Epoxy Tie® ETR Epoxy Paste-Over - MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **ETR16 - Part A**
Product Description: Epoxy Paste-Over Material For Crack Repair – Epoxy Resin
Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588 USA
Emergency Telephone Number: 1-800-535-5053 **US/Canada**
(24h) 1-352-323-3500 **International**
Date Prepared or Revised: July 2010
Supercedes: March 2008
For most current MSDS, please visit our website at www.simpsonanchors.com.

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Concentration (Weight %)	OSHA Hazard
BisPhenolA/Epichlorohydrin (Epoxy Resin)	25068-38-6	45-55	Yes
Cresyl Glycidyl Ether	2210-79-9	3-7	Yes
Calcium Carbonate	1317-65-3	15-20	Yes
Wollastonite	13983-17-0	20-30	Yes
Titanium Dioxide	13463-67-7	1-5	Yes

Composition Note: The remaining ingredients are designated as “trade secret”.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! MAY CAUSE EYE AND/OR SKIN IRRITATION. PROLONGED OR REPEATED EXPOSURE MAY CAUSE SKIN SENSITIZATION.

POTENTIAL HEALTH EFFECTS

Acute

Eye Contact: Exposure during handling may cause eye irritation, swelling, tearing, redness or cornea damage.

Skin Contact: Exposure during handling may cause moderate skin irritation. May cause skin sensitization, evidenced by rashes and hives.

Inhalation: Exposure to this product in excess of the applicable TVL or PEL may cause moderate irritation to the nose and respiratory tract. May cause Central Nervous System depression evidenced by headache, dizziness, and nausea.

Ingestion: Ingestion may cause may cause irritation to the gastrointestinal tract. May cause Central Nervous System depression or other systemic effects.

Systemic Effects: Lungs, eyes, and skin.

Chronic: Prolonged or repeated skin contact may cause a persistent irritation or dermatitis. Allergic reactions may arise in sensitive individuals.

Medical Conditions which May be Aggravated by Inhalation or Dermal Exposure:

Persons with eye, skin or respiratory disorders or unusual (hyper) sensitivity to chemicals may experience adverse reactions to this product.

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. If redness, burning, blurred vision, or swelling persists, **CONSULT A PHYSICIAN**.

Skin Contact: In case of contact, remove product and immediately wash affected area with plenty of soap and water for at least 5 minutes. Do not apply greases or ointments. Remove contaminated clothing. Clean contaminated clothing with soap and water before re-use. If redness, burning, or swelling persists, **CONSULT A PHYSICIAN.**

Ingestion: **DO NOT INDUCE VOMITING.** Never administer anything by mouth to an unconscious person. Rinse out mouth with water, then drink sips of water to remove taste from mouth. **CONSULT A PHYSICIAN.** Do not leave victim unattended. If vomiting occurs spontaneously, lay victim on the side and keep head lower than waist to prevent aspiration.

Inhalation: If respiratory irritation or distress occurs, remove victim to fresh air. If breathing is difficult, give oxygen. If breathing stop, apply artificial respiration. **CONSULT A PHYSICIAN.**

Notes to Physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water fog, carbon dioxide or dry chemical, aqueous foam.

Fire And Explosion Hazards: Hazardous gases/vapors produced are carbon monoxide, carbon dioxide, and aldehydes and miscellaneous hydrocarbons. Do not allow run-off from fire fighting to enter drains or water courses.

Fire Fighting Equipment and Procedures: Wear full protective clothing and self-contained breathing apparatus for fire fighting. Isolate fuel supply from fire. Use water spray to cool fire-exposed surfaces and containers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use cautious judgment when cleaning up spill. Shut off leaks, if possible without personal risk. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

Environmental Precautions: Construct a dike to prevent spreading. Keep out of sewers, storm drains, surface waters, and soils.

Clean-up Methods: **Small spills**: Soak up with absorbent material such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal. **Large spills**: Approach suspected leak areas with caution. Create a dike or trench to contain material. Soak up with absorbent material such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal.

