



**Safety Data Sheet**  
according to Regulation (EC) No 1907/2006 (REACH),  
GHS Rev 04 (2011): US, OSHA, CMA, ANSI  
WHS Regulations Australia  
JIS Z 7253 (2012): Japan

**Accura<sup>®</sup> Sapphire**

Revision Date: April 16, 2014

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

**1.1 Identification of the mixture: Accura<sup>®</sup> Sapphire**

**1.2 Use of the preparation:** For use with SLA<sup>®</sup> 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  
Chemical Emergency:  
800.424.9300 – Chemtrec (US)

3D Systems Europe Ltd.  
Mark House, Mark Road  
Hemel Hempstead  
Herts HP2 7  
United Kingdom  
Phone: +44 144-2282600  
Chemical Emergency:  
+1.703.527.3887 - Chemtrec

**2. HAZARDS IDENTIFICATION**

**2.1 Classification**

**GHS : Regulation (EC) No. 1272/2008, HazCom 2012:**

Eye irritation	Category 2	H319
Skin Sensitization	Category 1	H317
Aquatic environment – long-term hazard	Category 3	H412

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

Xi, R 36, R 43, R 52/53

**2.2 Label Elements**

**Regulation (EC) No, 1272/2008:**

**Hazard pictograms and signal word:**



**GHS07**

**Signal word: Warning**

**Hazard determining components of labelling:**

4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane

**Hazard statements:**

H319: Causes serious eye irritation  
H317: May cause an allergic skin reaction  
H412: Harmful to aquatic life with long lasting effects

**Precautionary statements:**

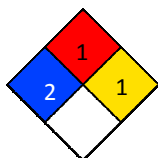
P280: Wear protective gloves, protective clothing, eye protection  
P302+350: If on skin, wash with soap and water  
P305+351+338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing  
P410+403: Protect from sunlight. Store in a well-ventilated place  
P501: Dispose of contents/container in accordance with local/regional regulations



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**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:**

**Description:** Organic mixture

**3.2 Dangerous components:**

Chemical name	CAS-No	EC-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)	35-55	Skin Sens 1, H317, Aqu. Chron. 3, H 412	Xi R43, 52/53
3-ethyl-3-hydroxymethyl-oxetane	3047-32-3	221-254-0	15-25	Eye Irrit. 2, H319	Xi, R36
Mixture containing triarylsulfonium salt: 50% propylene carbonate, 50% mixed triarylsulfonium hexafluorophosphate salts	109037-77-6	403-490-8	2-6	Eye Irrit. 2, H319 Skin Sens 1, H317 Aqu. Acute 1, H400 Aqu. Chron.1, H410	Xi, N R36-43-50/53

**4. FIRST AID MEASURES**

**4.1 General Information:** Ensure that eyewash stations and safety showers are close to the workstation location.

**4.2 In case of inhalation:** May cause respiratory irritation. Move affected person to fresh air. If respiratory irritation occurs, if breathing becomes difficult seek medical attention immediately.

**4.3 In case of skin contact:** May cause irritation or sensitization by skin contact, including redness and/or swelling. Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.

**4.4 In case of eye contact:** Irritating to eyes. Causes redness, swelling and pain. Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

**4.5 In case of ingestion:** Irritating to mouth, throat and stomach. If ingested, drink plenty of water and seek immediate medical attention. Do not induce vomiting.

**4.6 Self-protection of the first aider:** Put on appropriate protective equipment (see section 8). Move exposed person to fresh air. Remove contaminated clothing and shoes.



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## 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.

**5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:** 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.

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## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing. Consult expert immediately.

**6.2 Environmental precautions:** Stop the flow of material, if this is without risk. Ventilate contaminated area. Eliminate sources of ignition. In case of contamination of aquatic environment inform local authorities.

**6.3 Methods for cleaning up:** Wear appropriate protective equipment and clothing. Absorb spillage with suitable absorbent materials. Place all waste in an appropriate container for disposal. The material and its container must be disposed of as hazardous waste. Keep away from sources of ignition.

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## 7. HANDLING AND STORAGE

**7.1 Handling** Provide adequate ventilation. Use suitable protective equipment. Avoid contact with skin and eyes. Do not breathe vapors or mist. Avoid ignition sources. Do not allow to enter drains or watercourses.

**7.2 Storage:** Store sealed in the original container at room temperature. Keep this material indoors in a cool, dry, well ventilated place. Store out of direct sunlight or UV light sources. Storage Temperature: below 35 °C / 95 °F. Storage class 10, environmentally hazardous liquids.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Exposure limit values:

General Product Information: No occupational exposure limits (PEL/TWA) have been established for this product.

