

Catalogue of Hazardous Chemicals (2015) : Contains Hazardous Chemical(s)
Single wall carbon nanotubes are not listed

SECTION 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

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Abbreviations and acronyms

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
WGK	Water Hazard Class

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), China

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