



# 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

## Accura® SL 7840

Revision Date: August 5, 2015

### 1. CHEMICAL IDENTIFIER AND COMPANY INFORMATION

#### 1.1 Identification of the mixture: Accura® SL 7840

1.2 Use of the preparation: For SLA® systems equipped with solid-state (Nd:YVO4) lasers

#### 1.3 Company/undertaking identification:

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

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50-6027 Japan  
Telephone No. +81-3-5798-2500  
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moreinfo@3dsystems.com  
Chemical Emergency  
+(81)-345209637 – Chemtrec

### 2. HAZARDS IDENTIFICATION

2.1 GHS Classification: Regulation (EC) No. 1272/2008, 29 CFR 1910, Australian Dangerous Goods Code, JIS Z 7252:2009, Z 7253:2012:

Skin corrosion/irritation	Category 2	H315
Serious eye damage/eye irritation	Category 2A	H319
Skin sensitization	Category 1	H317
Aquatic environment-long term hazard	Category 2	H411

Regulation (EC) 67/548/EEC and 1999/45/EC:

Xi, R 36/38, R 43, R 51/53

#### 2.2 Label Elements

Hazard pictograms and signal word:

Symbols



GHS07



GHS09

Signal word: **Warning**

#### Hazard statements:

H315: Causes skin irritation  
H319: Causes serious eye irritation  
H317: May cause an allergic skin reaction  
H411: Toxic to aquatic life with long lasting effects

#### Precautionary statements:

P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.  
P264: Wash hands, etc. thoroughly after handling.  
P272: Contaminated work clothing should not be allowed out of the workplace.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.



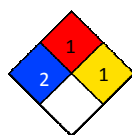
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- P302+352: IF ON SKIN: Wash with plenty of soap and water.  
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.  
 P332+313: If skin irritation occurs: Get medical advice/attention.  
 P333+313: If skin irritation or rash occurs: Get medical advice/attention.  
 P337+313: If eye irritation persists: Get medical advice/attention.  
 P362+364: Take off contaminated clothing and wash before reuse.  
 P391: Collect spillage.  
 P501: Dispose of contents/container in accordance with local/regional/national/international regulations.



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 **2**  
Flammability **1**  
Physical Hazards **1**

### Personal Protection:

Skin, eye protection

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical characterization: Organic mixture

### 3.2 Dangerous components:

Chemical name	CAS-No	EC-No	Gazette No	%	Classification	
					Regulation (EC) 1272/2008	Regulation 67/548/EEC, 1999/45/EC
4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	30583-72-3	30583-72-3 (NLP)	7-1282	20-40	Eye Irrit. 2, H319 Skin Irrit.2, H 315 Skin Sens 1, H317 Aqu. Chron.2, H411	Xi, N R36/38, 43, 51/53
3-ethyl-3-hydroxymethyl-oxetane	3047-32-3	221-254-0	5-6621	15-35	Eye Irrit. 2, H319	Xi, R36
Mixture containing triarylsulfonium salt: 50% propylene carbonate, 50% mixed triarylsulfonium hexafluorophosphate salts	109037-77-6	403-490-8	5-6573	1-7	Eye Irrit. 2, H319 Skin Sens 1, H317 Aqu. Acute 1, H400 Aqu. Chron.1, H410	Xi, N R36, 43, 50/53
Bisphenol A diglycidyl ether <sup>(1)</sup>	1675-54-3	216-823-5	4-209	10-30	Eye Irrit. 2, H319 Skin Irrit.2, H 315 Skin Sens 1, H317 Aqu. Chron.2, H411	Xi, N R36/38, 43, 51/53

(1) The general class of Bisphenol A diglycidyl ether and its polymers (CAS No.25068-38-6) was removed from the revised PRTR list of Designated Class I Substances, effective October 1, 2009.

3.3 Other: The formulation is a trade secret and any additional components do not affect the classification or provide additional information about the safety of the mixture.

## 4. FIRST AID MEASURES

4.1 General Information: See Section 11 for more detailed information on health effects and symptoms.

4.2 In case of inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe.

4.3 In case of skin contact: Wash with plenty of soap and water. Get medical attention. In the event of any complaints or symptoms, avoid further exposure.