Additional Information: Notify authorities if any exposures to the general public or environment occur or are likely to occur. Dispose in accordance with federal, state, and local regulations.

7. HANDLING AND STORAGE

Handling (Personnel): To prevent skin and eyes contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Avoid breathing fumes. Handle in a well-ventilated work area.

Handling (Physical Aspects): Close container after each use. Keep away from heat, sparks and flames.

Storage: Keep away from: acids, oxidizing agents, heat, or flames. Store in a cool, dry, well-ventilated area in closed containers. Protect containers from physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)
BisPhenolA/Epichlorohydrin (Epoxy Resin)	N/E	N/E
Cresyl Glycidyl Ether	N/E	N/E
Calcium Carbonate	10 mg/m^3 ([1] nuisance dust)	5 mg/m^3 (respirable fraction) 15 mg/m^3 (total dust)
Wollastonite	3 mg/m^3	5 mg/m^3
Titanium Dioxide	10 mg/m^3 (total dust)	15 mg/m^3 (total dust)

[1] This component poses a hazard only if the liquid product dries and a dust is formed.

Engineering Controls: Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure techniques may be used to effectively minimize employee exposures.

Eye Protection: When engaged in activities where product could contact the eye, wear safety glasses with side shields, chemical splash goggles, or face shield.

Skin Protection: Skin contact should be minimized through use of Nitrile, neoprene or butyl gloves and suitable long sleeved clothing. Consideration must be given both to durability as well as permeation resistance.

Respirator Protection: Avoid actions that cause dust exposure to occur. Use local or general ventilation to control exposures below applicable exposure limits. NIOSH or MSHA approved particulate filter respirators should be used to control exposures when ventilation or other controls are inadequate or discomfort or irritation is experienced. Respirator and/or filter cartridge selection should be based on American National Standards Institute (ANSI) Standards Z88.2 - Practices for Respiratory Protection.

Ventilation: Use local exhaust or general dilution ventilation to control exposure within applicable limits.

Work Practice Controls: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

(1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.

(2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. Wash exposed skin promptly to remove accidental splashes or contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Paste
Color:	White
Odor:	No significant odor
Vapor Pressure:	>1 torr @ 356°F (180°C)
Boiling Point:	> 392°F (>200°C)
Freezing Point:	N/E
Flash Point:	>300°F (>149°C) close cup
Specific Gravity:	1.56 @ 72°F
pH:	8.4
Solubility In Water:	Insoluble

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions To Avoid:	Incompatible chemicals, heat and open flame.
Materials To Avoid:	Oxidizing and reducing agents.
Hazardous Decomposition Products:	Combustion may produce carbon monoxide, carbon dioxide, aldehydes, miscellaneous hydrocarbons, and other organic substances.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral (LD_{50}, Rat):	N/E
Dermal (LD_{50}, Rabbit):	N/E
Inhalation (LC_{50}, Rat):	N/E
Chronic Health Hazard:	No known significant effects or critical hazards. Repeated or prolonged exposure may cause allergic skin reaction and/or limited sensitization.
Carcinogenic Classification:	This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity: This product has not been evaluated.
Chemical Fate Information: No data found for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: This material is not a hazardous waste by RCRA criteria (40CFR 261). Dispose of container and unused contents in accordance to local, state and federal regulations.
Container Disposal Method: Emptied container may contain product residue and should not be reused.

14. TRANSPORTATION INFORMATION

DOT/TDG: Not Regulated For Transport.
IATA: Not Regulated For Transport.
IMO: Not Regulated For Transport.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS:

OSHA Hazard Communication Standard (29CFR 1910.1200):
This product is considered a "hazardous chemical" under this regulation.

Status Under Toxic Substances Control Act (TSCA) (40 CFR 710):
All chemical(s) comprising this product are either exempt or listed on the TSCA Inventory.

