M01 POLYSTYRENE PLUG BUILD FOAM ADHESIVE

DATA SHEET

Tensorgrip

As part of our **MARINE** range, **M01** is a polyurethane bead adhesive designed for use in applications using the substrates listed above.

PRODUCT DESCRIPTION

TensorGrip® M01 is a single-component moisture cured polyurethane adhesive designed to provide excellent bonding strength while offering the chemical and moisture resistance properties consistent with polyurethane. Efficient and easy-to-use application system. Used for polystyrene plug building, and panel bonding where repositioning is desired.

ADVANTAGES

- Single-component
- Moisture cure
- Quick and easy application
- Liquid-resistant
- Temperature resistant to >400°F (200°C)
- Cost effective and time saving
- VOC free California Compliant SCAQMD1168
- Quick handling time
- Ultra-fast application
- Repositionable
- Excellent high coverage
- Five minute open time
- Full strength achieved in 24 hours
- Fast drying and quick tack
- No ODS (Ozone Depleting Substances)
- Qualifies for LEED®-NC & CI EQ Credit 4.4: laminating adhesives shall contain no urea formaldehyde resins

DIRECTIONS FOR USE

- **TensorGrip M01** is designed as a portable, self-contained system for field or shop applications.
- Shake or agitate gently before using.
- Adhesive should be applied in a thin bead to one of the surfaces to be bonded.
- Bonds should be made within 5 minutes of application. Be sure to apply adequate pressure to ensure maximum bonding!
- Bonded surfaces will begin to cure in approximately 15 minutes, depending on temperature and humidity. Full cure is reached after 24 hours.
- Clean excess adhesive immediately with solution such as citrus cleaner.
- Canister system will work sufficiently above 60º F.
- Canister system should be kept in warm area. In the event that the canister gets abnormally chilled, freezes or delivers poor or sputtering bead, it should be warmed up before continued usage. Warming canister by immersion in warm water is recommended.
- Notice!!! Do not store at temperatures over 120º F.

CANISTER SYSTEM USAGE

- 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. If canister will be unused for longer than 2 weeks, shut canister valve off and flush hose with solvent to prevent adhesive from curing in the hose.
- 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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MOI POLYSTYRENE PLUG BUILD FOAM ADHESIVE

DATA SHEET

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CHEMICAL TECHNICAL DATA

• Total Solids	100%
• VOC Content	0 g/L
• Color	White
• System Flammability	Flammable
• Solvent System	Polymeric MDI
• Shelf Life	15 months from date of manufacture
• Temp Resistance:	Shear adhesion failure greater than 400°F (200°C)
• Coverage:	4,800 linear feet when dispensed in a 1" bead of adhesive 12,000 linear feet when dispensed in a 1/4" bead of adhesive

PACKAGING

• 22L	Disposable Canister

STORAGE

HANDLING & STORAGE

- Consult 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

APPLICATION TOOLS

- Hoses: M130-12 (12'), M130-18 (18')
- Application Gun: M160-8 8" Foam Gun

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Tensorgrip

Revision Date 1/2019

SAFETY DATA SHEET
TensorGrip M01 Polystyrene Plug Build Foam Adhesive

1. Identification

Product identifier

Product name TensorGrip M01 Polystyrene Plug Build Foam Adhesive

Product number USA

Recommended use of the chemical and restrictions on use

Application Pressurized Polyurethane Foam Adhesive

Details of the supplier of the safety data sheet

Supplier

Tensorgrip
5710 F St
Omaha NE 68117
(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 1 - H222 Press. Gas, Compressed - H280

Health hazards Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373

Environmental hazards Not Classified

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 Danger

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

Hazard statements

H222 Extremely 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.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P251 Pressurized container: Do not pierce or burn, even after use
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337+P313 If eye irritation persists: Get medical advice/ attention.
P342+P311 If experiencing respiratory symptoms: Call a poison center/ doctor.
P410+P403 Protect from sunlight. Store in a well-ventilated place.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F.

Supplemental label information

AT(o) 16.36% of the mixture consists of ingredient(s) of unknown acute oral toxicity.

Contains

Polymeric MDI, 1,1, Difluoroethane (152a), Monomeric MDI

Other hazards

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

3. Composition/information on ingredients

Mixtures

Polymeric MDI **10-25%**

CAS number: 9016-87-9

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Skin Irrit. 2 - H315
Eye Irrit. 2A - H319
Resp. Sens. 1 - H334
Skin Sens. 1A - H317
STOT SE 3 - H335

1,1, Difluoroethane (152a) **10-25%**

CAS number: 75-37-6

Classification
Flam. Aerosol 1 - H222
Press. Gas, Compressed - H280
Acute Tox. 4 - H332
Simple Asphyxiant - USH03

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

Monomeric MDI	**10-25%**
CAS number: 101-68-8	

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Resp. Sens. 1 - H334
Skin Sens. 1 - H317
Carc. 2 - H351
STOT SE 3 - H335
STOT RE 2 - H373

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.

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

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.

5. Fire-fighting measures

Extinguishing media

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

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.

