



ISO 9001 Registered Quality System.  
Burlington, Ontario, Canada QMI File # 004008

# Threadlocker High Strength, Permanent 8703 Technical Data Sheet

8703-Liquid

## Description

The 8703 *Threadlocker, High Strength, Permanent* has an anaerobic formulation designed to secure and seal fasteners permanently. It prevents loosening caused by vibrations, shock, expansion and contraction. The threadlocker is resistant to heat, corrosion, water, gases, oils, hydrocarbons, and many chemicals.

## Applications & Usages

The 8703 is used to secure and seal hydraulic line fittings, housing screws, machinery keys, and many types of nuts and bolts.

## Benefits and Features

- **Meets MIL S-46163, Type I, Grade K**
- **One drop prevents loosening and ensures a secure hold**
- **Prevent corrosion, seal threads, improve torque control, and reduce galling**
- **Reduces friction allowing controlled torque during assembly**

## Usage Parameters

<i>Properties</i>	<i>Value</i>
Fixture Time <sup>a)</sup>	10 to 30 min
Full Cure @22 °C [72 °F]	8 h
Bolt Range	up to 1" [up to 25 mm]
Shelf Life	3 y

a) Time at which the fixture strength of bonded substrate is 0.1 N/mm<sup>2</sup>.

## Temperature Ranges

<i>Properties</i>	<i>Value</i>
Constant Service Temperature	-54 to 176 °C [-65 to 350 °F]
Storage Temperature Limits	8 to 28 °C [46 to 82 °F]

## Principal Components

<b>Name</b>	<b>CAS Number</b>
aromatic dimethacrylate	24448-20-2
bisphenol A fumarate resin	39382-25-7
hydroxypropyl methacrylate	27813-02-1
cumene hydroperoxide	80-15-9
saccharin	81-07-2



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## Properties of Cured 8703

<i>Physical Properties</i>	<i>Method</i>	<i>Value</i>
Composition Color	Visual	Dimethacrylate ester Red
<i>Mechanical Property</i>		<i>Value</i>
Torque		28/40 N·m [250/350 lbf·in] <sup>a)</sup>
<i>Thermal Properties</i>		<i>Value</i>
Coefficient of Thermal Expansion (CTE)	ASTM D696	80 x 10 <sup>-6</sup> 1/K
<i>Environmental Resistance</i>		<i>Value</i>
Hot Strength % retained strength @100 °C [212 °F] @120 °C [248 °F] @150 °C [302 °F]	ISO 10964 (Modified) " " "	65% 60% 45%
<i>Chemical/Solvent Resistance <sup>b)</sup></i>		<i>Value</i>
% Retained Strength 50/50 Water/Glycol @87 °C [187 °F] Unleaded gasoline @22 °C [72 °F] Motor oil @125 °C [257 °F] Brake fluid @22 °C [72 °F] Acetone @22 °C [72 °F]		85% 95% 75% 100% 95%

a) Breakaway/prevaling torque

b) Specimens immersed for 1 000 hours and tested at room temperature

## Properties of Uncured 8703

<i>Physical Properties</i>	<i>Value</i>
Viscosity	500 cP [446 mm <sup>2</sup> /s]
Specific Gravity	1.12 g/mL
Flash Point	93 °C [200 °F]
Boiling Point	≥149 °C [≥300 °F]
Odor	Mild
VOC (Volatile Organic Compound)	146 g/L

## Storage

Store between 8 to 28 °C [46 to 82 °F] in dry area. Store in well-ventilated area. Keep container tightly closed.

## Health, Safety, and Environmental Awareness

Please see the 8703 **Safety Data Sheet** (SDS) for greater details on transportation, storage, handling and other security guidelines.

**Environmental Impact:** Avoid release to the environment.

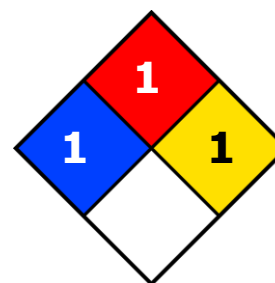
**Health and Safety:** The solvents in 8703 can cause respiratory track irritation, serious eye irritation, skin irritation, and an allergic skin reaction.

Do not breathe vapors. Wear safety glasses or goggles and disposable gloves to avoid exposures.

### HMIS® RATING

<b>HEALTH:</b>	* <b>1</b>
<b>FLAMMABILITY:</b>	<b>1</b>
<b>PHYSICAL HAZARD:</b>	<b>1</b>
<b>PERSONAL PROTECTION:</b>	

### NFPA® 704 CODES



*Approximate HMIS and NFPA Risk Ratings Legend:*

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

## Application Instructions

Follow the procedure below for best results.

### To apply the threadlocker

1. Shake well before use.
2. Ensure the surface is clean of oil, dust, water, solvents, and other contaminants and let the surface dry fully.
3. Remove cap and cut nozzle tip.
4. Apply to thread and wipe off excess.
5. Fixture time is 10 to 30 minutes. Allow full cure in 8 hours.

**ATTENTION!** Not recommended for use on plastics. Compatibility check should be performed prior application.

**NOTE:** Optimal use on close fitting flanged parts gaps up to 0.05 mm. Flanges should be tightened as soon as possible after assembly to avoid shimming.



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## Packaging and Supporting Products

<i>Cat. No.</i>	<i>Packaging</i>	<i>Net Volume</i>		<i>Net Weight</i>		<i>Packaging Weight</i>	
<b>8703-10ML</b>	Bottle	10 mL	0.33 fl oz	11.2 g	0.39 oz	0.04 kg	0.09 lb

## Technical Support

Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at [www.mgchemicals.com](http://www.mgchemicals.com).

Email: [support@mgchemicals.com](mailto:support@mgchemicals.com)

Phone: +(1) 800-340-0772 (Canada, Mexico & USA)

+ (1) 905-331-1396 (International)

Fax: +(1) 905-331-2862 or +(1) 800-340-0773

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### **Manufacturing & Support**

1210 Corporate Drive  
Burlington, Ontario, Canada  
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### **Head Office**

9347-193rd Street  
Surrey, British Columbia, Canada  
V4N 4E7

## Warranty

*M.G. Chemicals Ltd.* warrants this product for 12 months from the date of purchase by the end user. *M.G. Chemicals Ltd.* makes no claims as to shelf life of this product for the warranty. The liability of *M.G. Chemicals Ltd.* whether based on its warranty, contracts, or otherwise shall in no case include incidental or consequential damage.

## Disclaimer

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