EPA Reportable Quantities:
Clean Water Act (40CFR Section 112): None required.
CERCLA Hazardous Substance (40CFR Part 302, Table 302.4): None required.
EPCRA Extreme Hazardous Substance (40CFR Section 302 Part 355): None required.

Toxic Chemical Release Inventory (TRI) Reporting - (SARA Title III Section 313 (40 CFR 372)
Component(s) above 'de minimus' level): None required.

SARA Title III Hazard Classes (40CFR 370 Sections 311 and 312):
Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes
Chronic Health Hazard: Yes

US STATE REGULATIONS:

California - "Safe Drinking Water and Toxic Enforcement Act" (Proposition 65):
This product contains chemicals that are known to the State of California to cause cancer and/or reproductive toxicity and other harm.

Component	CAS Number	% In Blend (approx.)	Remark
Phenylglycidyl ether	122-60-1	Trace	Carcinogenic

INTERNATIONAL REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS:
Components of this product are listed on the Canadian DSL or NDSL inventories.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS:
Class D-2B: Material causing other toxic effects

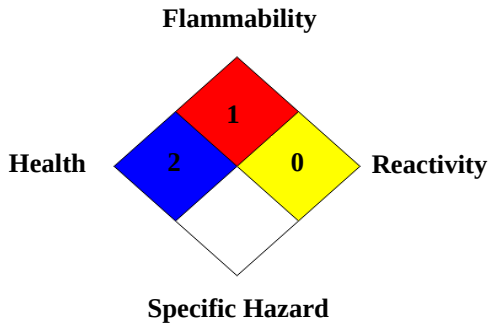
16. OTHER INFORMATION

HAZARD RATINGS:

Hazardous Material Information System (HMIS)

Health	2
Flammability	1
Physical Hazard	0
Personal Protection	B

National Fire Protection Association (NFPA)



HMIS/NFPA Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
Protective Equipment: Safety glasses, gloves

This Material Safety Data Sheet (MSDS) is prepared by Simpson Strong-Tie Company Inc. 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 MSDS. This MSDS 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.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **ETR16 - Part B**
Product Description: Epoxy Paste-Over Material For Crack Repair - Epoxy Hardener
Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588 USA
Emergency Telephone Number (24h): 1-800-535-5053 **US/Canada**
1-352-323-3500 **International**
Date Prepared or Revised: July 2010.
Supercedes: March 2008. For most current MSDS, please visit our web site at www.simpsonanchors.com

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Concentration (Weight %)	OSHA Hazard
Polymercaptan	N/E	15-25	Yes
Proprietary Amine	N/E	5-10	Yes
Calcium Carbonate	1317-65-3	5-10	Yes
Wollastonite	13983-17-0	40-45	Yes
Terpene Hydrocarbon	8002-09-3	3-7	Yes

Composition Note: The remaining ingredients are designated as "trade secret".

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! CORROSIVE. MAY CAUSE SEVERE EYE AND/OR SKIN IRRITATION. PROLONGED OR REPEATED EXPOSURE MAY CAUSE SKIN SENSITIZATION.

POTENTIAL HEALTH EFFECTS

Acute

Eye Contact: Exposure during handling may cause severe eye irritation, swelling, tearing, redness or cornea damage.

Skin Contact: Exposure during handling may cause severe skin irritation. May cause skin sensitization, evidenced by rashes and hives.

Inhalation: Exposure to this product in excess of the applicable TVL or PEL may cause moderate irritation to the nose and respiratory tract. May cause Central Nervous System depression evidenced by headache, dizziness, and nausea.

Ingestion: Ingestion may cause may cause irritation to the gastrointestinal tract. May cause Central Nervous System depression or other systemic effects.

Systemic Effects: Lungs, eyes, and skin.

Chronic: Prolonged or repeated skin contact may cause a persistent irritation or dermatitis. Allergic reactions may arise in sensitive individuals.

Medical Conditions which May be Aggravated by Inhalation or Dermal Exposure:

Persons with eye, skin or respiratory disorders or unusual (hyper) sensitivity to chemicals may experience adverse reactions to this product.

