

840079-EU-EN: Solidscape® Printer Model Material

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Revision Date: 20/08/2018

Date of Issue: 20/08/2018

Supersedes: Rev A

Rev: B

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Form : Mixture
Product Name : Indura® CAST, plusCAST®
Other means of identification : Solidscape® Printer Model Material
Product Code : 970081-02, 970123

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial.
Use of the substance/mixture : Model material for use with Solidscape® Printer. For professional use only.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Company

Solidscape®, Inc.
316 Daniel Webster Highway
Merrimack, NH 03054
603-429-9700

www.solidscape.com

precision@solidscape.com

1.4. Emergency telephone number

Emergency number : 603-429-9700 8am - 5pm, Monday - Friday, Eastern Standard Time

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification According to Regulation (EC) No. 1272/2008 [CLP]

Skin Irrit. 2 H315
Eye Irrit. 2 H319
Aquatic Chronic 3 H412
Full text of hazard classes and H-statements : see section 16

2.2. Label elements

Labelling According to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) : Warning

Hazard statements (CLP) : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P264 - Wash hands, forearms and exposed areas thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves, eye protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 - Specific treatment (see Section 4 on this SDS).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. The dried or powdered form of this substance may form combustible dust concentrations in air.

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification According to Regulation (EC) No. 1272/2008 [CLP]
p-Ethylbenzenesulfonamide	(CAS-No.) 138-38-5	5 - 30	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Pentaerythritol tetrabenzoate	(CAS-No.) 4196-86-5 (EC-No.) 224-079-8	< 15	Acute Tox. 4 (Oral), H302
2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]-	(CAS-No.) 26741-53-7 (EC-No.) 247-952-5	< 1	Acute Tox. 4 (Inhalation:dust,mist), H332 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Removal of solidified molten material from skin requires medical assistance. Where possible allow molten material to solidify naturally.
- First-aid measures after inhalation : When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
- First-aid measures after skin contact : Remove contaminated clothing. Obtain medical attention if irritation develops or persists. Immediately drench affected area with water for at least 15 minutes.
- First-aid measures after eye contact : Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

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

- Symptoms/effects : Risk of thermal burns on contact with molten product. The following applies to the product if it is cut, sanded or altered in such a way that excessive and/or significant particulates and/or dusts may be generated: Causes serious eye irritation. Causes skin irritation.
- Symptoms/effects after inhalation : Prolonged exposure may cause irritation.
- Symptoms/effects after skin contact : Redness, pain, swelling, itching, burning, dryness, and dermatitis.
- Symptoms/effects after eye contact : Contact causes severe irritation with redness and swelling of the conjunctiva.
- Symptoms/effects after ingestion : Ingestion may cause adverse effects.
- Chronic symptoms : None expected under normal conditions of use.

4.3. Indication of any immediate medical attention and special treatment needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not considered flammable but may burn at high temperatures.
- Explosion hazard : Product is not explosive. Dust generated from processing may present a dust explosion hazard.
- Reactivity : Hazardous reactions will not occur under normal conditions. Reacts exothermically with (some) acids.
- Hazardous decomposition products in case of fire : Emits toxic fumes under fire conditions. Ammonia. Nitrogen oxides. Sulphur oxides. Carbon oxides (CO, CO₂).

5.3. Advice for firefighters

- Precautionary measures fire : Exercise caution when fighting any chemical fire.
- Firefighting instructions : Use water spray or fog for cooling exposed containers.

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- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid generating dust. Avoid breathing dust. Avoid all contact with skin, eyes, or clothing.

6.1.1. For non-emergency personnel

- Protective equipment : Use appropriate personal protective equipment (PPE).
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.
- Methods for cleaning up : Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to other sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Risk of thermal burns on contact with molten product. Dust explosion possible if in powder or granular form, mixed with air.
- Precautions for safe handling : Avoid contact with skin, eyes and clothing. Avoid breathing dust. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : To reduce contamination of product, it is recommended to wear lint free gloves when handling material. Keep away from heat and open flame. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high temperatures and incompatible materials. Store in a dry, cool place.

