

Material Name: Accura[®] 48HTR

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product/Trade Name: Accura[®] 48HTR
Chemical Family: Epoxy resin containing reactive diluent
Product Use: Material for SLA[®] series stereolithography systems.

Hazardous Materials Identification System (HMIS):

(Degree of hazard: 0 = low, 4 = extreme):

Health 2
 Flammability 1
 Physical Hazards 1

Personal Protection:

Skin, eye protection

Manufacturer:



Manufacturer Contact	3D Systems, Inc. 333 Three D Systems Circle Rock Hill, SC 29730 U.S.A.
For Information	Phone: 803.326.3900
Emergency	800.424.9300 - Chemtrec

SYSTEMS

II. COMPOSITION INFORMATION

CAS #	Component	Percent
30499-70-8	trimethylolpropane triglycidyl ether	20-40
2386-87-0	3,4 epoxycyclohexylmethyl, 3',4' epoxy cyclohexane carboxylate	40-60
Antimonate Mixture 108-32-7	Mixture 40% - 60% Propylene Carbonate	0.5 - 6
89452-37-9, 71449-78-0	40% - 60% Mixture antimonate salts	

OSHA Classification: Irritant, Sensitizer (29 CFR 1910.1200 Appendix A)

NOTE: This MSDS complies with 29 CFR 1910.1200. The components disclosed are indicative of the hazard classification for this product. The balance of the formulation is a trade secret and does not affect the OSHA classification (29 CFR 1910.1200 §I).

III. HAZARDS IDENTIFICATION

Emergency Overview

Toxic to aquatic organisms. Do not release to the aquatic environment. Hazardous polymerization can occur upon depletion of inhibitor or exposure to heat or UV light. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Potential Health Effects:

Eyes: Can cause irritation consisting of redness, swelling and pain.
 Skin: Can cause irritation or other allergic reactions, including redness and/or swelling.
 Inhalation: Can cause respiratory irritation.
 Ingestion: Ingestion can cause nausea, diarrhea and/or stomach pain.
 Chronic: Can cause an allergic skin reaction with repeated or prolonged exposure consisting of redness, swelling and/or rash (urticaria).

Medical Conditions Aggravated by Exposure

Could irritate an existing dermatitis or respiratory condition.



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IV. FIRST AID MEASURES

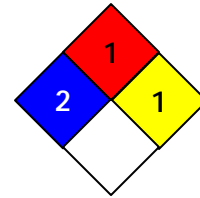
- Skin contact:** Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.
- Eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists. Avoid exposure to light sources.
- Inhalation:** Move affected person to fresh air. In case of asphyxia, initiate artificial respiration immediately. If breathing is difficult, give oxygen. Get medical attention immediately.
- Ingestion:** Ingestion is unlikely. However, if large quantities are swallowed, get medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes to Physician

Allergic dermatitis in susceptible individuals may be delayed. It may appear after weeks or even months of frequent and prolonged contact.

V. FIRE FIGHTING MEASURES

- | | |
|------------------------------------|---------------------------------|
| Flash Point: (183 °C 361 °F) | Method Used: DIN 51758 |
| Upper Flammable Limit (UFL): NA | Lower Flammable Limit (LFL): NA |
| Auto Ignition: >360 °C (DIN 51794) | Rate of Burning: NA |



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

- General Fire Hazards:** Inhibitor depletion caused by exposure to heat, radiation or oxidizers can cause spontaneous polymerization generating heat and pressure.
- Hazardous Combustion Products:** Thermal decomposition products can include CO₂, CO, NO_x and smoke.
- Extinguishing Media:** Use water mist, dry chemical, carbon dioxide, or chemical foam. Avoid the use of a stream of water to control fire since frothing can occur.
- Fire Fighting Equipment/Instructions:** Wear full protective clothing, including helmet, self-contained positive-pressure or pressure-demand breathing apparatus, protective clothing and facemask. Move container from area if it can be done without risk. Cool containers with water spray. Do not use high-volume water jet. Avoid inhalation of material or combustion by-products.

VI. ACCIDENTAL RELEASE MEASURES

- Containment Procedures:** Stop the flow of material, if this is without risk. Ventilate contaminated area. Eliminate sources of ignition. Do not release material or contaminated water into drains, soil or surface waters.
- Clean-Up Procedures:** Wear appropriate protective equipment and clothing. Absorb spillage with non-combustible absorbent materials. Place all waste in an appropriate container for disposal.
- Evacuation Procedures:** Keep unnecessary personnel away.
- Special Procedures:** NA

VII. HANDLING AND STORAGE

- Handling Procedures:** Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapors or mist. Avoid ignition sources.
- Storage Procedures:** 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:** 0 °C – 35 °C / 32 °F – 95 °F

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

- General Product Information:** No occupational exposure limits have been established for this product or its components.
- Substance Exposure Limits:** Check local regulations in case different limits apply.



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Engineering Controls

Ventilation must effectively remove any vapors.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face: Wear chemical goggles or face shield.

Skin: Use impervious gloves, an apron, and closed shoes.