Component Analysis:

Component	Component Manufacturer IEL (Internal Exposure Limit)
4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	NA
Sulfonium salt mixture	NA
3-ethyl-3-hydroxymethyl-oxetane	NA
Mixture containing triarylsulfonium salt: 50% propylene carbonate, 50% mixed triarylsulfonium hexafluorophosphate salts	NA



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### 8.2 Exposure controls

**Technical measures to prevent exposure:** Use explosion-proof local exhaust ventilation.

**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:**

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

**Hand protection:** Use impervious nitrile gloves.

**Eye protection:** Wear safety glasses or chemical goggles.

**Body protection:** Use apron and closed shoes.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Appearance:**

**Physical state:** Liquid

**Colour:** Blue

**Odour:** Mild

**9.2 Important health, safety and environmental information**

<b>pH (20 °C):</b>	NA
<b>Melting point/range (°C):</b>	NA
<b>Boiling point/range (°C):</b>	NA
<b>Flash point (°C):</b>	131 °C
<b>Ignition temperature (°C):</b>	NA
<b>Vapour pressure (°C):</b>	NA
<b>Density (g/cm<sup>3</sup>):</b>	1.08 g/cm <sup>3</sup>
<b>Bulk density (kg/m<sup>3</sup>):</b>	NA
<b>Water solubility (20 °C in g/l):</b>	slightly soluble
<b>Viscosity, dynamic (mPa s):</b>	180 (30 °C)
<b>Dust explosion hazard:</b>	NA
<b>Explosion limits:</b>	NA

### 10. STABILITY AND REACTIVITY

**10.1 Conditions to avoid:** Avoid exposure to heat and light. Take necessary actions to avoid static electricity discharge.

**10.2 Materials to avoid:** Oxidizing materials, strong acids and strong bases

**10.3 Hazardous decomposition products:** Carbon dioxide, carbon monoxide and other toxic fumes can be released at high temperatures or upon burning.

### 11. TOXICOLOGICAL INFORMATION

**11.1 Toxicokinetics, metabolism and distribution:** NA

**11.2 Acute effects (toxicity tests)**

Component	LD <sub>50</sub> Oral	LD <sub>50</sub> Dermal
4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	>5300 mg/kg (rat)	>2000 mg/kg (rabbit)
Sulfonium salt mixture	>5000mg/kg (rat)	>2000 mg/kg(rat)
3-ethyl-3-hydroxymethyl-oxetane	>2000 mg/kg (rat)	NA



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**Irritant and corrosive effects:** Irritating  
**Irritation to respiratory tract:** NA  
**Sensitisation:** Causes sensitisation

**11.3 Experiences made in practice:** Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**11.4 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; however based on components, it is predicted that this material may be harmful to aquatic organisms or cause long-term adverse effects in the aquatic environment. Prevent contamination of soil, drains and surface waters.

Component	Data
Sulfonium salt mixture	EC50/48h – 0.2 mg/l (daphnia) LC50/96h- 2.3 mg/l (poecilia reticulata)
4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	LC/EC/IC 50: 1-10 mg/l

**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

**13.1 Appropriate disposal / Product:** Do not contaminate drains, soil or surface waters with this material or its container. Reduce waste by attempting to utilize product completely. Dispose of this container and its contents in accordance with all local, state, and federal regulations. Do not reuse or refill.

**13.2 Waste codes / waste designations according to EWC / AVV:** 070208

**13.3 Appropriate packaging:** NA

**13.4 Additional information:** Prior to disposal 3D Systems recommends consulting an approved waste disposal firm to ensure regulatory compliance.

## 14. TRANSPORT INFORMATION

**14.1 Land transport (ADR/RID/GGVSE):** Not regulated

**14.2 Sea transport (IMDG-Code/GGVSee):** Not Regulated

**14.3 Air transport (ICAO-IATA/DGR):** Not Regulated



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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): None listed

CERCLA (40 CFR 302.4): None listed

**15.4. Australian regulations**

SUSDP, Industrial Chemicals Act 1989:

Australian Inventory of Chemical Substances, AICS: Listed

**15.5. Japanese regulations**

Industrial Health and Safety Law	Article 57-2
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	Category 4, Class 3, oil
Explosives Law	not applicable
High pressure gas safety law	not applicable
Export Trade Control Order	applicable
Waste Disposal and Public Cleaning Law	applicable, industrial waste

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**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 sens. 1, H 317- Skin sensitization, category 1: May cause an allergic skin reaction

Eye Irrit. 2, H319- Eye irritation, category 2: Causes serious eye irritation

Aqu. Acute 1, H400: Aquatic environment- acute hazard, category 1: Very toxic to aquatic life

Aqu. Chron.1, H410; Aquatic environment:- long term hazard, category 1: Very toxic to aquatic life with long lasting effects

Aqu.Chron. 3, H412: Aquatic environment:- long term hazard, category 3: Harmful 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.

R43: May cause sensitization by skin contact

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment



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**16.2 Further information:**

SDS Creation Date: ..... November 25, 2011

SDS Revision #: ..... 03-A

SDS Revision Date: ..... April 16, 2014

Reason for Revision: ..... Classification update

[www.3dsystems.com](http://www.3dsystems.com)

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