

TC50 EPOXY INFUSION MOLDING ADHESIVE

DATA SHEET
Tensorgrip®



As part of our **COMPOSITES** range, **TensorGrip TC50** is an epoxy infusion molding adhesive designed for use in applications using the substrates listed.

PRODUCT DESCRIPTION

TensorGrip® TC50 is a high tack, fast dry mist spray adhesive, designed specifically to hold carbon fabrics in place during the infusion process. TC50 is compatible with epoxy resins to ensure that no imperfections are caused.

ADVANTAGES

- Easy application
- Becomes a part of the cured epoxy resin matrix
- Single or double sided applications
- High solids, high tack
- VOC free
- Repositionable

DIRECTIONS FOR USE

- **TensorGrip TC50** is designed as a portable, self-contained spray system.
- Make sure surface is clean, dry and free of grease, oil, dirt and other contamination.
- Apply a sparing coat of **TensorGrip TC50** to the surface to be bonded.
- Do not wet the surface.
- Allow to dry and become slightly tacky.
- Apply fiberglass materials. Fiberglass material should hold in place.
- Build up composite material and allow to cure normally (preferably overnight).
- Continue with vacuum infusion process; the adhesive will aid the flow of resin through the materials and will become part of the composite.
- Remove the composite from the mold.
- Recommended operating temperatures range from 60°F to 100°F. Canister system should be kept in warm area. In the event that the canister gets abnormally chilled, freezes or gives poor or sputtering spray, it should be warmed up before continued usage. Warming canister by immersion in warm water is recommended.
- Notice!!! Do not store at temperatures over 120° F.

CANISTER STORAGE/CHANGE OVER

- If you choose to leave the hose and spray gun on the canister, leave the valve on the canister open. Do not disconnect the hose/gun from the canister. Close and lock the spray gun.
- To change or disconnect canister: turn canister valve to the off position, spray out remaining adhesive left in the hose, disconnect the spray hose and gun from the canister.
- Reconnect the spray hose to a new canister of adhesive. OR if you are NOT connecting to a new canister, connect hose to canister of cleaning solvent (sold separately) and spray out until liquid is clear which indicates that the hose and gun is clean.

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CHEMICAL TECHNICAL DATA

TYPICAL PROPERTIES

- | | |
|-----------------------|--|
| • Total Solids | 100% |
| • VOC Content | 0 g/L |
| • Color | Red |
| • System Flammability | Flammable adhesive; Non-flammable propellant |
| • Solvent System | Acetone |
| • Dry time | 1-3 minutes |
| • Open time | 20 minutes |
| • Shelf Life | 6 months from date of manufacture |

PACKAGING

- | | |
|-------|---------------------|
| • 7L | Disposable Canister |
| • 22L | Disposable Canister |

STORAGE

HANDLING & STORAGE

- Consult Material Safety Data Sheet prior to use.
- Do not store at temperatures over 120°F/50°C.
- Avoid exposure to direct sunlight.
- Do not store directly on concrete floor.
- Always store above 60°F/15°C
- When connected, keep valve open and hose pressurized at all times
- Always test our adhesives to determine suitability for your particular application prior to use in production

DISCLAIMER OF WARRANTY: Quin Global makes neither warranty of merchantability or fitness for any use nor any other warranty, express or implied, in the sales of its products. Buyer assumes all risk and liability for the results obtained by the use of its products, whether used singly or in combination with other products.

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SAFETY DATA SHEET

TensorGrip TC50

1. Identification

Product identifier

Product name TensorGrip TC50

Product number USA

Recommended use of the chemical and restrictions on use

Application Canister Spray Adhesive

Details of the supplier of the safety data sheet

Supplier Quin Global
5710 F St
(402) 731 3636
(402) 731 1473
marketing.us@quin-global.com

Emergency telephone number

Emergency telephone Chemtrec: 1 800 424 9300

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Flam. Aerosol 2 - H223 Press. Gas, Compressed - H280

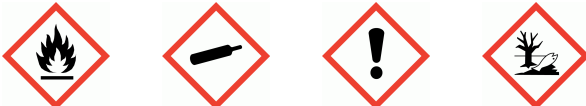
Health hazards Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317 STOT SE 3 - H336

Environmental hazards Aquatic Acute 2 - H401 Aquatic Chronic 2 - H411

Human health The liquid may be irritating to eyes, respiratory system and skin. Symptoms following overexposure may include the following: Headache. Dizziness. Nausea, vomiting.

