Safety Data Sheet

according to Regulation (EC) No 1907/2006 and 1272/2008,
Hazard Communication Standard 29 CFR 1910 (USA),
WHS Regulations Australia,
JIS Z 7253 (2012) Japan

DuraForm® Flex

Revision Date: August 31, 2016

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the substance or preparation: DuraForm Flex

1.2 Use of the substance / preparation: For use with SLS® (selective laser sintering) systems

1.3 Company/undertaking identification:

3D Systems, Inc.
333 Three D Systems Circle
Rock Hill, South Carolina U.S.A.
Phone: 803.326.3900 or
Toll-free Phone: 800.793.3669
e-mail: moreinfo@3dsystems.com
Chemical Emergency:
800.424.9300 – Chemtrec

3D Systems Europe Ltd.
Mark House, Mark Road
Hemel Hempstead
Herts HP2 7 United Kingdom
Phone: +44 144-2282600
e-mail: moreinfo@3dsystems.com
Chemical Emergency:
+1 703.527.3887 - Chemtrec

3D Systems / Australia
5 Lynch Street
Hawthorn, VIC 3122
+1 03 9819-4422
e-mail: moreinfo@3dsystems.com
Chemical Emergency:
+(61) 29037.2994 – Aus Chemtrec

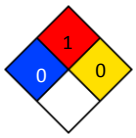
2. HAZARDS IDENTIFICATION

2.1 Classification:
Not classified according to GHS, Regulation (EC) No. 1272/2008, 29 CFR 1910, Australian Dangerous Goods Code

2.2 Label Elements
Regulation (EC) No, 1272/2008:
Hazard pictograms and signal word: None
Hazard statements: None

Precautionary statements:

P202:	Do not handle until all safety precautions have been read and understood.
P307+313:	If exposed: Get medical advice/attention
P404:	Store in a closed container
P501::	Dispose of contents/container in accordance with local regulation.



NFPA Ratings
0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Severe

Hazardous Materials Identification System (HMIS):
(Degree of hazard: 0 = low, 4 = extreme);

Health	**0**
Flammability	**1**
Physical Hazards	**0**

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Preparation related information

Description: Polymer powder. This substance is not classified according to European Union Directive 67(548/EEC.

4. FIRST AID MEASURES

4.1 In case of inhalation: In case of symptoms of irritation caused by vapors in thermal processing: provide fresh air, seek medical advice if necessary.

4.2 In case of skin contact: Flush skin with plenty of soap and water.

4.3 In case of eye contact: Flush eyes with plenty of water.

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media: Water mist, dry chemical, carbon dioxide, or appropriate foam.

5.2 Extinguishing media which must not be used for safety reasons: High volume water jet.

5.2 Special hazards arising from the substance or mixture
Refer to 1995 edition of NFPA 33 Appendix A. The minimum explosive concentration of dust in the air is 30 grams per cubic meter. Dust control and good housekeeping are required. Dust may also carry a static charge. Make sure equipment and personnel are grounded to avoid static discharge.

5.3 Advice for firefighters
Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire will produce dense black smoke containing hazardous combustion products (see heading 10). Wear self-contained breathing apparatus for firefighting if necessary. Cool containers / tanks with water spray.

Minimum ignition energy:	5-20 mJ
Minimum explosible concentration (LEL):	20 - 70 g.m-3

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Exclude non-essential personnel. Remove all sources of ignition. Ensure adequate ventilation. Do not breathe dust.

6.2 Environmental precautions
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up
Use approved industrial vacuum cleaner for removal. Do not create a powder cloud by using a brush or compressed air.

6.4 Reference to other sections
See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Provide adequate ventilation. Keep container tightly closed. Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Store in original container. Avoid dust formation. Dust may form explosive mixture in air. Do not breathe dust.

7.2 Conditions for safe storage, including any incompatibilities
Containers which are opened must be carefully resealed and kept upright to prevent leakage. Take notice of the directions of use on the label. Keep in a dry, cool and well-ventilated place. Keep away from direct sunlight.

Storage temperature:	10 - 30 C

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure limit values:
Occupational exposure limits: The OES for nuisance dust is 10 mg/m^3 (total dust), 4 mg/m^3 (respirable dust). Check local regulations in case different limits apply. During normal use, these concentrations are not expected to be reached.

