ETI-LV *Injection Epoxy*
SAFETY DATA SHEET

1. Identification

Product Identification

Product Identifier:	**ETI-LV (ETILV22, ETILV56, ETILV)**
Recommended Use:	Low Viscosity Injection Epoxy
Use Restrictions:	None Known.

Company Identification

Company:	Simpson Strong-Tie Company Inc.
Address:	5956 W. Las Positas Blvd. Pleasanton, CA 94588, USA
Phone:	1-800-999-5099
Website:	www.strongtie.com
Emergency:	1-800-535-5053 (US/Canada) 1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

ETI-LV Injection Epoxy is a two part system. The two parts of this product have been assessed according to GHS and are classified below. The final hardened material is considered nonhazardous.

Resin (clear side) GHS Classification

Physical Hazards:	Not Classified.	
Health Hazards:	Skin corrosion/Irritation	Category 2
	Serious Eye Damage/Irritation	Category 2A
	Sensitization, Skin	Category 1
Environmental Hazards:	Acute Aquatic Environmental Hazard	Category 2
	Chronic Aquatic Environmental Hazard	Category 2

Signal Word: **WARNING!**

Hazard Statements: Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing mist or vapor. Wash thoroughly after handling. Avoid release to the environment.

Response: If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Collect spillage.

Storage: Store locked up. Store in a well-ventilated place. Store between 45-90°F (7-32°C).

Disposal: Dispose of contents/container in accordance with local/regional/national regulations.

Hardener (amber side) GHS Classification

Physical Hazards:	Flammable Liquids	Category 4
Health Hazards	Acute Toxicity, Oral	Category 4
	Acute Toxicity, Dermal	Category 4
	Acute Toxicity, Inhalation	Category 4
	Skin Corrosion/Irritation	Category 1C

	Serious Eye Damage/Irritation	Category 1
	Sensitization, Skin	Category 1
Environmental Hazards:	Acute Aquatic Environmental Hazard	Category 3
	Chronic Aquatic Environmental Hazard	Category 3

Signal Word: **DANGER!**

Hazard Statements: Combustible liquid. Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. Do not breathe vapor. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid release to the environment.

Response: In case of fire: Use appropriate media to extinguish. If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before re-use. 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/doctor. Collect Spillage.

Storage: Store locked up. Store in a well-ventilated place. Store between 45-90°F (7-32°C).

Disposal: Dispose of contents/container in accordance with local/regional/national regulations.

Hazards Not Otherwise Classified (HNOC)

None known.

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Resin (clear side)

Chemical Name	CAS Number	Weight %
Bisphenol A/Epichlorohydrin	25068-38-6	50-80
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-polymer with 2-(chloromethyl)oxirane	30499-70-8	10-30
1,3-Bis(2,3-epoxypropoxy)-2,2-dimethylpropane	17557-23-2	5-15

Hardener (amber side)

Chemical Name	CAS Number	Weight %
Benzyl Alcohol	100-51-6	40-80
Triethylenetetramine	112-24-3	40-80
Formaldehyde, polymer with 1,3-dimethylbenzene	26139-75-3	5-15
Phenol, 2,4,6-trisdimethylaminomethyl	90-72-2	< 10

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**

Skin Contact: Remove contaminated clothing and product, immediately wash affected area with soap and water. Do not apply greases or ointments. If skin irritation persists **consult a physician.**

Ingestion: Rinse mouth immediately. Give large amounts of milk or water, if person is conscious. Only induce vomiting at the instruction of medical personnel. **Consult a physician.**

Inhalation: Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Irritant effects. Sensitization. Symptoms include itching, burning, redness and tearing. May cause damage to mucous membranes in nose, throat, lungs and bronchial system. Cough. Labored breathing. Shortness of breath. Prolonged contact causes serious eye and tissue damage. Visual disturbances including blurred vision. May cause serious chemical burns to the skin. May cause burns in mucous membranes, throat, esophagus and stomach.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder, or water fog.

Additional Information: None known.

Hazards during Fire-Fighting: Hazardous decomposition products may occur when materials polymerize at temperatures above 500 °F (260°C). Irritating and toxic gases/fumes may be released during a fire. Water run-off can cause environmental damage. Do not allow run-off from fire-fighting to enter drains or water courses.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Mechanical ventilation or local exhaust ventilation is recommended. Keep away from open flames, hot surfaces and sources of ignition. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Observe good industrial hygiene practices.