Label elements

Pictogram



Signal word

Warning

Hazard statements

H223 Flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements

P271 Use only outdoors or in a well-ventilated area.
 P301+P312 If swallowed: Call a poison center/ doctor if you feel unwell.
 P302+P352 If on skin: Wash with plenty of water.
 P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Contains Acetone, epoxy resin, Bisophenol A Epoxy, Fenuron

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

Acetone	30-60%
CAS number: 67-64-1	
Classification	
Flam. Liq. 2 - H225	
Acute Tox. 4 - H302	
Acute Tox. 4 - H312	
Acute Tox. 4 - H332	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
Unknown Classification	
STOT SE 3 - H336	
epoxy resin	10-30%
CAS number: 25068-38-6	
Classification	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
Skin Sens. 1B - H317	
Aquatic Acute 2 - H401	
Aquatic Chronic 2 - H411	
Bisophenol A Epoxy	10-30%
CAS number: 68610-41-3	
Classification	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
Skin Sens. 1 - H317	
Aquatic Chronic 2 - H411	

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Fenuron	5-10%
CAS number: 101-42-8	
Classification	
Eye Irrit. 2A - H319	
STOT SE 3 - H335	

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information	Remove affected person from source of contamination. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention if any discomfort continues.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.
Ingestion	Get medical attention immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
Skin Contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Only remove contact lenses if the person is conscious, coherent and they can remove them themselves. If adhesive bonding occurs, do not force eyelids apart. Continue to rinse for at least 15 minutes. If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.

Most important symptoms and effects, both acute and delayed

Inhalation	May cause coughing and difficulties in breathing. May cause eye and respiratory system irritation. Overexposure may depress the central nervous system, causing dizziness and intoxication.
Ingestion	Aspiration hazard if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract. May Cause the following effects: Gastrointestinal symptoms, including upset stomach. Central nervous system depression. Nausea, vomiting. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
Skin contact	May be absorbed through the skin. Product has a defatting effect on skin. The liquid is irritating to eyes and skin. A single exposure may cause the following adverse effects: Dryness and/or cracking.
Eye contact	Causes serious eye irritation. Burns can occur. A single exposure may cause the following adverse effects: Pain. Conjunctivitis, irritation, tearing. Prolonged or repeated exposure may cause the following adverse effects: Irritation of eyes and mucous membranes. Prolonged contact causes serious eye and tissue damage.

Indication of immediate medical attention and special treatment needed

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

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Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards Pressurized container: Must not be exposed to temperatures above 50°C/120°F Containers can burst violently or explode when heated, due to excessive pressure build-up. Vapors are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO₂). Carbon monoxide (CO).

Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8. No smoking, sparks, flames or other sources of ignition near spillage.

Environmental precautions

Environmental precautions Avoid discharge into drains. Contain spillage with sand, earth or other suitable non-combustible material.

Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Avoid the spillage or runoff entering drains, sewers or watercourses. Absorb in vermiculite, dry sand or earth and place into containers. Wash thoroughly after dealing with a spillage.

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid contact with skin and eyes. Keep away from heat, sparks and open flame. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level. Container must be kept tightly closed when not in use. Use explosion proof electric equipment. Avoid discharge into drains or watercourses or onto the ground.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from heat, sparks and open flame. Keep container tightly closed. Keep only in the original container. Pressurized container: Must not be exposed to temperatures above 50°C/120°F

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

TensorGrip TC50

Acetone

Long-term exposure limit (8-hour TWA): ACGIH 500 ppm

Short-term exposure limit (15-minute): ACGIH 750 ppm

A4

Long-term exposure limit (8-hour TWA): OSHA 1000 ppm 2400 mg/m³

Ceiling exposure limit: NIOSH: National Institute of Occupational Safety and Health 250 ppm 590 mg/m³ vapour

ACGIH = American Conference of Governmental Industrial Hygienists.

A4 = Not Classifiable as a Human Carcinogen.

OSHA = Occupational Safety and Health Administration.

Exposure controls

Protective equipment



Appropriate engineering controls

This product must not be handled in a confined space without adequate ventilation. Avoid inhalation of vapors and spray/mists. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapor or mist.