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

General: An eye wash fountain and safety shower are recommended.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Amber	Odor	Mild
Physical State.....	Liquid	PH	6-7 at 1:1 in Water
Vapour Pressure	< 2 Pa @ 20 °C (68 °F)	Flash Point	183 °C (361 °F) (DIN 51758)
Boiling Point	>200 °C (>392 °F)	Viscosity	230 cps at 30 °C
Solubility (H ₂ O)	Insoluble @ 20 °C (68 °F)	Density	1.1 g/cm ³ at 25 °C
Percent Volatile	NA	Molecular Weight.....	NA

X. CHEMICAL STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.

Conditions to Avoid: Avoid exposure to heat, light.

Incompatibility: Oxidizing materials, strong acids and strong bases.

Hazardous Decomposition: Thermal decomposition products can include CO₂, CO, NO_x, and smoke.

Hazardous Polymerization: May occur.

Thermal Decomposition: >200°C

XI. TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

A: General Product Information: No data available.

B: Component Analysis:

Component	LD ₅₀ Oral	LD ₅₀ Dermal
Antimonate Mixture	>2000 mg/Kg (rat)	>2000 mg/Kg (rabbits)
trimethylolpropane triglycidyl ether	>8500 mg/Kg (rat)	>4900 mg/Kg (rabbits)
3,4 epoxycyclohexylmethyl, 3',4' epoxy cyclohexane carboxylate	>= 5000 mg/Kg (rat)	> 23000 mg/Kg (rabbits)

Carcinogenicity

A: General Product Information: None.

B: Component Carcinogenicity: Neither this product, nor any of its components are known to be listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

XII. ECOLOGICAL INFORMATION

Ecotoxicity

A: General Product Information: The aquatic toxicity of the product is unknown; however based on components, it is predicted that this material is toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Prevent contamination of soil drains and surface waters.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity:

Component	EC ₅₀ 24 hours	EC ₅₀ 48 hours	LC ₅₀ 96 hours
Antimonate Mixture	4.4 mg/L (Daphnia magna)	0.68 mg/L (Daphnia magna)	NA
trimethylolpropane triglycidyl ether	NA	47 mg/L (Daphnia magna)	30mg/L (leuciscus idus)
3,4 epoxycyclohexylmethyl, 3',4' epoxy cyclohexane carboxylate	NA	10-100mg/L in most sensitive organism per supplier	10-100mg/L in most sensitive organism per supplier



Material Safety Data Sheet

Material Name: Accura® 48HTR

Environmental Fate: No information available for product.

XIII. DISPOSAL CONSIDERATIONS

Waste Disposal Instructions

Do not contaminate drains, soil or surface waters with the material or its container. Avoid disposal. Attempt to utilize product completely. Dispose of in compliance with all local, state, and federal regulations. Prior to disposal of unused material, 3D Systems Inc., recommends consulting and using an approved waste disposal operative to ensure regulatory compliance.

XIV. TRANSPORT INFORMATION

	US DOT	RID/ADR	IMDG	IATA	IMO	Canada TDG
Shipping Name	Not Regulated					

XV. REGULATORY INFORMATION

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) < 3.0%

CERCLA (40 CFR 302.4):.....None listed

STATE RIGHT-TO-KNOW STATUS

Component	CA Prop. 65	MI	NJ	PA	MA
Antimony Compound	Not Listed	Not Listed	Not Listed	< 3.6%	Not Listed

Component Analysis - Inventory

Component/CAS	EC #	EEC	CAN	TSCA	NLP
Antimonate Mixture	Mixture				
Propylene Carbonate (CAS#108-32-7)	203-572-1	EINECS	DSL	Yes	No
Mixture antimonate salts (CAS#89452-37-9, 71449-78-0)	403-500-0	EINECS	NDSL	Yes	No
trimethylolpropane triglycidyl ether (CAS# 30499-70-8)	222-384-0	EINECS	DSL	Yes	No
3,4 epoxycyclohexylmethyl, 3',4' epoxy cyclohexane carboxylate (CAS#2386-87-0)	219-207-4	EINECS	DSL	Yes	No

XVI. ADDITIONAL INFORMATION

MSDS Creation Date:..... August 31,2007

MSDS Revision #: A

MSDS Revision Date:..... NA

Reason for Revision: NA

For more information: www.3dsystems.com

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Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

CFR = Code of Federal Regulations

CPR = Controlled Products Regulations

DOT = Department of Transportation

DSL = Domestic Substances List

EINECS = European Inventory of Existing Commercial Chemical Substances

EPA = Environmental Protection Agency

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IDL = Ingredients Disclosure List

mg/Kg = milligrams per Kilogram

mg/L = milligrams per Liter

mg/m³ = milligrams per Cubic Meter

MSHA = Mine Safety and Health Administration

NA = Not Applicable or Not Available

NIOSH = National Institute for Occupational Safety and Health

NJTSR = New Jersey Trade Secret Registry

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

SARA = Superfund Amendments and Reauthorization Act

STEL = Short Term Exposure Limit

TDG = Transport Dangerous Goods

TSCA = Toxic Substances Control Act

WHMIS = Workplace Hazardous Materials Information System.