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**4.4 In case of eye contact:** Immediately flush eyes with plenty of water, continue to rinse for at least 10 minutes. Check for and remove any contact lenses. If irritation persists, get medical attention.

**4.5 In case of ingestion:** Wash out mouth with water. Immediately, drink plenty of water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

**4.6 Expected acute and delayed symptoms and the most important symptoms:** Allergic dermatitis in susceptible individuals may be delayed.

**4.7 Protection for the first aid responder:** No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing and shoes thoroughly. Use gloves.

**NOTE TO PHYSICIAN:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Allergic dermatitis in susceptible individuals may be delayed. It may appear after weeks or even months of frequent and prolonged contact.

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## 5. FIRE-FIGHTING MEASURES

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

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

**5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, and resulting gases:** In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Thermal decomposition products can include CO<sub>2</sub>, CO, and smoke.

**5.4 Special protective equipment for fire-fighters:** Wear full protective clothing, including helmet, self-contained positive-pressure or pressure demand breathing apparatus, protective clothing and facemask.

**5.5 Additional information:** Move container from area if it can be done without risk. Cool containers with water spray. Avoid inhalation of material or combustion by-products. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

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## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel away. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment

**6.2 Environmental precautions:** Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

**6.3 Methods and materials for containment and cleaning up:** Contain and collect spillage with non-combustible, absorbent material and place in appropriate container for disposal according to local regulations (see section 13). Keep away from sources of ignition.

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## 7. HANDLING AND STORAGE PRECAUTIONS

### 7.1 Handling

**Engineering measures (local exhaust/total ventilation):** Provide adequate ventilation.



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**Precautions for safe handling:** Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Contact avoidance:** NA

**Hygienic measures:** Wear appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

### 7.2 Storage

**Safe storing conditions:** Storage Temperature: 0°C -35°C. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

**Safe container material:** Keep material in original container. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**8.1 Exposure limit values:** Consult local authorities for acceptable exposure limits.

### 8.2 Exposure controls

**Technical measures to prevent exposure:** No special ventilation is required. Good general ventilation should be sufficient.

**Instructional measures to prevent exposure:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### 8.3 Personal protection equipment

**Respiratory protection:** If ventilation cannot effectively keep vapor concentrations below established limits, use appropriate certified respiratory protection.

**Hand protection:** Wear chemically-resistant, impervious gloves complying with an approved standard when handling chemical products if a risk assessment indicates this is necessary.

Material of gloves for long term application (BTT>480min): Ethyl Vinyl Alcohol Laminate (EVAL), butyl rubber

Material of gloves for short term/splash application (10min<BTT<480min): neoprene, nitrile rubber

**Eye protection:** Wear safety eyewear complying with an approved standard to avoid exposure to liquid splashes, mists, gases or dusts.

**Skin and Body protection:** Use apron and closed shoes when handling this product.



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### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Appearance:

**Physical state:**

**Form:** liquid

**Colour:** clear, colorless

**Odour:** slight

#### 9.2 Important health, safety and environmental information:

**pH (20 °C):**

**Melting point/range (°C):**

**Boiling point/range (°C):**

**Flash point (°C):** 131°C (open cup)

**Evaporation rate:** <1 (Butyl Acetate = 1)

**Combustibility (solid, gas):**

**Ignition temperature (°C):**

**Vapour pressure (°C):** <0.01 mm Hg at 20°C

**Vapour density:**

**Density (g/cm<sup>3</sup>):** 1.0-1.2 at 25°C

**Bulk density (kg/m<sup>3</sup>):**

**Water solubility (20°C in g/l):** negligible

***n*-Octanol-water partition coefficient:**

**Decomposition point:** >200°C

**Viscosity (dynamic):** 300-1000 mPa·s at 25°C

**Dust explosion hazard:**

**Explosion limits:**

### 10. STABILITY AND REACTIVITY

**10.1 Reactivity, chemical stability:** This product is stable under normal condition.

**10.2 Hazardous reactions:** None under normal storage and handling condition.

**10.3 Conditions to avoid:** None known.

**10.4 Materials to avoid:** Strong acid, strong base, strong oxidizers

**10.5 Hazardous decomposition products:** none, under normal storage and handling condition.

### 11. TOXICOLOGICAL INFORMATION

**11.1 Toxicokinetics, metabolism and distribution:** no data

**11.2 Acute effects (toxicity tests):**

Component	LD50 Oral	LD50 Dermal
Hydrogenated bisphenol A epoxy resin	>5,300 mg/kg (rat)	>2,000 mg/kg (rabbit)
3-ethyloxetane-3-methanol	>2000 mg/kg (rat)	--
Bisphenol A diglycidyl ether	>4,000 mg/Kg (rat)	20,000 mg/kg (rabbit)
Triarylsulfonium hexafluorophosphate salts	5,000 mg/kg (rat)	>2,000 mg/kg (rabbit)



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**Irritant and corrosive effects:** Causes irritation and reddening of the skin.

**Irritation to eyes:** Moderate – severe irritant. Symptoms include pain, inflammation, watering and reddening.

**Skin sensitization:** This product may irritate dermatitis and may cause skin sensitization. The following components are known to be or are suspected to be skin sensitizers:

hydrogenated bisphenol A epoxy resin  
bisphenol A diglycidyl ether  
alkoxylated hydroxyphenylpropane acrylate  
triarylsulphonium hexafluorophosphate salts

**Mutagenicity:** Bisphenol A epoxy resin tested positive in the bacterial reverse mutation test and in the *in vitro* mammalian cell mutation test. It tested negative in *in vivo* animal mutagenicity tests.

**Carcinogenicity:** Bisphenol A diglycidyl ether: IARC: Group 3 - Not classifiable as to its carcinogenicity to humans. ACGIH, NTP, OSHA: No component of this material present at levels greater than or equal to 0.1% was identified as a carcinogen or potential carcinogen.

**Reproductive toxicity:** Bisphenol A diglycidyl ether: No treatment-related histologic changes or effects were noted on reproductive performance in rats at the oral dose tested.

**Target organ systemic toxicity single exposure:** High airborne concentrations of vapors resulting from heating, misting or spraying may cause irritation of the respiratory tract and mucous membranes.

**Aspiration hazard:** No data available for this product.

## 12. Ecological information

**12.1 Ecotoxicity:** The aquatic toxicity of the product is unknown; however based on components, it is predicted that this material may be toxic to aquatic organisms or cause long-term adverse effects in the aquatic environment.

### Component Information:

Acute Aquatic Toxicity	Test Results
Bisphenol A diglycidyl ether	LC50 (24 hr) = 3.6 mg/L midge ( <i>Daphnia magna</i> ) LC50 (96 hr) = 2.4 mg/L zebra fish LC50 (96 hr) = 1.5 mg/L rainbow trout
Hydrogenated bisphenol A epoxy resin	LC50 (48 hr) = 1-10 mg/L <i>Daphnia magna</i> (1) EC50 (72 hr) = 1-10 mg/L algae (1,2)
Triarylsulfonium hexafluorophosphate salts	---- (3)

(1) Based on similar materials.

(2) Species unknown.

(3) Both the acute and chronic aquatic toxicities of the triarylsulfonium hexafluorophosphate salts have been classified as Category 1 by the EU (CLP, Dec. 31, 2008; Annex VI).

**12.2 Mobility in soil:** No Data.

**12.3 Persistence and degradability:** The triphenylsulfonium hexafluorophosphates do not meet the criteria for ready biodegradability.

**12.4 Bioaccumulation potential:** No Data

**12.5 Hazards to the Ozone layer:** No data

**12.6 Other hazards:**



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### 13. DISPOSAL CONSIDERATIONS

**13.1 Appropriate disposal of residual waste/polluted container and packing:** Minimize disposal quantities by attempting to utilize product completely. Dispose of unused material by incineration or in suitable landfills in compliance with all applicable laws and regulations of the local, prefectural and national governments (Waste Disposal and Public Cleaning Law). Do not reuse or refill containers. 3D Systems recommends consulting an approved waste disposal company.