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. If redness, burning, blurred vision, or swelling persists, **CONSULT A PHYSICIAN**.

Skin Contact: In case of contact, remove product and immediately wash affected area with plenty of soap and water for at least 5 minutes. Do not apply greases or ointments. Remove

contaminated clothing. Clean contaminated clothing with soap and water before re-use. If redness, burning, or swelling persists, **CONSULT A PHYSICIAN.**

Ingestion: **DO NOT INDUCE VOMITING.** Never administer anything by mouth to an unconscious person. Rinse out mouth with water, then drink sips of water to remove taste from mouth. **CONSULT A PHYSICIAN.** Do not leave victim unattended. If vomiting occurs spontaneously, lay victim on side and keep head lower than waist to prevent aspiration.

Inhalation: If respiratory irritation or distress occurs, remove victim to fresh air. If breathing is difficult, give oxygen. If breathing stop, apply artificial respiration. **CONSULT A PHYSICIAN.**

Notes to Physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water fog, carbon dioxide or dry chemical, aqueous foam.

Fire And Explosion Hazard: Irritating and toxic fumes may be produced at high temperature. Hazardous gases/vapors produced are carbon monoxide, carbon dioxide, oxides of nitrogen, cyanide, and miscellaneous hydrocarbons. Do not allow run-off from fire fighting to enter drains or water courses.

Fire Fighting Equipment and Procedures: Wear full protective clothing and self-contained breathing apparatus for fire fighting. Isolate fuel supply from fire. Use water spray to cool fire-exposed surfaces and containers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use cautious judgment when cleaning up spill. Shut off leaks, if possible without personal risk. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

Environmental Precautions: Construct a dike to prevent spreading. Keep out of sewers, storm drains, surface waters, and soils.

Clean-up Methods: **Small spills**: Soak up with absorbent material such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal.
Large spills: Approach suspected leak areas with caution. Create a dike or trench to contain material. Soak up with absorbent material such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal.

Additional Information: Notify authorities if any exposures to the general public or environment occur or are likely to occur. Dispose in accordance with federal, state, and local regulations.

7. HANDLING AND STORAGE

Handling (Personnel): To prevent skin and eyes contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Avoid breathing fumes. Handle in a well-ventilated work area.

Handling (Physical Aspects): Close container after each use. Keep away from heat, sparks and flames.

Storage: Keep away from: acids, oxidizers, heat, or flames. Store in a cool, dry, well-ventilated area in closed containers. Protect containers from physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)
Polymercaptan	N/E	N/E
Proprietary Amine	1 ppm (4 mg/m^3)	1 ppm (4.2 mg/m^3)
Wollastonite	3 mg/m^3	5 mg/m^3

Chemical Name	ACGIH (TLV)	OSHA (PEL)
Calcium Carbonate	10 mg/m^3 ([1] nuisance dust)	5 mg/m^3 (respirable fraction) 15 mg/m^3 (total dust)
Terpene Hydrocarbon	3 mg/m^3	5 mg/m^3

[1] This component poses a hazard only if the liquid product dries and a dust is formed.

Engineering Controls: Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure techniques may be used to effectively minimize employee exposures.

Eye Protection: When engaged in activities where product could contact the eye, wear safety glasses with side shields, chemical splash goggles, or face shield.

Skin Protection: Skin contact should be minimized through use of Nitrile, neoprene or butyl gloves and suitable long sleeved clothing. Consideration must be given both to durability as well as permeation resistance.

Respirator Protection: Avoid actions that cause dust exposure to occur. Use local or general ventilation to control exposures below applicable exposure limits. NIOSH or MSHA approved particulate filter respirators should be used to control exposures when ventilation or other controls are inadequate or discomfort or irritation is experienced. Respirator and/or filter cartridge selection should be based on American National Standards Institute (ANSI) Standards Z88.2 - Practices for Respiratory Protection.

Ventilation: Use local exhaust or general dilution ventilation to control exposure within applicable limits.

Work Practice Controls: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

(1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.

