

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product/Trade Name: Accura™ SI 40 - Nd type SL material
System/Laser Compatibility: For SLA® systems equipped with solid-state (Nd:YVO4) lasers

Accura™ SI 40 - Ar type SL material
 For SLA® 500 systems equipped with Argon-Ion (Ar/Ion) lasers

Accura™ SI 40 - HC type SL material
 For SLA® 250 systems equipped with He/Cd lasers

Chemical Family: Epoxy resin containing reactive diluent
Product Use: Material for SLA® series stereolithography systems
Manufacturer:

Hazardous Materials Identification System (HMIS): <small>(Degree of hazard: 0 = low, 4 = extreme):</small>	
Health	2
Flammability	1
Physical Hazards	0 (None)
National Fire Protection Association (NFPA): Mixture, Not Rated	



	In the U.S./Canada	In Europe
Manufacturer Contact	3D Systems, Inc. 26081 Avenue Hall Valencia, CA 91355 U.S.A.	3D Systems GmbH Guerickeweg 9 Darmstadt, Germany
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Emergency:	800.424.9300 (Chemtrec)	703.527.3887 (Chemtrec U.S.)

II. COMPOSITION INFORMATION

Chemical Identity	Concentration	EU Classification	
		Symbol	R-Phase
Cycloaliphatic epoxy resin	By weight: 30 – 60%	Xi*	36/38-43, 52/53
Aliphatic polyol polyglycidyl ether	By weight: 5 – 20%	Xi*	36/38-43, 52/53
Polyetherol	By weight: 0 – 30%	None	None
Polyesterol	By weight: 0 – 30%	None	None
Aliphatic polyol	By weight: 1 - 10%	None	None
Polyacrylate esters	By weight: 1 – 30%	None	None
Diacrylate esters	By weight: 0 – 15%	None	None
Acrylate esters	By weight: 0 – 15%	Xi*	36/38-43
Antimony compounds	By weight: 0.1 - 10%	Xi, N*	43, 50/53
Photoinitiators	By weight: 0.1 - 10%	None	None
Alkyl carbonate	By weight: 0.1 - 10%	Xi*	36
Stabilizers	By weight: 0 - 10%	None	None

** This material is not listed in Annex 1 of Directive 88/379/EEC. It has been classified according to the conventional method based upon information from similar methods.*

OSHA Classification: Sensitizer, irritant



III. HAZARDS IDENTIFICATION

WARNING! CAUSES EYE AND SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. DO NOT HANDLE OR EMPTY IN PRESENCE OF FLAMMABLE VAPOR. KEEP CONTAINER CLOSED. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

FOR INDUSTRIAL USE ONLY.

Potential Health Effects

EYE: Causes irritation consisting of redness, swelling and pain. May cause conjunctivitis with repeated exposure.
SKIN: Causes irritation consisting of redness, swelling and or pain.
INHALATION: Inhalation of high concentrations of vapor, mist, or fume may cause respiratory and nasal irritation, coughing, and difficulty breathing.
INGESTION: Ingestion of large amounts may cause nausea, diarrhea and/or stomach pain and gastrointestinal irritation.
CHRONIC: May cause an allergic skin reaction with repeated or prolonged exposure consisting of redness, swelling and/or rash (urticaria). Prolonged or repeated exposure to skin may cause more severe irritation and/or dermatitis.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

May aggravate an existing dermatitis or respiratory condition.

POTENTIAL ENVIRONMENTAL EFFECTS: May be toxic to aquatic organisms and cause long-term adverse effects in the aquatic environment.

IV. FIRST AID MEASURES

Skin contact: Wipe with absorbent paper or textile towels. Wash with plenty of soap and water. Do not use organic solvents. In case of dermatitis, seek medical attention.
Eye contact: Rinse immediately with water for at least 15 minutes. Seek medical attention immediately.
Inhalation: Move affected person to fresh air. In case of unconsciousness, rest in stable lateral position (recovery position). In case of asphyxia, initiate artificial respiration immediately. Seek medical attention immediately.
Ingestion: Affected person should drink 500 - 800 ml water, if possible with suspended activated carbon for medical use. In case of spontaneous vomiting, be sure that vomitus can freely drain because of danger of suffocation. Give water repeatedly. Artificial induction of vomiting should be restricted to first aid staff. Give nothing by mouth in case of unconsciousness or convulsions. Seek medical attention.
Notes to Physician: Treat symptomatically and supportively.

V. FIRE FIGHTING MEASURES

Flashpoint: 183°C (361°F) – not flammable, but will burn at high temperature.
Extinguishing media: Use water mist, dry chemical, carbon dioxide or chemical foam. DO NOT USE high volume water jet.
Protective equipment: Use full protective clothing for chemicals and self-contained breathing apparatus.

VI. ACCIDENTAL RELEASE MEASURES

For small spills, wipe up with absorbent, inert material and place in suitable and closable container for disposal. Use proper personal protective equipment as indicated in Section 8. Do not release chemically contaminated water into drains, soil or surface waters. Sufficient measures must be taken to retain water used for extinguishing. Dispose of contaminated water and soil according to local regulations.

VII. HANDLING AND STORAGE

Handle and open container with care. Avoid vapor formation and ignition sources. Ensure good ventilation and local exhaust. Do not eat, drink or smoke at the workplace. Keep away from food and drink. Store in the original container securely closed and at room temperature.

Personal precautions: Do not breathe vapor. Avoid ignition sources. Avoid contact with skin, eyes and clothing.
Methods for cleaning: Take up with absorbent, inert material and place in suitable and closable container for disposal.

