

1. Chemical product and company identification ►

Product name : TUBALL COAT_E H2O 0.2% SDBS
TUBALL COAT_E H2O 0.4% SDBS

Product group : Trade product

Company information

Supplier

東京都千代田区内神田 1-11-13
楠本化成株式会社

Europe:	USA:	Asia:	China:	Japan:
OCSiAl Europe S.a.r.l. L-3364, Leudelange, 1, rue de la Poudrerie, Grand Duchy of Luxembourg	OCSiAl LLC 500 S Front St., Suite 860, Columbus, OH 43215, USA	OCSiAl Asia Pacific Co., Ltd. Office 208, Pilot Plant Bldg., Incheon Technopark 12 Gaetbeol-ro, Yeonsu- gu, Incheon, 406-840 Republic of Korea	OCSiAl Hong Kong Limited No. 1102, 11/F, Lippo Sun Plaza, 28 Canton Road, Tsim Sha Tsui, Kowloon, Hong Kong	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
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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	classification not possible
	Flammable solids	No classification
	Self-reactive substances and mixtures	classification not possible
	Pyrophoric liquids	classification not possible
	Pyrophoric solids	No classification
	Self-heating substances and mixtures	classification not possible
	Substances and mixtures which in contact with water emit flammable gases	classification not possible
	Oxidizing liquids	classification not possible
	Oxidizing solids	No classification
	Organic peroxides	classification not possible
	Corrosive to metals	classification not possible

Health hazards	Desensitized explosives	classification not possible
	Acute toxicity (oral)	classification not possible
	Acute toxicity (dermal)	classification not possible
	Acute toxicity (inhalation:gas)	classification not possible
	Acute toxicity (inhalation:vapours)	classification not possible
	Acute toxicity (inhalation:dust/mist)	classification not possible
	Skin corrosion/irritation	classification not possible
	Serious eye damage/eye irritation	classification not possible
	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	
Environmental hazards	Aspiration hazard	classification not possible
	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

3. Composition/information on ingredients ►

Distinction of substance or mixture : Mixture

Generic name : TUBALL COAT_E H2O 0.2-0.4% SDBS

Name	Concentration (%)	Formula	Reference number in the gazette list		CAS-No.
			CSCL No.	ISHL No.	
Water	98.1 - 98.8	H2O	-	-	7732-18-5
Single wall carbon nanotubes*	0.2 - 0.4	C	-	-	7440-44-0
Sodium dodecylbenzenesulfonate	1 - 1.5	C18H30O3S .Na	-	-	25155-30-0

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.
Remove person to fresh air and keep comfortable for breathing.
Get medical attention.

First-aid measures after skin : Wash with plenty of soap and water.

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

Most Important Symptoms/Effects

Symptoms/effects after eye contact	: Causes serious eye irritation.
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Notes to physician

Other medical advice or treatment	: Treat symptomatically.
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5. Fire fighting measures

Suitable extinguishing media	: Not applicable, Water spray, Dry powder, Foam, Carbon dioxide
Unsuitable extinguishing media	: No data available
Hazardous decomposition products in case of fire	: Toxic fumes may be released
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.

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, eyes and clothing. Ensure adequate ventilation. Evacuate area.

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	: Provide adequate ventilation. Evacuate area. Avoid contact with skin and eyes.

Environmental precautions

Environmental precautions	: Avoid release to the environment.
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Do not allow to enter into surface water or drains.
Collect contaminated extinguishing water separately and must not enter the sewage system.

Methods and Equipment for Containment and Cleaning up

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

Methods for cleaning up : Take up liquid spill into absorbent material.
Collect spillage.
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.

7. Handling and storage ►

Handling

Technical measures : No data available

Precautions for safe handling : Ensure good ventilation of the work station.
Wear personal protective equipment.
Avoid contact with skin, eyes and clothing.
Provide local exhaust or general room ventilation.

Prevents handling of incompatible substances or mixtures : No data available

Hygiene measures : Do not eat, drink or smoke when using this product.
Wash contaminated clothing before reuse.
Always wash hands after handling the product.

Storage

Storage conditions : Store in dry, well-ventilated area.
Store at ambient temperature.
Keep container tightly closed.
Store in a well-ventilated place.
Keep cool.

Material used in packaging/containers : No data available

Storage temperature : > 5 ° C

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
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Appropriate engineering controls : Ensure good ventilation of the work station

Protective equipment

Personal protective equipment : Gloves, Safety glasses, Protective clothing

Respiratory protection : In case of inadequate ventilation wear respiratory protection, Selection of respiratory protection must be based on the result of the risk assessment

Hand protection : Chemically resistant protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	≥ 0.11		

Eye protection : Chemical goggles or face shield, Safety glasses

Skin and body protection : Protective clothing (with elasticated cuffs and closed neck)

Personal protective equipment symbol(s)



Environmental exposure controls : Avoid release to the environment.