8.2 Exposure controls
Technical measures to prevent exposure: Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Instructual measures to prevent exposure: When using, do not eat, drink or smoke. Wash hands after handling and before eating, smoking and using the lavatory and at the end of the day.

Personal protection equipment:
Hand protection: Use impervious nitrile gloves.
Eye protection: Wear safety glasses or chemical goggles.
Body protection: Wear as appropriate: Flame retardant antistatic protective clothing. Wear shoes with conductive soles.

Environmental exposure controls
The product should not be allowed to enter drains, water courses or the soil

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance:
Physical state: Powder
Color: white
Odor: no distinct odor

9.2 Important health, safety and environmental information

pH (20 °C):	NA
Melting point/range (°C):	NA
Boiling point/range (°C):	NA
Flash point (°C):	200°C(cc)
Ignition temperature (°C):	NA
Minimum ignition energy :	5-20 mJ
Minimum explosible concentration LEL) :	20-70 g/m3
Vapour pressure (°C):	NA
Density (g/cm3):	1.2
Bulk density (kg/m3):	NA
Water solubility (20°C in g/l):	NA
Viscosity, dynamic (mPa s):	NA

10. STABILITY AND REACTIVITY

10.1 Conditions to avoid: Avoid wet/humid environment. Avoid dust formation.

10.2 Materials to avoid: Oxidizing materials, acids, strong bases, water, and high humidity.

10.3 Hazardous decomposition products: Carbon dioxide, carbon monoxide, NOx can be released at high temperatures or upon burning.

11. TOXICOLOGICAL INFORMATION

11.1 Toxicokinetics, metabolism and distribution: NA

11.2 General remarks: Carcinogenicity: None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

12. Ecological information

12.1 Ecotoxicity: The aquatic toxicity of the product is unknown. No data are available for the components of this product.

12.2 Mobility: No information available for product.

12.3 Persistence and degradability: No information available for product.

12.4 Results of PBT assessment: No information available for product

12.5 Other adverse effects: No information available for product

13. DISPOSAL CONSIDERATIONS

Do not let product enter drains. Do not contaminate ponds, waterways or ditches with chemical or used container. Where possible recycling is preferred to disposal or incineration. Dispose of as special waste in compliance with local and national regulations.

European Waste Catalogue 08 02 01

14. TRANSPORT INFORMATION

14.1 Land transport (ADR/RID/GGVSE): Not Regulated
Official transport designation:
Class:
Classification Code:
UN-No.:
Packing group:
Hazard label:
Tunnel restriction code:
Special provisions:

14.2 Sea transport (IMDG-Code/GGVSee): Not Regulated
Proper Shipping Name:
Class:
UN-No.:
Packing group:
EmS:
Marine Pollutant:
Special provisions:

14.3 Air transport (ICAO-IATA/DGR): Not Regulated
Proper Shipping Name:
Class:
UN-No.:
Packing group:
Special provisions:

15. REGULATORY INFORMATION

15.1 EU regulations
EINEC/ELINCS/NLP: All materials are listed
REACH Annex XVII: None listed

15.2 US FEDERAL
TSCA: All materials are listed on the TSCA Inventory or are not subject to TSCA requirements**:**
California Proposition 65: This product does not contain chemicals which are known to the state of California to cause cancer, birth, or any other reproductive defects.

15.3 Australian regulations
SUSDP, Industrial Chemicals Act 1989:
Australian Inventory of Chemical Substances, AICS: Listed

15.4 Japanese regulations

Chemical Risk Information platform (CHRIP):	Listed
Industrial Health and Safety Law	not applicable
Hazardous material	not applicable
Organic solvent poison prevention rule	not applicable
Ordinance on prevention of hazard due to specified chemical substances	not applicable
Lead Poisoning Prevention Rule	not applicable
Poison and Deleterious Substance Control law	not applicable
PRTR and Promotion of Chemical Management law (PRTR Law)	no listed components
Fire Services Act	not applicable
Explosives Law	not applicable
High pressure gas safety law	not applicable
Export Trade Control Order	not applicable
Waste Disposal and Public Cleaning Law	applicable. Before disposal, consult an approved waste disposal operative to ensure regulatory compliance.

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16. OTHER INFORMATION

SDS Creation Date: ..... January 20, 2005
SDS Revision #: 02-A
SDS Revision Date: ..... August 31, 2016
Reason for Revision: ..... Update Sections 2, 15

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