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)

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

1,1, Difluoroethane (152a)

Long-term exposure limit (8-hour TWA): WEEL:US.AIHA = Workplace Environmental Exposure Level Guides 2700 mg/m³ 1000 ppm

Monomeric MDI

Long-term exposure limit (8-hour TWA): ACGIH 0.005 ppm
Ceiling exposure limit: OSHA 0.02 ppm 0.2 mg/m³
ACGIH = American Conference of Governmental Industrial Hygienists.
OSHA = Occupational Safety and Health Administration.

Polymeric MDI (CAS: 9016-87-9)

Ingredient comments No exposure limits known for ingredient(s).

2,2'-dimorpholinyldiethyl ether (6425-39-4) (CAS: 6425-39-4)

Ingredient comments No exposure limits known for ingredient(s).

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 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 Natural.

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

Odor	Characteristic.
Initial boiling point and range	-25˚C (-13˚F)
Relative density	1.085
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.
Conditions to avoid	Avoid heat, flames and other sources of ignition. Avoid contact with the following materials: Oxidizing agents. Reducing agents.
Hazardous decomposition products	Fire creates: Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO2). Hydrogen chloride (HCl). Nitrous gases (NOx).

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	1,325.94

Acute toxicity - inhalation

ATE inhalation (gases ppm)	27,506.11
ATE inhalation (vapours mg/l)	34.88

Toxicological information on ingredients.

Polymeric MDI

Acute toxicity - oral

ATE oral (mg/kg)	500.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	0.49
Species	Rat
ATE inhalation (vapours mg/l)	11.0

Carcinogenicity

Carcinogenicity	Does not contain any substances known to be carcinogenic.

Specific target organ toxicity - single exposure

STOT - single exposure	May cause respiratory irritation.

Aspiration hazard

Aspiration hazard	No data available.

1,1, Difluoroethane (152a)

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	1,500.0

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

Species	Rat
ATE oral (mg/kg)	500.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} gases ppmV)	383,000.0
Species	Rat
ATE inhalation (gases ppm)	4,500.0

Carcinogenicity

Carcinogenicity	Does not contain any substances known to be carcinogenic.

Monomeric MDI

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	9,200.0
Species	Rat
ATE oral (mg/kg)	500.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	2.24
Species	Rat
ATE inhalation (vapours mg/l)	11.0

Serious eye damage/irritation

Serious eye damage/irritation	Slightly irritating.

Respiratory sensitization

Respiratory sensitization	May cause sensitisation.

Skin sensitization

Skin sensitization	May cause sensitisation.

Carcinogenicity

Carcinogenicity	Data lacking.
IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Specific target organ toxicity - single exposure

STOT - single exposure	May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Inhalation - May cause damage to organs through prolonged or repeated exposure

Aspiration hazard

Aspiration hazard	No data available.

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

12. Ecological information

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. (ICAO) 3501

UN No. (DOT) 3501

UN proper shipping name

Proper shipping name (TDG) Chemical Under Pressure, Flammable, N.O.S. (1,1, Difluoroethane (152a))

Proper shipping name (DOT) Chemical Under Pressure, Flammable, N.O.S. (1,1, Difluoroethane (152a))

Transport hazard class(es)

DOT hazard class 2.1

Transport labels

Packing group

Packing group (International) Not applicable.

15. Regulatory information

National regulations The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

Guidance CHIP for everyone HSG228.
Workplace Exposure Limits EH40.
Safety Data Sheets for Substances and Preparations.
Approved Classification and Labelling Guide (Sixth edition) L131.

US Federal Regulations

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

The following ingredients are listed or exempt:

Monomeric MDI

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

SARA (311/312) Hazard Categories

1,1, Difluoroethane (152a)

Fire
Pressure
Hazard
Acute
Health hazard

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

Monomeric MDI

Chronic
Health hazard
Acute
Health hazard

Polymeric MDI

Acute
Health hazard

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

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

California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

Monomeric MDI

Present.

Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

1,1, Difluoroethane (152a)

Present

New Jersey "Right To Know" List

The following ingredients are listed or exempt:

1,1, Difluoroethane (152a)

Present.

Monomeric MDI

Present.

Polymeric MDI

Present.

Pennsylvania "Right To Know" List

The following ingredients are listed or exempt:

1,1, Difluoroethane (152a)

Present.

Polymeric MDI

Present.

Inventories

US - TSCA

The following ingredients are listed or exempt:

Monomeric MDI

Present.

2,2'-dimorpholinyldiethyl ether (6425-39-4)

Present.

16. Other information

Revision date	11/30/2017
Revision	7

TensorGrip M01 Polystyrene Plug Build Foam Adhesive

Supersedes date	11/30/2017
SDS No.	22227
Hazard statements in full	USH03 May displace oxygen and cause rapid suffocation H222 Extremely 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. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H351 Suspected of causing cancer. H373 May cause damage to organs through prolonged or repeated exposure.
ACA HMIS Health rating.	Slight hazard. (1)
ACA HMIS Flammability rating.	Extremely flammable. (4)
ACA HMIS Physical hazard rating.	Normally stable. (0)
ACA HMIS Personal protection rating.	B

DIRECTIONS FOR USE

PRODUCT LOGO