



# MST-BAR Safety Data Sheet

GLASS FIBER REINFORCING BARS  
MST STANDARDS & PROCEDURES

Address: MST Rebar Inc.  
200A Hanlan Road ,  
Woodbridge  
Ontario, Canada L4L 3R7

TELEPHONE: +1(416) 740-0377  
WEBSITE: [www.mstbar.com](http://www.mstbar.com)  
E-MAIL: [info@mstbar.com](mailto:info@mstbar.com)

## 0. GENERAL INFORMATION

This Safe Use Instruction Sheet is the document provided by MST Rebar Inc. to communicate recommended safe handling and use instruction for articles not regulated by OSHA Hazard Communication Standard, 29 CFR 1910.1200

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Fiberglass Rebar
Synonyms	MST Bar™, Mega Bar, Mega Strength Rebar, Max Strength, FRP Rebar, Glass
Fiber	Reinforced Polymer Bar, GFRP Rebar
Document code	MSTSDS
Recommended Use	Industrial and professional use: reinforcement of structures of cement, concrete and others mineral matrix; reinforcement of resins in corrosive medium

## 2. HAZARDS IDENTIFICATION

Regulatory Status	This product is not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200. Fiberglass Rebar products are articles. Articles which meet the definition of 29 CFR 1910.1200 (b)(6)(v) (a) manufactured item other than a fluid or a particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has an end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical (as determined in paragraph (d) of this section), and does not pose a physical hazard or health risk to employees) are not regulated by OSHA HazCom Standard
Other Information	May cause skin abrasion in case of direct manual handling. When being cut or grinded these products may release dust (Particles Not Otherwise Regulated). See Section 8 for Exposure Limit Data.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Fiberglass Rebars are made of ca. 70 - 80% (w/w) of Continuous Filament Glass Fibers and ca. 20 - 30% (w/w) of cured thermoset resin and mineral filler, which includes, for some products, a sand coating or a cured resin coating. They are available in the form of cylindrical rebars, of several nominal diameters and lengths.

#### **4. FIRST AID MEASURES**

##### Description of First Aid Measures

Eye contact	<ul style="list-style-type: none"><li>• DO NOT rub or scratch eyes</li><li>• Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes</li><li>• If eye irritation persists: Get medical advice/attention</li></ul>
Skin contact	<ul style="list-style-type: none"><li>• DO NOT rub or scratch affected area</li><li>• Wash off immediately with soap and plenty of cold water</li><li>• If skin irritation persists, call a physician</li></ul>
Inhalation	<ul style="list-style-type: none"><li>• Inhalation of this product is unlikely</li></ul>
Ingestion	<ul style="list-style-type: none"><li>• Rinse mouth with water and drink water to remove fibers from the throat</li><li>• If symptoms persist, call a physician</li></ul>

#### **5. FIRE-FIGHTING MEASURES**

Flammable properties	<ul style="list-style-type: none"><li>• Only the hardened thermoset resin is combustible and could release small quantities of hazardous gas in case of major and prolonged heat or fire. Glass fibers are not flammable, are incombustible and do not support combustion. Avoid exposing the product to open flames.</li></ul>
Suitable extinguishing Media	<ul style="list-style-type: none"><li>• Use CO<sub>2</sub>, dry chemical, or foam</li><li>• Water spray or fog</li></ul>
Protective equipment and fighting precautions for firefighters	<ul style="list-style-type: none"><li>• As in any fire, wear self-contained breathing apparatus (SCBA) and full fire-protective gear</li></ul>

#### **6. ACCIDENTAL RELEASE MEASURES**

Personal precautions	<ul style="list-style-type: none"><li>• Accidental release of this product is unlikely</li></ul>
Methods for cleaning up	<ul style="list-style-type: none"><li>• Accidental release of this product is unlikely</li></ul>

#### **7. HANDLING AND STORAGE**

Precautions for safe handling	<ul style="list-style-type: none"><li>• Prevent and/or minimize dust formation</li><li>• Wear appropriate personal protective equipment in case of direct contact with the product</li></ul>
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Manufactured by MST Rebar Inc.

Storage Conditions

- Do not store Fiberglass Rebars directly on ground. Place timber pallets under bars to keep them free from dirt & mud and to provide easy handling. Store Fiberglass Rebars under covers to avoid direct sunlight & other chemical substances contact.
- Keep away from open flames and other ignition sources.

Incompatible materials

- None known

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Exposure Guidelines

There is no Occupational Exposure Limit directly associated with Fiberglass Rebars, except airborne nuisance dust which may occur under certain process conditions (e.g. cutting and grinding) [NIOSH REL Immediately Dangerous to Life or Health]

Chemical name Continuous filament glass fiber, non-respirable Silica-crystaliline, quartz  
14808-60-7

ACGIH TLV TWA: 1 fiber/cm<sup>3</sup> respirable fibers: length >5 µm, diameter less than 3 µm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination  
TWA: 5 mg/m<sup>3</sup> inhalable particulate matter  
TWA: 0.025 mg/m<sup>3</sup> respirable particulate matter

OSHA PEL TWA: 50 µg/m<sup>3</sup>  
: (250)/(%SiO<sub>2</sub> + 5) mppcf TWA respirable fraction  
: (10)/(%SiO<sub>2</sub> + 2) mg/m<sup>3</sup> TWA respirable fraction

NIOSH REL IDLH: 50 mg/m<sup>3</sup> respirable dust  
TWA: 0.05 mg/m<sup>3</sup> respirable dust

