



TORR SEAL

(Loctite Corporation - Hysol 1C)

MATERIAL SAFETY DATA SHEET

VARIAN P/N 953-0001, 953-0002, 953-0004

Part A - RESIN

Part B - HARDENER

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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: HYSOL 1C
 Trade Name and Synonyms: Varian Torr Seal - Part A
 Product Type: Epoxy Resin

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Epoxy resin	25068-38-6	30-60
TALC	14807-96-6	10-30
TITANIUM DIOXIDE	13463-67-7	.5-1.5

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
TALC	2 mg/m3 TWA respirable dust	2 mg/m3 TWA respirable dust	None
TITANIUM DIOXIDE	10 mg/m3	15 mg/m3 Total dust	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Eye and skin irritant. May cause allergic skin reaction.

Primary Routes of Entry: Eyes: May cause eye irritation.

Skin: Allergic skin reaction. Itching. Moderate skin irritation. Redness.

Inhalation: May cause irritation to nose, throat and respiratory tract. Contains crystalline silica which may cause cancer, but in product as sold is not in a respirable form. No exposure should occur unless the cured adhesive is dry sanded or otherwise cut without proper local exhaust and/or the use of a NIOSH approved respirator.

Ingestion: Not expected to be a relevant route of exposure.

Signs and Symptoms of Exposure: see above

Existing Conditions

Aggravated by Exposure: Respiratory disorders. Skin disorders.

3. HAZARDS IDENTIFICATION

(continued)

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen		
		NTP	IARC	OSHA
Epoxy resin	ALG IRR	NO	NO	NO
TALC	IRR LUN SOM	NO	N/A	NO
TITANIUM DIOXIDE	IRR RES	NO	NO	NO

Abbreviations

N/A Not Applicable	ALG Allergen
IRR Irritant	LUN Lung
RES Respiratory	SOM Some evidence of carcinogenicity

4. FIRST AID MEASURES

Ingestion: Keep individual calm. DO NOT induce vomiting. Get medical attention immediately.

Inhalation: Remove to fresh air. If symptoms develop and persist, get medical attention.

Skin Contact: Immediately flush skin with plenty of water (using soap, if available) for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If irritation persists, get medical attention.

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash Point: 480°F PMCC

Recommended Extinguishing Agents: Water fog, foam, dry chemical or carbon dioxide

Special Firefighting Procedures: Firefighters should wear self contained breathing apparatus (SCBA) and full turn out gear.

Hazardous Products formed by Fire or Thermal Decomp: Carbon monoxide, carbon dioxide, smoke. Aldehydes, organic acids.

Unusual Fire or Explosion Hazards: Containers exposed to fire should be cooled with water to prevent vapor pressure buildup which could result in container rupture.

Explosive Limits:
 (% by volume in air)Lower Not available
 (% by volume in air)Upper Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Prevent additional discharge of material, if possible to do so without hazard. Immediately contact emergency personnel. Keep unnecessary personnel away.

7. HANDLING AND STORAGE

Safe Storage: Keep containers tightly closed and sealed until ready to use. Store in a cool, dry place.

(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)

Handling: Keep away from heat, sparks and flame. Avoid contact with eyes. Avoid breathing vapor or mist. Avoid contact with skin and clothing. Wash thoroughly after handling.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Chemical splash goggles or safety glasses with side shields.

Skin: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

Ventilation: Use local exhaust ventilation if the potential for airborne exposure exists.

Respiratory: Use a NIOSH approved respirator if ventilation is not sufficient and the potential exists to exceed any exposure limit.
See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White viscous liquid

Odor: Mild odor

Boiling Point: >500 Degrees F

pH: Does not apply

Solubility in Water: Insoluble

Specific Gravity 1.57

Volatile Organic Compound
(EPA Method 24) Not available

Vapor Pressure: Nil

Vapor Density: Not available

Evaporation Rate
(Ether = 1) Not available

10. STABILITY AND REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur

Incompatibility: Oxidizing agents, Strong acid strong bases such as amines. Reaction with some curing agents may produce considerable heat.

Conditions to Avoid: See above

Hazardous Decomposition
Products (non-thermal): None known.

11. TOXICOLOGICAL INFORMATION

Product toxicological data not available

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:

Incinerate following EPA and local regulations.

EPA Hazardous Waste Number:

Not a RCRA hazardous material for disposal.

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)

Domestic Ground Transport

Proper Shipping Name: Unrestricted

Hazard Class or

Division: Unrestricted

Identification Number: None

Marine Pollutant: None

IATA

Proper Shipping Name: Unrestricted

Class or Division: Unrestricted

UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm - phenyl glycidial ether, quartz.

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard: 2
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:

Health Hazard: 2
Flammability Hazard: 1
Reactivity Hazards: 1
Personal Protection: See Section 8.

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HMIS is a registered trademark of the National Paint and Coatings Assn.

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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: HYSOL 1C
 Trade Name and Synonyms: Varian Torr Seal - Part B
 Product Type: Epoxy Hardener

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
SILICA, QUARTZ	14808-60-7	10-30
TALC	14807-96-6	8-30
DIETHYLENETRIAMINE	111-40-0	10-30
Epoxy resin	25068-38-6	10-30
PHENOL, 4,4'-ISOPROPYLIDENEDI-*	80-05-7	1-5

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILICA, QUARTZ	0.05mg/m3 TWA respirable dust	0.1mg/m3 TWA respirable dust	None
TALC	2 mg/m3 TWA respirable dust	2 mg/m3 TWA respirable dust	None
DIETHYLENETRIAMINE	1 ppm skin 4.2mg/m3 skin	1 ppm TWA 4mg/m3	None
PHENOL, 4,4'-ISOPROPYLIDENEDI-	None	None	10 mg/m3
Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)	

3. HAZARDS IDENTIFICATION

Toxicity: Causes eye and skin burns. May cause allergic skin reaction. May cause allergic respiratory reaction. Causes respiratory tract irritation.

