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Revision B

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product identifier**

Product Code(s)	SDS-000013 BE E DGY
Denmark PR No	N/A
Product Name	ASA Dk Gray
PN (Part Number)	311-21600 333-60508 355-02143
Pure substance/mixture	Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	3D Printing
Uses advised against	No information available

1.3. Details of the supplier of the safety data sheet**Importer**

Stratasys EMEA Regional Office
Airport Boulevard B 120
77836 Rheinmünster, Germany
Phone: +49-7229-7772-0

For further information, please contact

E-mail address info@Stratasys.com**1.4. Emergency telephone number**

Emergency Telephone	<ul style="list-style-type: none">• +49 722 97772280 - Europe - Multi lingual response• +49 722 97772281 - Global – English Language response• +1 978 495 5580 - USA – Multi-lingual response• +85 2 975 70887 - Asia Pacific - Multi lingual response• +61 2 8011 4763 - Australia - Multi lingual response• +86 15626070595 - China - Chinese response
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Section 2: HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture***Regulation (EC) No 1272/2008*

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

EUH210 - Safety data sheet available on request

2.3. Other hazards

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/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Benzene, ethenyl	202-851-5	100-42-5	0.1 - 1	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Repr. 2 (H361d) STOT RE 1 (H372) Flam. Liq. 3 (H226)	05-2116364815-37-0000
n-Hexane	203-777-6	110-54-3	0.1 - 1	Skin Irrit. 2 (H315) Repr. 2 (H361f) STOT SE 3 (H336) STOT RE 2 (H373) Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411) Flam. Liq. 2 (H225)	No data available

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. 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.

4.2. Most important symptoms and effects, both acute and delayed

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

Note to doctors	Treat symptomatically.
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Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Foam Water
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Carbon dioxide (CO₂)
 Dry chemical
 Alcohol resistant foam

Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical None known.

5.3. Advice for firefighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. 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.

6.2. Environmental precautions

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

6.3. 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 Take up mechanically, placing in appropriate containers for disposal.

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.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. 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.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Benzene, ethenyl 100-42-5	-	TWA: 100 ppm TWA: 430 mg/m ³ STEL: 250 ppm STEL: 1080 mg/m ³	TWA: 50 ppm TWA: 215 mg/m ³ TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	TWA: 20 ppm TWA: 86 mg/m ³ STEL: 40 ppm STEL: 172 mg/m ³	TWA: 20 ppm TWA: 86 mg/m ³
n-Hexane 110-54-3	TWA: 20 ppm TWA: 72 mg/m ³	TWA: 20 ppm TWA: 72 mg/m ³ STEL: 60 ppm STEL: 216 mg/m ³	TWA: 20 ppm TWA: 72 mg/m ³ TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	TWA: 20 ppm TWA: 72 mg/m ³	TWA: 50 ppm TWA: 180 mg/m ³
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Benzene, ethenyl 100-42-5	-	TWA: 20 ppm STEL: 40 ppm	-	TWA: 20 ppm TWA: 86 mg/m ³ STEL: 100 ppm STEL: 430 mg/m ³	Ceiling: 25 ppm Ceiling: 105 mg/m ³ H*
n-Hexane 110-54-3	TWA: 20 ppm TWA: 72 mg/m ³	TWA: 20 ppm TWA: 72 mg/m ³ P*	TWA: 72 mg/m ³ STEL: 144 mg/m ³	TWA: 20 ppm TWA: 72 mg/m ³ iho*	TWA: 20 ppm TWA: 72 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Benzene, ethenyl 100-42-5	TWA: 20 ppm TWA: 85 mg/m ³ STEL 80 ppm STEL 340 mg/m ³	TWA: 20 ppm TWA: 85 mg/m ³ STEL: 40 ppm STEL: 170 mg/m ³	STEL: 100 mg/m ³ TWA: 50 mg/m ³	TWA: 25 ppm TWA: 105 mg/m ³ STEL: 25 ppm STEL: 105 mg/m ³	TWA: 20 ppm TWA: 85 mg/m ³ STEL: 40 ppm STEL: 170 mg/m ³
n-Hexane 110-54-3	TWA: 20 ppm TWA: 72 mg/m ³ STEL 80 ppm STEL 288 mg/m ³	TWA: 50 ppm TWA: 180 mg/m ³ STEL: 400 ppm STEL: 1440 mg/m ³ H*	TWA: 72 mg/m ³	TWA: 20 ppm TWA: 72 mg/m ³ TWA: 40 ppm TWA: 275 mg/m ³ STEL: 20 ppm STEL: 72 mg/m ³ STEL: 40 ppm STEL: 275 mg/m ³	TWA: 20 ppm TWA: 72 mg/m ³ STEL: 60 ppm STEL: 216 mg/m ³

