

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : TUBALL MATRIX 302

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Industrial use as additive in polymers, resins and/or coatings

1.3. Supplier

USA:
OCSiAl LLC
950 Taylor Station
Road
Suite W
Gahanna, OH 43230
T +1 415 906 5271
09.00-17.00 GMT-4
usa@ocsial.com

1.4. Emergency telephone number

USA:
+1 415 906 5271
09.00-17.00; GMT-4

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation Category 2

Causes serious eye irritation

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)

:



Signal word (GHS US)

: Warning

Hazard statements (GHS US)

: Causes serious eye irritation

Precautionary statements (GHS US)

: Wash hands thoroughly after handling.

Wear protective gloves, protective clothing, eye protection.

IF IN EYES: 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.

2.3. Other hazards which do not result in classification

No additional information available

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2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Alkylene glycol derivative*	CAS-No.: Trade Secret	70	Not calssified
Disodium 2,2'-([1,1'-biphenyl]-4,4'diyldivinylene)bis(benzenesulphonate)	CAS-No.: 27344-41-8	20	Eye Irrit. 2, H319
Single wall carbon nanotubes**	CAS-No.: 7440-44-0	10	Eye Irrit. 2, H319

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

** Single wall carbon nanotubes TUBALL™

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures ►

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention.
First-aid measures after skin contact	: Remove/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. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: Gastrointestinal complaints. Diarrhea.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Powder, Alcohol-resistant foam, Water spray, Carbon dioxide (CO2).
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: Under fire conditions, hazardous fumes will be present.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

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5.3. Special protective equipment and precautions for fire-fighters ►

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Full face mask. Positive pressure self-contained breathing apparatus (SCBA). 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 contact with skin and eyes.

6.1.2. For emergency responders

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up ►

Methods for cleaning up : Mechanically recover the product. Clear up rapidly by scoop or vacuum. Collect in closed container and remove to a safe place for disposal by burning.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections ►

For disposal of contaminated materials refer to section 13 : "Disposal considerations". For further information refer to section 8: "Exposure controls/personal protection".

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, fume. To prevent thermal burns avoid contact with hot product. 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-ignition : 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.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Alkylene glycol derivative

No additional information available

Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) (27344-41-8)

No additional information available

Single wall carbon nanotubes

USA - NIOSH - Occupational Exposure Limits

NIOSH REL (TWA)	1 µg/m³ (elemental carbon as a respirable mass)
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8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Protective clothing. Safety glasses.

Hand protection:

Wear suitable gloves

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

Eye protection:

Chemical goggles or safety glasses.

Skin and body protection:

Protective clothing (with elasticated cuffs and closed neck).

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Selection of respiratory must be based on the result of the risk assessment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties ►

Physical state	: Solid
Appearance	: Flakes. Pasty.
Color	: Black White inclusions permissible
Odor	: Odorless

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Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.03 g/ml
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Not explosive.
Oxidizing properties	: Non oxidizing material.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong oxidizing agents. Strong bases. Strong acids. Isocyanates.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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

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Alkylene glycol derivative	
LD50 oral rat	22500 mg/kg
LD50 dermal rabbit	20800 mg/kg

Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) (27344-41-8)	
LD50 oral rat	> 2000 mg/kg - OECD 401
LD50 dermal rat	> 2000 mg/kg - OECD 402

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
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 - 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
Viscosity, kinematic	: No data available
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: Gastrointestinal complaints. Diarrhea.

SECTION 12: Ecological information

12.1. Toxicity

Alkylene glycol derivative	
LC50 fish - 96h	40613 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 crustacea - 48h	18340 mg/l Ceriodaphnia dubia
NOEC chronic crustacea - 21 days	13020 mg/l Ceriodaphnia dubia - 7 days

Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) (27344-41-8)	
LC50 fish - 96h	10 – 100 mg/l Brachydanio rerio (zebra-fish) - OECD 203 - ISO 7346; 84/499/EEC, C.1
NOEC (chronic)	> 1 mg/l (Growth rate) Scenedesmus subspicatus - OECD 201
NOEC chronic crustacea - 21 days	> 1 mg/l Daphnia magna (Water flea) - OECD 211

12.2. Persistence and degradability

Alkylene glycol derivative	
Persistence and degradability	Readily biodegradable.

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Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) (27344-41-8)	
Persistence and degradability	Readily biodegradable.
Biochemical oxygen demand (BOD)	0 mg O ₂ /g substance - 5 days
Chemical oxygen demand (COD)	1.507 mg O ₂ /g substance
Biodegradation	> 70 % - OECD 301F

12.3. Bioaccumulative potential

Alkylene glycol derivative	
Bioconcentration factor (BCF REACH)	0.09
Partition coefficient n-octanol/water (Log Pow)	-1.07
Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) (27344-41-8)	
Partition coefficient n-octanol/water (Log Pow)	-2.32 - OECD 107

12.4. Mobility in soil

Alkylene glycol derivative	
Surface tension	71.6 mN/m

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	: Dispose of this material and its container at hazardous or special waste collection point.
Waste treatment methods	: 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

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable

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DOT	TDG	IMDG	IATA
14.5. Environmental hazards			
Dangerous for the environment: No	Not applicable	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user

DOT

No data available

TDG

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. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Alkylene glycol derivative	CAS-No. Trade Secret	70%
Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate)	CAS-No. 27344-41-8	20%
Single wall carbon nanotubes	CAS-No. 7440-44-0	10%

Single wall carbon nanotubes

This product is subject to the Significant New Use Rules (SNUR) published by the United States Environmental Protection Agency on December 5, 2019 in Federal Register Vol. 84, No. 234.

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR § 372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Alkylene glycol derivative

Listed on the Canadian DSL (Domestic Substances List)

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Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) (27344-41-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Alkylene glycol derivative

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Disodium 2,2'-([1,1'-biphenyl]-4,4'-diyldivinylene)bis(benzenesulphonate) (27344-41-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Single wall carbon nanotubes

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Revision date : 2022/10/4

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
CAS-No.	Chemical Abstract Service number
vPvB	Very Persistent and Very Bioaccumulative
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
STP	Sewage treatment plant
SDS	Safety Data Sheet
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
TLM	Median Tolerance Limit

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Abbreviations and acronyms	
PNEC	Predicted No-Effect Concentration
PBT	Persistent Bioaccumulative Toxic
OECD	Organisation for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
NOEC	No-Observed Effect Concentration
NOAEL	No-Observed Adverse Effect Level
LD50	Median lethal dose
NOAEC	No-Observed Adverse Effect Concentration
LOAEL	Lowest Observed Adverse Effect Level
IMDG	International Maritime Dangerous Goods
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DNEL	Derived-No Effect Level
DMEL	Derived Minimal Effect level
BCF	Bioconcentration factor
LC50	Median lethal concentration
ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA	International Air Transport Association

NFPA health hazard

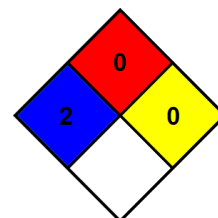
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 0 Minimal Hazard - Materials that will not burn

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

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 US (GHS HazCom 2012) OCSIAL

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