9. Physical and chemical properties

Physical state	: Liquid
Colour	: Black
Odour	: Odourless
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative density	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Explosive properties	: Not explosive.
Explosive limits (vol %)	: No data available
Oxidising properties	: Non oxidizing
Viscosity, kinematic	: No data available

10. Stability and reactivity

Reactivity	: Stable under normal conditions.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: None known.
Conditions to avoid	: None known.
Incompatible materials	: Strong oxidizing agents.
Hazardous decomposition products	: Carbon dioxide. Carbon monoxide. Sulphur oxides.

11. Toxicological information ►

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)
 classification not possible (Vapour)
 classification not possible (dust, mist)

Sodium dodecylbenzenesulfonate (25155-30-0)

LD50 oral rat	500 - 2000 mg/kg - OECD 401
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Skin corrosion/irritation : classification not possible

Serious eye damage/irritation : classification not possible

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

Single wall carbon nanotubes (7440-44-0)

NOAEL (animal/female, F0/P)	> 1000 mg/kg bw/day - OECD 422
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NOAEL (animal, F1)	> 1000 mg/kg bw/day - for adverse effects on prenatal development (conceptus to birth) - OECD 422
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NOAEL (animal, F1)	> 1000 mg/kg bw/day - for adverse effects on postnatal development (pup) - OECD 422
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STOT-single exposure : classification not possible

STOT-repeated exposure : classification not possible

Single wall carbon nanotubes (7440-44-0)

NOAEL (oral, rat, 90 days)	> 1000 mg/kg bodyweight/day - OECD 422
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Aspiration hazard : classification not possible

Single wall carbon nanotubes (7440-44-0)

Viscosity, kinematic	Not applicable
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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

Sodium dodecylbenzenesulfonate (25155-30-0)

LC50 fish - 96h	3.2 - 5.6 mg/l Oncorhynchus mykiss (Rainbow trout) - OECD 203
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EC50 crustacea - 48h	6.3 mg/l Daphnia magna (Water flea) - OECD 202
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Bioconcentration factor (BCF REACH)	130 - OECD 305
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Partition coefficient n-octanol/water (Log Pow)	1.96
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Persistence and degradability**TUBALL COAT_E H2O Graphene nanotubes: 0.2-0.4% Dispersant: SDBS**

Persistence and degradability	No data available
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Single wall carbon nanotubes (7440-44-0)

Not rapidly degradable	
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Sodium dodecylbenzenesulfonate (25155-30-0)

Persistence and degradability	Readily biodegradable.
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Sodium dodecylbenzenesulfonate (25155-30-0)	
Biodegradation	> 75 % - 17 days

Bioaccumulative potential

TUBALL COAT_E H2O Graphene nanotubes: 0.2-0.4% Dispersant: SDBS	
Bioaccumulative potential	No data available

Sodium dodecylbenzenesulfonate (25155-30-0)	
Bioconcentration factor (BCF REACH)	130 - OECD 305
Partition coefficient n-octanol/water (Log Pow)	1.96

Mobility in soil

TUBALL COAT_E H2O Graphene nanotubes: 0.2-0.4% Dispersant: SDBS	
Mobility in soil	No data available

Sodium dodecylbenzenesulfonate (25155-30-0)	
Partition coefficient n-octanol/water (Log Pow)	1.96

Hazardous to the ozone layer

Ozone : classification not possible
 Other adverse effects : No additional information available

13. Disposal considerations

Waste treatment methods : Disposal through controlled incineration or authorised waste dump.
 Dispose of contents/container in accordance with licensed collector's sorting instructions.

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

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**

Chemical Substances Control Law : Priority Assessment Chemical Substances (Act, Art.2, Para.5)
 Law Relating to Prevention of Marine Pollution and Maritime Disasters : Harmless Substances (Enforcement Order, Art. Appended Table 1-2)
 Harmful Liquid Substances (Group Y), (Enforcement Order, Art. Appended Table 1)
 Foreign Exchange and Foreign Trade Control Act : Export Trade Control Order, Appended Table 1, Para.16
 Japanese Pollutant Release and Transfer Register Law (PRTR Law) : Class 1 Designated Chemical Substances (Act, Art.2, Para.2, Enforcement Order, Art.1 Appended Table 1)

n-alkylbenzenesulfonic acid and its salts(alkyl C=10-14)
(Ordinance number : 30) (1.5%)

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
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
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.

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