Storage

Store in a closed container away from incompatible materials. Keep in original container. Keep container tightly closed. Store in a dry place out of direct sunlight. Store between 45-90°F (7-32°C). Keep away from heat and sources of ignition. Store in a well-ventilated place. Store locked up. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact.
Respirator Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
General Hygiene: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Engineering Controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Exposure Limits

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Benzyl Alcohol (CAS 100-51-6)	N/E	N/E	44.2 mg/m^3 10 ppm
Triethylenetetramine (CAS 112-24-3)	N/E	N/E	6 mg/m^3 1 ppm

Additional Information

After Cure: Product forms an innocuous solid. Processing after cure (grinding or cutting) may produce dust containing compounds that present an inhalation hazard.

9. Physical and Chemical Properties

Property	Resin	Hardener
Physical State:	Liquid	Liquid
Color:	Clear	Amber
Odor:	Sweet	Ammonia
pH:	5.6	10.9
Flammability limit – lower %:	No data	No data
Flammability limit – upper %:	No data	No data
Vapor Pressure:	Non-Volatile	No data
Vapor Density:	No data	No data
Solubility:	Insoluble in water	Slightly soluble in water
Freezing/Melting Point:	No data	No data
Boiling Point:	No data	No data
Flash Point:	256 °F (124.4 °C) Closed Cup	180 °F (85 °C) Closed Cup
Evaporation Rate:	No data	No data
Decomposition Temperature:	No data	No data
Specific Gravity:	1.21 at 72°F (22°C)	1.01 at 72°F (22°C)
VOC (after cure):	6 g/L	6 g/L
Kow:	No data	No data
Viscosity:	2000 cP	2000 cP

10. Stability and Reactivity

Resin (clear side)

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.

Condition to Avoid: High heat and open flame.
Substances to Avoid: Oxidizing agents, acids, organic bases, and amines.
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

Hardener (clear side)

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Strong oxidizing agents. Strong acids.
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Harmful if swallowed. Causes digestive tract burns.
Inhalation: Harmful if inhaled. Causes respiratory tract burns. If this material is heated or misted, coughing and mild, temporary irritation may occur.
Skin contact: Harmful in contact with skin. Causes severe skin burns. Causes skin irritation. May cause an allergic skin reaction.
Eye contact: Causes serious eye irritation. Causes serious eye burns.

Information on Toxicological Effects

Acute toxicity: Occupational exposure to the substance or mixture may cause adverse effects.

Product	Species	Test Result
Benzyl alcohol (CAS 100-51-6)		
Acute, *Dermal*, LC50	Rabbit	2000 mg/kg
Acute, *Oral*, LD50	Rat	1230-3100 mg/kg
Acute, *Inhalation*, LD50	Rat	>4173 mg/m^3, 4 hours

Skin corrosion/irritation: Causes skin irritation. Causes severe skin burns.
Eye damage/eye irritation: Causes serious eye irritation. Causes serious eye damage.
Respiratory sensitization: May cause an allergic respiratory reaction becoming evident upon re-exposure to this material, and may cause breathing difficulties.
Skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: The product contains a substance which has demonstrated animal effects of mutagenicity.
Carcinogenicity: Contains traces of carbon black. Inhalation of carbon black dust may cause cancer, however due to the physical form of the product; inhalation of dust is not likely. Take care when cutting or grinding cured product.
Reproductive toxicity: No data available.
Aspiration hazard: No data available.
Specific target organ toxicity:
Single exposure No data available.
Repeated exposure No data available.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. Resin is classified as toxic to aquatic life with long lasting effects. Hardener is classified as harmful to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component	Species	Test Result
BisphenolA/Epichlorohydrin (25068-38-6)		
Fish, LC50	Salmo Gairdneri	1.5 mg/l, 96 hours
Aquatic, Crustacea, EC50	Daphnia Magna	2.7 mg/l, 48 hours
Benzyl alcohol (CAS 100-51-6)		
Aquatic Acute, Fish, LC50	Bluegill	10 mg/l, 96 hours

Persistence and degradability: This product is not expected to be readily biodegradable.
Bioaccumulative potential: No data available for this product.
Partition coefficient n-octanol / water (log Kow)
Benzyl alcohol (CAS 100-51-6) 1.1
Mobility in soil: This product is non-volatile.

Further Information

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

13. Disposal Consideration

Waste Disposal of Substance: Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Disposal of Cured Product: Grind or chip off surface. Solid material does not need special disposal considerations.