- Incompatible materials : Strong acids. Strong oxidizers.

7.3. Specific end use(s)

Model material for use with 3Z Printer. For professional use only.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

- Appropriate engineering controls : Not generally required. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
- Personal protective equipment : Not generally required. The use of personal protective equipment may be necessary as conditions warrant.
- Materials for protective clothing : With molten material wear thermally protective clothing.
- Hand protection : Wear protective gloves.
- Eye and Face Protection : Chemical safety goggles.

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Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.
Other information	: When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Blue
Odour	: Faint
Odour threshold	: No data available
pH	: No data available
Evaporation rate	: No data available
Melting point	: 95 - 115 °C (203 - 239 °F)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 175 °C (347 °F)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Solubility	: Negligible
Partition coefficient: n-octanol/water	: No data available
Viscosity	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

9.2. Other information

VOC content	: < 1 %
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SECTION 10: Stability and reactivity

10.1. Reactivity

Hazardous reactions will not occur under normal conditions. Reacts exothermically with (some) acids.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible materials

Strong acids. Strong oxidizers.

10.6. Hazardous decomposition products

Thermal decomposition generates toxic vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (26741-53-7)	
LD50 oral rat	5580 mg/kg
LD50 dermal rabbit	> 2 g/kg
LC50 inhalation rat (mg/l)	> 2 mg/l (Exposure time: 1 h)
ATE CLP (dust,mist)	1,50 mg/l/4h
Pentaerythritol tetrabenzoate (4196-86-5)	
LD50 oral rat	1158 mg/kg

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Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Symptoms/Injuries After Inhalation	: Prolonged exposure may cause irritation.
Symptoms/Injuries After Skin Contact	: Redness, pain, swelling, itching, burning, dryness, and dermatitis.
Symptoms/Injuries After Eye Contact	: Contact causes severe irritation with redness and swelling of the conjunctiva.
Symptoms/Injuries After Ingestion	: Ingestion may cause adverse effects.
Chronic Symptoms	: None expected under normal conditions of use.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

Solidscape® Printer Model Material	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Solidscape® Printer Model Material	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose of contents/container in accordance with local, regional, national, and international regulations.
Additional information	: Container may remain hazardous when empty. Continue to observe all precautions.
Ecology - waste materials	: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: Transport information

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued. In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated for transport				
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

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14.6. Special precautions for user

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (26741-53-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Pentaerythritol tetrabenzoate (4196-86-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

VOC content : < 1 %

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Date of Preparation or Latest Revision : 20/08/2018

Data sources : Information and data obtained and used in the authoring of this safety data sheet could come from database subscriptions, official government regulatory body websites, product/ingredient manufacturer or supplier specific information, and/or resources that include substance specific data and classifications according to GHS or their subsequent adoption of GHS.

Other information : According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Full Text of H- and EUH-statements:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Indication of Changes

Section	Change	Date Changed	Version
2	Classification modified	28/07/2017	3.0
2	Language modified	28/07/2017	3.0
3	Classification modified	28/07/2017	3.0
4	Language modified	28/07/2017	3.0
5	Language modified	28/07/2017	3.0
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10	Language modified	28/07/2017	3.0
11	Data modified	28/07/2017	3.0
11	Language modified	28/07/2017	3.0
12.	Data modified	28/07/2017	3.0
12.	Language modified	28/07/2017	3.0
13	Language modified	28/07/2017	3.0
14	Language modified	28/07/2017	3.0
15	Data modified	28/07/2017	3.0
15	Language modified	28/07/2017	3.0
16	Language modified	28/07/2017	3.0
2	Classification modified	16/08/2018	4.0
3	Classification modified	16/08/2018	4.0
4	Language modified	16/08/2018	4.0
5	Language modified	16/08/2018	4.0
6	Language modified	16/08/2018	4.0
7	Language modified	16/08/2018	4.0
11	Language modified	16/08/2018	4.0
16	Language modified	16/08/2018	4.0