(2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. Wash exposed skin promptly to remove accidental splashes or contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Paste
Color: Grey/Black
Odor: Strong skunk-like
Boiling Point: N/E
Freezing Point: N/E
Vapor Pressure: N/E
Flash Point: 172ºF (78°C) Close cup
Specific Gravity: 1.55 @ 72°F (22°C)
pH: 10.2
Solubility In Water: Appreciable

10. STABILITY AND REACTIVITY

Stability: Stable under normal storage conditions.
Conditions To Avoid: Incompatible chemicals, high heat, and open flame.
Materials To Avoid: Avoid contact with oxidizing agents and acids.
Hazardous Decomposition Products: Combustion may produce carbon monoxide, carbon dioxide, nitrogen oxide, miscellaneous hydrocarbons, and other organic substances.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:
Oral (LD_{50}, Rat): N/E
Dermal (LD_{50}, Rabbit): N/E
Inhalation (LC_{50}, Rat): N/E

Chronic Health Hazard: Repeated or prolonged exposure may cause allergic skin reaction and/or limited sensitization.

Carcinogenic Classification: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity: This product has not been evaluated.
Chemical Fate Information: No data found for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: This material is a hazardous waste by RCRA criteria (40CFR 261). Dispose of container and unused contents in accordance to local, state and federal regulations.
Container Disposal Method: Emptied container may contain product residue and should not be reused.

14. TRANSPORTATION INFORMATION

DOT/TDG: ORM-D / Limited Quantity

IATA:
UN Number: UN3259
Proper Shipping Name: Amines, Solid, Corrosive, n.o.s. (Diethylenetriamine)
Hazard Class: 8
Packing Group: III
Hazard Label:

IMO: Limited Quantity
UN Number: UN3259
Proper Shipping Name: Amines, Solid, Corrosive, n.o.s. (Diethylenetriamine)
Hazard Class: 8
Packing Group: III

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS:

OSHA Hazard Communication Standard (29CFR 1910.1200):
This product is considered a "hazardous chemical" under this regulation.

Status Under Toxic Substances Control Act (TSCA) (40 CFR 710):
All chemical(s) comprising this product are either exempt or listed on the TSCA Inventory.

EPA Reportable Quantities:
Clean Water Act (40CFR Section 112): None required.
CERCLA Hazardous Substance (40CFR Part 302, Table 302.4): None required.
EPCRA Extreme Hazardous Substance (40CFR Section 302 Part 355): None required.

Toxic Chemical Release Inventory (TRI) Reporting - (SARA Title III Section 313 (40 CFR 372)
Component(s) above 'de minimus' level): None required

SARA Title III Hazard Classes (40CFR 370 Sections 311 and 312):

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	Yes

US STATE REGULATIONS:

California - "Safe Drinking Water and Toxic Enforcement Act" (Proposition 65):

This product contains chemicals that are known to the State of California to cause cancer and/or reproductive toxicity and other harm: None.

INTERNATIONAL REGULATIONS:

CANADIAN DSL/ NDSL INVENTORY STATUS:

Components of this product are listed on the Canadian DSL or NDSL inventories.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS:

Class E: Corrosive

Class D-2B: Material causing other toxic effects

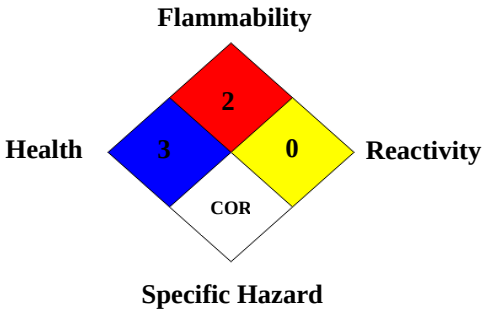
16. OTHER INFORMATION

HAZARD RATINGS:

Hazardous Material Information System (HMIS)

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	B

National Fire Protection Association (NFPA)



HMIS/NFPA Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
Protective Equipment: Safety glasses, gloves

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