14. Transportation Information

Resin (white side)

UN number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A-Epichlorohydrin), 9, III, Marine Pollutant
Precautions: Marine Pollutant
Required Labels: 9
ERG Code (IATA): 9L
EmS (IMDG): F-A, S-F

Hardener (black side)

UN number: UN2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Phenol, 2,4,6-trisdimethylaminomethyl), 8, III
Precautions: Corrosive
Required Labels: 8
ERG Code (IATA): 8L
EmS (IMDG): F-A, S-B

Additional Information

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
This substance/mixture is not intended to be transported in bulk

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories:	Immediate	Delayed	Fire	Pressure	Reactivity
Resin	Yes	No	No	No	No
Hardener	Yes	Yes	Yes	No	No

SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous chemical Yes
SARA 313 (TRI reporting) Not regulated.

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
Benzyl Alcohol (CAS 100-51-6)	Listed		Listed	
Triethylenetetramine (CAS 112-24-3)	Listed		Listed	

US. California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or reproductive harm.

Component	Regulation	% In Blend (approx.)	Remark
Carbon Black (1333-86-4)	ACGIH	trace	Carcinogenic

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification

		
Class E: Corrosive	**Class B-3:** Combustible Liquid	**Class D-2A:** Material Causing other toxic effects

International

International Inventories

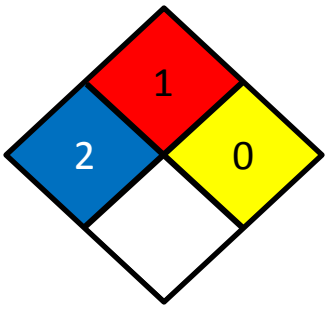
Country or Region	Inventory	On Inventory? (Yes/No)
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

16. Other Information

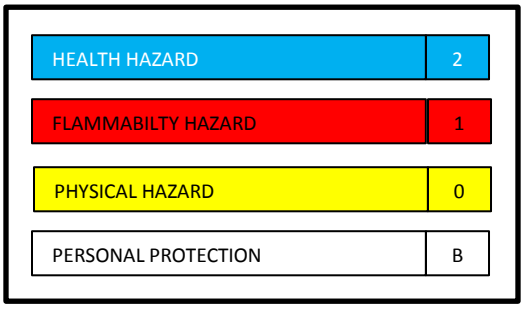
Date Prepared or Revised: September 2014
Supersedes: October 2013

Additional Resin (clear side) Classifications

NFPA Ratings

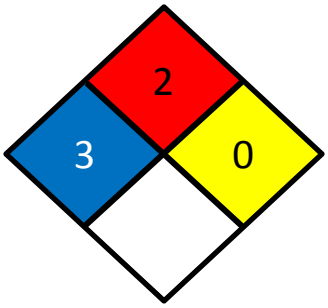


HMIS Rating

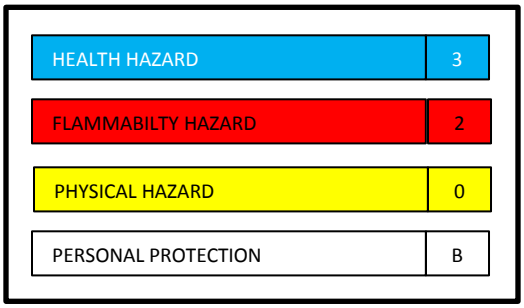


Additional Hardener (black side) Classifications

NFPA Ratings



HMIS Rating



Abbreviations

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS No.:	Chemical Abstract Service Registry Number
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR:	Controlled Product Regulations (Canada)
DOT:	Department of Transportation (U.S.)
EPA:	Environmental Protection Agency (U.S.)
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
HEPA:	High-Efficiency Particulate Air
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
LPP:	Limité Permisible Ponderado (Chile)
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
OSHA:	Occupational Safety and Health Administration (U.S.)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
SDS:	Safety Data Sheet
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)
STOT:	Specific Target Organ Toxicity (GHS Classification)
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act (U.S.)
TWA:	Time Weighted Average (exposure for 8-hour workday)

U.S.: United States
VOC: Volatile Organic Compounds
WHMIS: Canadian Workplace Hazardous Materials Information System

Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

Internal

FOR INTERNAL USE ONLY

ETI-LV Resin: XCOM3B – 50% Cartridge

ETI-LV Hardener: XCOM3A – 50% Cartridge
XCORR – 50% Cartridge