Primary Routes of Entry: Eyes: May cause severe eye irritation. May cause corneal damage.

Skin: Short exposure may cause severe skin burns. May cause allergic skin reaction.

Inhalation: May cause irritation to nose and throat. May cause respiratory sensitization. Contains crystalline silica which may cause cancer but in product as sold is not in a respirable form. No exposure should occur unless the cured adhesive is dry sanded or cut without local exhaust and/or the use of a NIOSH approved respirator.

Ingestion: Harmful if swallowed.

3. HAZARDS IDENTIFICATION

(continued)

Signs and Symptoms of Exposure: see above
 Existing Conditions
 Aggravated by Exposure: Respiratory disorders. Skin disorders. Eye disorders.

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen		
		NTP	IARC	OSHA
SILICA, QUARTZ	AC2 IMM LUN SOM	YES	2A	NO
TALC	IRR LUN SOM	NO	N/A	NO
DIETHYLENETRIAMINE	ALG EYE IRR	NO	NO	NO
Epoxy resin	ALG IRR	NO	NO	NO
PHENOL, 4,4'-ISOPROPYLLIDENEDI-	ALG BLO IRR KID SPL	NO	NO	NO

Abbreviations

N/A Not Applicable
 AC2 ACGIH suspected human carcinogen
 BLO Blood
 IMM Immune system
 KID Kidney
 SOM Some evidence of carcinogenicity
 2A Probably carcinogenic to humans
 ALG Allergen
 EYE Eyes
 IRR Irritant
 LUN Lung
 SPL Spleen

4. FIRST AID MEASURES

Ingestion: Keep individual calm. DO NOT induce vomiting. Give 3 or 4 glasses of milk or water. Get medical attention immediately.

Inhalation: Remove to fresh air. If symptoms develop and persist, get medical attention.

Skin Contact: Immediately flush skin with plenty of water (using soap, if available) for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If irritation persists, get medical attention.

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash Point: 215°F OC
 Recommended Extinguishing Agents: Water fog, foam, dry chemical or carbon dioxide
 Special Firefighting Procedures: Firefighters should wear self contained breathing apparatus (SCBA) and full turn out gear.

Hazardous Products formed by Fire or Thermal Decomposition: Carbon monoxide, carbon dioxide, smoke. nitrogen oxides.

Unusual Fire or Explosion Hazards: Violent steam generation may occur upon application of direct water stream.

5. FIRE FIGHTING MEASURES

(continued)

Explosive Limits:

(% by volume in air)Lower Not available
(% by volume in air)Upper Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case
of spill or leak:

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. Immediately contact emergency personnel. Keep unnecessary personnel away. Avoid contact with material.

7. HANDLING AND STORAGE

Safe Storage:

Keep containers tightly closed and sealed until ready to use. Store in a cool, dry place.

(Contact Loctite Customer
Handling:

Service 1-800-243-4874 for shelf life information)
Keep away from heat, sparks and flame. Avoid contact with eyes. Avoid breathing vapor or mist. Avoid contact with skin and clothing. Wash thoroughly after handling.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:

Chemical splash goggles or safety glasses with side shields.

Skin:

Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

Ventilation:

Use local exhaust ventilation if the potential for airborne exposure exists.

Respiratory

Use a NIOSH approved respirator if ventilation is not sufficient and the potential exists to exceed any exposure limit.

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Tan viscous liquid
Odor: Strong ammonia odor
Boiling Point: 404 Degrees F
pH: Does not apply
Solubility in Water: Slight
Specific Gravity: 1.65
Volatile Organic Compound
(EPA Method 24) Not available
Vapor Pressure: <1 mmHg @20 C
Vapor Density: 3.5
Evaporation Rate
(Ether = 1) Not available

10. STABILITY AND REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur

Incompatibility: Oxidizing agents. Heat is generated when mixed with water. Metals. Acids. Acrylates.

Conditions to Avoid: Avoid temperatures in excess of 561 F. Avoid mixing more than 2 pounds with adhesive resin in a single mass. Considerable heat with the release of toxic gasses and the possibility of fire may result.

Hazardous Decomposition Products (non-thermal): None known.

11. TOXICOLOGICAL INFORMATION

Product toxicological data not available

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations.

EPA Hazardous Waste Number: Not a RCRA hazardous material for disposal.

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)

Domestic Ground Transport

Proper Shipping Name: Consumer Commodity (Not more than 1 liter)
Amine, Liquid, Corrosive, n.o.s.
(Diethylenetriamine)

Hazard Class or Division: ORM-D (NOT more than 1 Liter)
Class 8, PGII

Identification Number: None (Not more than 1 Liter)
UN 2735

Marine Pollutant: None

IATA

Proper Shipping Name: Amines, Liquid, Corrosive, n.o.s.
(diethylenetriamine)

Class or Division: Class 8, PG II
UN or ID Number: UN 2735

15. REGULATORY INFORMATION

CA Proposition 65: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm - crystalline silica, phenyl glycidal ether

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard: 3
Fire Hazard: 1
Reactivity Hazard: 0
Specific Hazard: Does not apply

Estimated HMIS(R) Code:

Health Hazard: 3
Flammability Hazard: 1
Reactivity Hazards: 0
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

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