Biological occupational exposure limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Benzene, ethenyl 100-42-5	-	-	-	400 0.2	600 mg/g
n-Hexane 110-54-3	-	-	-	0.2	5 mg/L
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Benzene, ethenyl 100-42-5	-	-	-	1.2	
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Benzene, ethenyl 100-42-5	-	400 500	-	-	-
n-Hexane 110-54-3	-	5	-	-	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls	If dust is generated during further processing provide exhaust ventilation.
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.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state	Solid
Appearance	Monofilament
Odour	No data available.
Colour	Characteristic
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	No data available	None known
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	No data available	None known
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	No data available	
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
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

10.1. Reactivity

Reactivity None under normal use conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Incompatible materials Oxidising agent. Strong bases.

10.6. Hazardous decomposition products

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

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

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.

Information on toxicological effects

Symptoms None known.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Benzene, ethenyl	= 1000 mg/kg (Rat)		= 11.7 mg/L (Rat) 4 h
n-Hexane	= 25 g/kg (Rat)	= 3000 mg/kg (Rabbit)	= 48000 ppm (Rat) 4 h

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.

Chemical name	European Union
Benzene, ethenyl	Repr. 2
n-Hexane	Repr. 2

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity .

Unknown aquatic toxicity Contains 99.464 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Benzene, ethenyl	1.4: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.72: 96 h Pseudokirchneriella subcapitata mg/L EC50 0.46 - 4.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.15 - 3.2: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	3.24 - 4.99: 96 h Pimephales promelas mg/L LC50 flow-through 19.03 - 33.53: 96 h Lepomis macrochirus mg/L LC50 static 6.75 - 14.5: 96 h Pimephales promelas mg/L LC50 static 58.75 - 95.32: 96 h Poecilia reticulata mg/L LC50 static	-	3.3 - 7.4: 48 h Daphnia magna mg/L EC50
n-Hexane	-	2.1 - 2.98: 96 h Pimephales promelas mg/L LC50 flow-through	-	1000: 24 h Daphnia magna mg/L EC50

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

Component Information

Chemical name	Partition coefficient
Benzene, ethenyl	2.95

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects No information available.

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances
Benzene, ethenyl	Group I Chemical	High Exposure Concern

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment 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

IMDG

14.1 UN/ID no Not regulated
14.2 Proper Shipping Name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing group Not regulated
14.5 Marine pollutant Not applicable
14.6 Special Provisions None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

RID

14.1 UN/ID no Not regulated
14.2 Proper Shipping Name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing group Not regulated
14.5 Environmental Hazard Not applicable
14.6 Special Provisions None

ADR

14.1 UN/ID no Not regulated
14.2 Proper Shipping Name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing group Not regulated
14.5 Environmental Hazard Not applicable

14.6 Special Provisions None

IATA

14.1 UN/ID no Not regulated
 14.2 Proper Shipping Name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental Hazard Not applicable
 14.6 Special Provisions None

Section 15: REGULATORY INFORMATION

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

National regulations**France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number	Title
Benzene, ethenyl 100-42-5	RG 66, RG 84	-
n-Hexane 110-54-3	RG 59, RG 84	-

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

15.2. Chemical safety assessment

Chemical Safety Report No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet**Full text of H-Statements referred to under section 3**

H332 - Harmful if inhaled
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H361d - Suspected of damaging the unborn child
 H372 - Causes damage to organs through prolonged or repeated exposure if inhaled
 H226 - Flammable liquid and vapour
 H361f - Suspected of damaging fertility
 H336 - May cause drowsiness or dizziness
 H373 - May cause damage to organs through prolonged or repeated exposure if inhaled
 H304 - May be fatal if swallowed and enters airways

H411 - Toxic to aquatic life with long lasting effects
 H225 - Highly flammable liquid and vapour

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
	Calculation method

Revision Date 27-Jan-2017

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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End of Safety Data Sheet