VIII. EXPOSURE CONTROLS, PERSONAL PROTECTION

	ACGIH TLV	OSHA PEL	International OELs
Antimony Compounds	0.5 mg/m ³	0.5 mg/m ³	Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Netherlands, Norway, Poland, Sweden, Switzerland, U.K.: 0.5 mg/m ³
Other components	None established	None established	None established

Respiratory protection: Use self-contained breathing apparatus in high vapor concentrations.

Ventilation: General (mechanical) room ventilation is expected to be satisfactory for use at room temperature. Special, local ventilation is recommended at points where vapors generated at high temperatures may be vented to the workplace air.

Eye protection Goggles or faceshield.

Skin protection PVC gloves. Wear overalls and closed footwear.

Other protective equipment: Eye wash and safety shower should be available in the immediate work area.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Melting point:..... Not applicable

Solubility in water:..... Insoluble at 20°C (68°F)

Vapor pressure: <2 Pa at 20°C (68°F)

Partition coefficient: Not applicable

Explosive properties:..... Not expected to be explosive

Odor: Mild

Boiling point:..... >200°C (> 392°F)

Density: 1.1 g/cm³ at 25°C

Flashpoint: 183°C (361°F) (DIN 51758)

Ignition: >360°C (> 680°F) (DIN 51794)

pH-value: 6-7 at 1:1 in water

Viscosity: 400-500 mPas at 30°C

X. STABILITY AND REACTIVITY

Thermal decomposition: > 200°C

Conditions to avoid: Static discharges.

Materials to avoid: Strong acids, strong bases and strong oxidizing agents.

Hazardous decomposition products: Thermal decomposition or burning may release oxides of carbon and other toxic gases or vapors.

Hazardous polymerization:..... Will not occur.

XI. TOXICOLOGICAL INFORMATION

For Product:		For Components:						
		Cycloaliphatic epoxy resin	Aliphatic polyol polyglycidyl ether	Aliphatic polyol	Acrylate esters	Antimony compounds	Alkyl carbonate	Other Components
Oral LD ₅₀	> 2 g/kg (rats)	4.49 ml/kg (rats)	No data	14.4 g/kg (rat)	No data	> 5 g/kg (rats)	29.1 mg/kg (rat)	No data
Dermal LD50	Believed to be > 2 g/kg	> 2.0 ml/kg (rabbits)	No data	No data	No data	> 2 g/kg (rabbits)	> 20 ml/kg (rabbit)	No data
Inhalation LC50	Believed to be slightly toxic	> 2 mg/l (rats)	No data	No data	No data	No data	> 5000 mg/m ³ (rat)	No data
Irritation	Irritant	Minimally irritating to eyes and skin (rabbits)	Irritant	No data	Skin and respiratory irritant	Mild skin irritant, moderate eye irritant (rabbits)	Eye irritant	No data
Sensitization	Sensitizer (guinea pigs)	Sensitizer (guinea pigs)	No data	No data	Sensitizer	Sensitizer (guinea pigs)	No data	No data



Subchronic/Chronic

Toxicity Data: No information.
Mutagenicity: No information for product.
Carcinogenicity: This product or its components are not known to be carcinogenic to NTP, IARC, OSHA or ACGIH.
Reproductive, Teratogenicity, or Developmental Effects: The product is not known or reported to cause reproductive or developmental effects.
Neurological Effects: This product is not known or reported to cause neurological effects.
Interactions With Other Chemicals Which Enhance Toxicity: None known or reported.

XII. ECOLOGICAL INFORMATION

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. Prevent contamination of soil, drains and surface waters.

XIII. DISPOSAL CONSIDERATIONS

Incineration or landfill in accordance with local regulations as special waste. Contaminated packaging material should be disposed of identically to the product itself. Uncontaminated packaging material should be treated as household waste or as recycling material.

XIV. TRANSPORT INFORMATION

	US DOT	RID/ADR	IMDG	IATA	IMO	Canada TDG
Shipping Name	Not regulated					
Hazard Class:						
UN Number:						
Packing Group:						

FLASHPOINT: 183°C(DIN 51758)

XV. REGULATORY INFORMATION

US FEDERAL

TSCA: All materials are listed on the TSCA Inventory
 CERCLA: None
 SARA 313: None
 SARA 312 Hazard Class: Health: Acute – Yes Chronic – No
Fire: Yes
Sudden Release of Pressure: No
 SARA 302 EHS List: None of the components are listed

STATE RIGHT-TO-KNOW STATUS

Component	CA Prop. 65	Michigan	New Jersey	Pennsylvania	Massachusetts
None Listed					

EUROPEAN/INTERNATIONAL REGULATIONS

Hazard Classification

Danger Symbol: Xi Irritant
 N Dangerous to the Environment

Risk Phrases: R 36/38 Irritating to eyes and skin.
 R 43 May cause sensitization by skin contact.
 R 51/53 Toxic to aquatic organisms, may cause long term and adverse effects in the aquatic environment.

Safety Phrases: S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S 28 After contact with skin, rinse immediately with plenty of soap and water.
 S 36/37 Wear suitable protective clothing and gloves.
 S 57 Use appropriate containment to avoid environmental contamination.



Contains: Cycloaliphatic epoxy resin
Aliphatic polyol polyglycidyl ether
Antimony compounds

Canadian DSL List:..... The components of this product are on the DSL or are exempt from reporting under the New Substances Notification Regulations.

Canadian IDL: None of the ingredients are on this list.

WHMIS:..... D2B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

XVI. ADDITIONAL INFORMATION

MSDS Creation Date: 10/15/02

MSDS Revision #:..... 4

MSDS Revision Date: 12/5/02

Reason for Revision: To update format.

For more information: www.3dsystems.com

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