OSHA PEL: TWA for Inert or Nuisance Dust are: 5 mg/m<sup>3</sup> (Respirable fraction) and 15 mg/m<sup>3</sup> (Total dust)

ACGIH : TWA for Inert or Nuisance Dust are: 3 mg/m<sup>3</sup> (Respirable fraction) and 10 mg/m<sup>3</sup> (Inhalable fraction)

Engineering Controls If and when cutting or grinding Fiberglass Rebars in confined spaces provide local exhaust and/or general ventilation to maintain exposure below applicable occupational exposure limits

Individual protection measures, such as personal protective equipment

Eye/face protection

- Avoid contact with eyes
- Personal Protective Equipment usually used on Construction jobsite are appropriate

Skin and body protection	<ul style="list-style-type: none"><li>• Avoid contact with skin</li><li>• Wear protective gloves</li><li>• Personal Protective Equipment usually used on Construction jobsite are appropriate</li></ul>
Respiratory protection	<ul style="list-style-type: none"><li>• If and when cutting or grinding Fiberglass Rebars in confined spaces provide local exhaust and/or general ventilation to maintain exposure below applicable occupational exposure limits</li></ul>
General Hygiene Considerations	<ul style="list-style-type: none"><li>• Wash hands before breaks and immediately after handling products</li></ul>

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	Solid
Appearance	In the form of cylindrical bars, of various diameter (1/4 to 1-5/8 in);
Odor	Odorless
Color	Light Grey, Off-white
Water solubility	Insoluble in water
Density	2.10 - 2.12 g/cm <sup>3</sup>
Explosive properties	Not an explosive
Decomposition temperature	The fully cured resin starts to decompose at 200°C

## **10. STABILITY AND REACTIVITY**

Stability	<ul style="list-style-type: none"><li>• Stable under normal conditions</li><li>• Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking</li></ul>
Possibility of Hazardous Reactions	<ul style="list-style-type: none"><li>• None under normal processing conditions</li></ul>
Hazardous Decomposition Products	<ul style="list-style-type: none"><li>• None under normal use conditions</li><li>• Small quantities of undetermined hazardous decomposition products may be released in case of heat exposure or during a fire</li></ul>

## **11. TOXICOLOGICAL INFORMATION**

Product Information	Under normal conditions of use no health effect is anticipated.
Components Information	Dusts and fibers may cause temporary skin and mucous membranes itching due to mechanical abrasion effect of fibers. Mechanical abrasion is not considered as a health hazard in the meaning of the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Inhalation may cause coughing, nose and throat irritation and sneezing. High exposures may cause difficult breathing, congestion and chest tightness

Continuous filament glass fibers are not respirable according to the World Health Organization (WHO) definition. Respirable fibers have a diameter (d) smaller than 3µm, a length (l) larger than 5µm and a l/d-ratio larger than or equal to 3. Fibers with diameters greater than 3 microns, which is the case for continuous filament glass fiber, do not reach the lower respiratory tract and, therefore have no possibility of causing serious pulmonary disease. Continuous filament glass fibers do not possess cleavage planes which would allow them to split length-wise into fibers with smaller diameters, rather they break across the fiber, resulting in fibers which are of the same diameter as the original fiber with a shorter length and a small amount of dust. Microscopic examination of dust from highly chopped and pulverized glass demonstrated the presence of small amounts of respirable dust particles. Among these respirable particles, some were fiber-like in terms of l/d ratio (so-called “shards”). It can be clearly observed however that they are not regular shaped fibers but irregular shaped particles with fiber-like dimensions. To the best of our knowledge, the exposure levels of these fiber-like dust particles measured at our manufacturing plants are of the order of magnitude between 50 to 1000 below existing applicable limits

ACGIH (American Human Conference of Governmental Industrial Hygienists)

Continuous filament glass fibers are classified as A4 - Not Classifiable as a Carcinogen

IARC (International Agency for Research on Cancer)

The International Agency for Research on Cancer (IARC) in June, 1987, and in October, 2001 (see IARC Monographs on the Evaluation of Carcinogenic risks to humans – Man-made Vitreous Fibers – Volume 81), categorized continuous filament fiber glass as not classifiable with respect to human carcinogenicity (Group 3). The evidence from human as well as animal studies was evaluated by IARC as insufficient to classify continuous filament glass fiber as a confirmed, probable or even possible cancer-causing material

NTP (National Toxicology Program)

Continuous filament glass fibers are not listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

2.1 Classification according to Regulation (EC) No. 1272/2008 (CLP)

Continuous filament glass fibers are not listed in the Table of harmonized classification entries in Annex VI to CLP Regulation. Mechanical abrasion is not considered as a health hazard in the meaning of European Regulation 1272/2008 (CLP).

**12. ECOLOGICAL INFORMATION**

This product is not expected to be hazardous for the environment.

**13. DISPOSAL CONSIDERATIONS**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**14. TRANSPORT INFORMATION**

These products are not classified as dangerous goods according to international transport regulations

**15. REGULATORY INFORMATION**

International Inventories	These products are articles. Articles are exempted from registration or listing under chemicals inventories like TSCA (USA), DSL/NDSL (CAN), REACH (EU), ENCS (JP), IECSC (CN), KECL (KR), PICCS (PH), AICS (AUS), TCSI (Taiwan)
California Proposition 65	This product is not regulated under California Proposition 65. (For professional use only)

**16. OTHER INFORMATION**

Prepared By	MST Standards & Procedures
Creation Date	15-Jun-2020
Revision Date	15-Jun-2022
Revision Note	addition of tables, exposure guidelines added, disclaimer edited

**Disclaimer**

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

**End of Safety Data Sheet**