Eye/face protection

Wear chemical splash goggles.

Hand protection

Use protective gloves.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

Respiratory protection

If exposure levels are likely to be exceeded, use a half face mask fitted with an organic vapor filter for short term low level exposures. For long term or high level exposures, a supplied air respirator should be used.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Aerosol.
Color	Gold.
Odor	Characteristic.
Initial boiling point and range	56°C
Flash point	-18°C Not specified.
Vapor pressure	24.7 kPa @ 20°C
Auto-ignition temperature	540°C
Volatile organic compound	This product contains a maximum VOC content of 0 g/l.

10. Stability and reactivity

Stability Stable at normal ambient temperatures and when used as recommended.

TensorGrip TC50

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid contact with the following materials:
Oxidizing agents. Reducing agents.

Materials to avoid Oxidizing agents.

Hazardous decomposition products Fire creates: Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂).
Hydrogen chloride (HCl). Nitrous gases (NO_x).

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 1,000.0

Acute toxicity - dermal

ATE dermal (mg/kg) 2,200.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 22.0

Toxicological information on ingredients.

Acetone

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,800.0

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 20,000.0

Species Rabbit

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 76.0

Species Rat

ATE inhalation (vapours mg/l) 11.0

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness

Inhalation Mucosal irritations. Absorption.

Ingestion Irritating. May cause nausea, stomach pain and vomiting. Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

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Skin Contact	This product is moderately irritating. May be absorbed through the skin. Repeated exposure may cause skin dryness or cracking.
Eye contact	This product is strongly irritating. Risk of corneal clouding.
Route of entry	Inhalation Skin and/or eye contact
Target Organs	Eyes

epoxy resin

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 13,600.0

Species Rat

Fenuron

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 6,400.0

Species Rat

12. Ecological Information

Toxicity

Persistence and degradability

Bioaccumulative potential

Mobility in soil

Results of PBT and vPvB assessment

Other adverse effects

13. Disposal considerations

Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

Air transport notes Cargo aircraft only. <75kg

UN Number

UN No. (TDG) 3501

UN No. (ICAO) 3501

UN No. (DOT) 3501

UN proper shipping name

Proper shipping name (TDG) Chemical Under Pressure, Flammable, N.O.S.

Proper shipping name (DOT) Chemical Under Pressure, Flammable, N.O.S. (Acetone)

Transport hazard class(es)

TDG class 2

TensorGrip TC50

TDG label(s) 2.1

Transport labels



Packing group

Not applicable.

Environmental hazards

Special precautions for user

15. Regulatory information

International Regulations

US Federal Regulations

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

Acetone

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

SARA (311/312) Hazard Categories

Present.

Fenuron

Acute
Health hazard

Acetone

Acute
Chronic
Health hazard
Fire

epoxy resin

Acute
Health hazard

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

This product does not contain any chemicals known to the state of California to cause cancer, birth defects or any other reproductive harm.

Massachusetts "Right To Know" List

Acetone

Present.

Rhode Island "Right To Know" List

Acetone

Present.

Minnesota "Right To Know" List

Acetone

Present.

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New Jersey "Right To Know" List

Present.

Fenuron

Acetone

epoxy resin

Pennsylvania "Right To Know" List

Present.

Fenuron

Acetone

epoxy resin

Inventories

Canada - DSL/NDSL

Acetone

DSL

US - TSCA

Present.

Acetone

Bisophenol A Epoxy

16. Other information

Revision date	10/12/2016
Revision	2
Supersedes date	9/30/2016
SDS No.	21836
Hazard statements in full	H223 Flammable aerosol. H225 Highly flammable liquid and vapor. H280 Contains gas under pressure; may explode if heated. H302 Harmful if swallowed. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H401 Toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects.
ACA HMIS Flammability rating.	Extremely flammable. (4)
ACA HMIS Physical hazard rating.	Normally stable. (0)
ACA HMIS Personal protection rating.	B

TensorGrip TC50

The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. The manufacturer MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, many of which are solely within the user's knowledge and control, the user is responsible for determining whether the manufacturer of this product is fit for a particular purpose and suitable for users' method of use or application. It is essential that the user evaluate this product, not the manufacturer, to determine whether it is fit for a particular purpose and suitable for users' method of use or application