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Revision Number 2.03

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name ABS-ESD7™ Model Material

Product Code(s) SDS-400616 EN U

PN (Part Number) 311-10901 311-20800 311-60901 315-60901 316-60901 325-10901 325-60901 333-90230
355-02130 333-90230

Other means of identification

Synonyms ABS

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended Use Additive manufacturing

Uses advised against No information available

Details of manufacturer or importer

<u>Importer</u>	<u>Importer</u>
Objective3D Pty Ltd	TCL Hofmann
33-35 Yazaki Way	VIC - Braeside
Carrum Downs, 3201	150 Woodlands Drive
Victoria, Australia	Braeside VIC 3195
Phone: +613 9785 2333	Australia
Local: +1300 559 454	Phone: +613 8586 2900
Fax: +613 9785 2322	Fax: +613 9580 8322

For further information, please contact

E-mail address info@Stratasys.com

Emergency telephone number

Emergency telephone number +61 2 8014 4558 - Australia - English Language response

Section 2: Hazard(s) identification

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

Label elements

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

Other hazards which do not result in classification

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form. See section 7 for more information. See section 8 for more information.

Section 3: Composition and information on ingredients, in accordance with Schedule 8**Substance**

Not applicable

Mixture

Chemical name	CAS No	Weight-%
Short tangled MWCNTs	7782-42-5	3-10
Non-hazardous ingredients	Proprietary	Balance

Section 4: First aid measures**Description of first aid measures**

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
Skin contact	Wash skin with soap and water when in contact with molten residues.
Ingestion	Drink plenty of water. Do not induce vomiting without medical advice. Call a doctor immediately.

Most important symptoms and effects, both acute and delayed

Symptoms	None known.
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Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
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Section 5: Firefighting measures**Suitable Extinguishing Media**

Suitable Extinguishing Media	Foam. Water. Carbon dioxide (CO2). Dry chemical. Alcohol resistant foam.
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Unsuitable extinguishing media	None known.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	None known.
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Special protective actions for fire-fighters

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Avoid contact with skin and eyes. Remove all sources of ignition. Sweep up to prevent slipping hazard.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. Keep out of waterways.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labelled containers.

Precautions to prevent secondary hazards

Prevention of secondary hazards Prevent dust cloud. Avoid dust accumulation in enclosed space. May form combustible dust concentrations in air if small particles are generated during further processing, handling or by other means. Remove all sources of ignition.

Section 7: Handling and storage, including how the chemical may be safely used**Precautions for safe handling**

Advice on safe handling Use personal protection equipment. Avoid contact with skin and eyes, when handling melted filament. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form. Use respirator.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Oxidising agent. Strong bases.

Section 8: Exposure controls and personal protection**Control parameters****Exposure Limits**

Chemical name	Australia
Short tangled MWCNTs 7782-42-5	3 mg/m ³

Appropriate engineering controls

Engineering controls If dust is generated during further processing provide exhaust ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection Goggles. Safety glasses with side-shields.

Skin and body protection Impervious clothing.

Respiratory protection Minimise dust generation and accumulation. Wear respiratory protection.

Environmental exposure controls No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Monofilament
Odour	No information available.
Colour	Black
Odour threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>380 °C	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	1.02 - 1.07	
Water solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	>350 °C	
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	negligible
Liquid Density	No information available
Bulk density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

Section 10: Stability and reactivity

Reactivity

Reactivity None under normal use conditions.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid Excessive heat. To avoid thermal decomposition, do not overheat.

Incompatible materials

Incompatible materials Oxidising agent. Strong bases.

Hazardous decomposition products

Hazardous decomposition products Burning produces obnoxious and toxic fumes. Carbon monoxide. Carbon dioxide (CO₂). Aldehydes.

Section 11: Toxicological information**Acute toxicity****Information on likely routes of exposure****Product Information**

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Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available

Symptoms None known.

Numerical measures of toxicity - Product Information

Unknown acute toxicity No information available

7.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

7.5 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

7.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

7.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

7.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Short tangled MWCNTs	-	-	> 2000 mg/m ³ (Rat) 4 h

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitisation No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: Ecological information

Ecotoxicity

Ecotoxicity

Unknown aquatic toxicity 0.75 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Short tangled MWCNTs	-	100: 96 h Danio rerio mg/L LC50 semi-static	-	-

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation No information available.

Mobility

Mobility in soil No information available.

Mobility No information available.

Other adverse effects

Other adverse effects No information available.

Section 13: Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Section 14: Transport information

ADG Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available

Section 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Australia

See section 8 for national exposure control parameters

International Inventories

TSCA	Complies
DSL/NDL	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Prepared By

TSCA;
http://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/searchbylist/search.d
IECSC; <http://cciss.cirs-group.com/>
EU Regulation 1272/2008
TOMES-LOLI®; <http://www.rightanswerknowledge.com/loginRA.asp>
UN Recommendations on the transport of dangerous goods 19th Edition
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans;
<http://monographs.iarc.fr>
ECHA CHEM;
<http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>
OECD SIDS; <http://webnet.oecd.org/Hpv/UI/Search.aspx>
EPA; <http://www.epa.gov/iris>
EPISUITE Program ver.4.1
NIOSH (The National Institute for Occupational Safety and Health)
ACGIH (American Conference of Governmental Industrial Hygienists)

Waste Control Act enforcement regulation attached [1]
National chemicals information systems; <http://ncis.nier.go.kr>
Korea National Fire Agency-Korea dangerous material inventory management system;
<http://hazmat.mpss.kfi.or.kr/material.do>
Korea Ministry of Employment and Labor Public Notice No. 2016-19
Korea Ministry of Employment and Labor Public Notice No. 2018-24

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Revision Note

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

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End of Safety Data Sheet