Abbreviations and Acronyms

ACGIH – American Conference of Governmental Industrial Hygienists
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
BCF - Bioconcentration Factor
BEI - Biological Exposure Indices (BEI)
BOD – Biochemical Oxygen Demand
CAS No. - Chemical Abstracts Service Number
CLP – Classification, Labeling and Packaging Regulation (EC) No 1272/2008
COD – Chemical Oxygen Demand
EC – European Community
EC50 - Median Effective Concentration
EEC – European Economic Community
EINECS – European Inventory of Existing Commercial Chemical Substances
EmS-No. (Fire) - IMDG Emergency Schedule Fire
EmS-No. (Spillage) - IMDG Emergency Schedule Spillage
EU – European Union
ERC50 - EC50 in Terms of Reduction Growth Rate
GHS – Globally Harmonized System of Classification and Labeling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC Code - International Bulk Chemical Code
IMDG - International Maritime Dangerous Goods
IPRV - Ilgalaikio Poveikio Ribinis Dydis
IOELV – Indicative Occupational Exposure Limit Value
LC50 - Median Lethal Concentration
LD50 - Median Lethal Dose
LOAEL - Lowest Observed Adverse Effect Level
LOEC - Lowest-Observed-Effect Concentration
Log Koc - Soil Organic Carbon-water Partitioning Coefficient
Log Kow - Octanol/water Partition Coefficient
Log Pow - Ratio of the equilibrium concentration (C) of a dissolved substance in a two-phase system consisting of two largely immiscible solvents, in this case octanol and water
MAK – Maximum Workplace Concentration/Maximum Permissible Concentration

EU GHS SDS

MARPOL - International Convention for the Prevention of Pollution
NDS - Najwyższe Dopuszczalne Stezenie
NDSCh - Najwyższe Dopuszczalne Stezenie Chwilowe
NDSP - Najwyższe Dopuszczalne Stezenie Pulapowe
NOAEL - No-Observed Adverse Effect Level
NOEC - No-Observed Effect Concentration
NRD - Nevirytinas Ribinis Dydis
NTP – National Toxicology Program
OEL - Occupational Exposure Limits
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
pH – Potential Hydrogen
REACH – Registration, Evaluation, Authorisation, and Restriction of Chemicals
RID – Regulations Concerning the International Carriage of Dangerous Goods by Rail
SADT - Self Accelerating Decomposition Temperature
SDS - Safety Data Sheet
STEL - Short Term Exposure Limit
TA-Luft - Technische Anleitung zur Reinhaltung der Luft
TEL TRK – Technical Guidance Concentrations
ThOD – Theoretical Oxygen Demand
TLM - Median Tolerance Limit
TLV - Threshold Limit Value
TPRD - Trumpalaikio Poveikio Ribinis Dydis
TRGS 510 - Technische Regel für Gefahrstoffe 510 - Lagerung von Gefahrstoffen in ortsbeweglichen Behältern
TRGS 552 – Technische Regeln für Gefahrstoffe - N-Nitrosamine
TRGS 900 - Technische Regel für Gefahrstoffe 900 – Arbeitsplatzgrenzwerte
TRGS 903 - Technische Regel für Gefahrstoffe 903 - Biologische Grenzwerte
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
VOC – Volatile Organic Compounds
VLA-EC - Valor Límite Ambiental Exposición de Corta Duración
VLA-ED - Valor Límite Ambiental Exposición Diaria
VLE – Valeur Limite D'exposition
VME – Valeur Limite De Moyenne Exposition
vPvB - Very Persistent and Very Bioaccumulative
WEL – Workplace Exposure Limit
WGK - Wassergefährdungsklasse

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.