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### 14. TRANSPORT INFORMATION

#### 14.1 Land and sea transport (ADR/RID/IMDG):

UN number: UN3082  
Packaging Group: III  
Class: 9  
Risk No.: 90  
ARD/RID labels: 9  
MFAG:  
EMS: F-A S-F  
Proper shipping name: Environmentally hazardous, liquid, N.O.S. (EPOXY RESIN)

#### 14.2 Air transport (ICAO-IATA/DGR):

Packing instruction: 914 ( passenger and cargo aircraft)  
Max. Qty./Pack.: 450.00 L (999.00 = No limit )  
Proper shipping name: Environmentally hazardous, liquid, N.O.S. (EPOXY RESIN)

Note: Depending on packaging quantities and instructions, packages may be subject to specific regulatory exceptions.

#### 14.3 Domestic regulations in Japan:

Fire Services Act: Category 4, Class 3, oil  
Transport in accordance with applicable laws and regulations

**14.4 Special safety measures:** When transporting, avoid exposure to direct sunlight. Pack shipment to prevent container damage and corrosion. Secure stacked shipments against shifting and collapse.

**14.5 Other:** Handle, wrap, label and ship in accordance with applicable laws and regulations. Abide by national, prefectural and local laws, regulations, and ordinances.

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### 15. REGULATORY INFORMATION

#### 15.1 EU regulations

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

#### 15.2 EU-National regulations

Wassergefährdungsklasse (water hazard class, Germany): WGK 2: Hazard to waters

#### 15.3 US FEDERAL

TSCA: All materials are listed on the TSCA Inventory or are not subject to TSCA requirements  
SARA 302 EHS List (40 CFR 355 Appendix A): None listed  
SARA 313 (40 CFR 372.65): Antimony Compounds (category N010)  
CERCLA (40 CFR 302.4): None listed

#### 15.4 Australian regulations

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



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### 15.5 Japanese regulations:

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	Bisphenol A diglycidyl ether is a Priority Assessment Chemical Substance No. 87, and was Type II Monitoring Chemical Substance (before amendment).
Lead Poisoning Prevention Rule	not applicable
Poison and Deleterious Substance Control law	not applicable
PRTR and Promotion of Chemical Management law	Bisphenol A diglycidyl ether: PRTR list of Designated Class I Substances.(030)
Fire Services Act	Category 4, Class 3, oil
Explosives Law	not applicable
High pressure gas safety law	not applicable
Export Trade Control Order	not applicable
Waste Disposal and Public Cleaning Law	applicable, industrial waste

### 16. OTHER INFORMATION

#### 16.1 Relevant Hazard Statements (number and full text) referred to in sections 2 and 3 (according to (EC) No. 1272/2008):

Skin Irrit. 2, H 315- Skin irritation, category 2, H 315: Causes skin irritation  
Skin Sens. 1, H 317- Skin sensitization, category 1, H317: May cause an allergic skin reaction  
Eye Irrit. 2, H319- Serious eye irritation, category 2, H319: Causes serious eye irritation  
Aqu.Chron. 3, H412- Aquatic environment – long-term hazard, category 3, H412: Harmful to aquatic life with long lasting effects  
Aqu. Acute 1, H400- Aquatic environment- acute hazard, category 1, H400: Very toxic to aquatic life  
Aqu. Chron.1, H410- Aquatic environment-long term hazard, category 1, H410: Very toxic to aquatic life with long lasting effects  
Aqu. Chron.2, H411- Aquatic environment-long term hazard, category 2, H411: Toxic to aquatic life with long lasting effects

#### Relevant R-Phrases (number and full text) referred to in sections 2 and 3:

R36: Irritating to eyes.  
R36/38: Irritating to eyes and skin  
R43: May cause sensitization by skin contact  
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 16.2 Further information:

SDS Creation Date:..... February 12, 2012  
SDS Revision #:..... -02-A  
SDS Revision Date: ..... August 5, 2015  
Reason for Revision:..... general update, most sections

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