

DESCRIPTION

FiberForce 850 is a blend of steel fibers and synthetic microfibers. FiberForce 850 combines a Type V steel fiber with a monofilament microfiber. The specific blend ratio is 23 lb/1 lb (steel fiber/synthetic microfiber) per 24 lb bag. This blended technology is developed for post-first crack reinforcement with enhanced plastic shrinkage/settlement crack control.

HAZARDS IDENTIFICATION

Emergency Overview: This product does not require any hazard warning on the label under OSHA criteria.

GHS Classification: Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

Potential Health Effects

- Eye Contact - No significant health hazards identified. Particles may cause slight discomfort, similar to getting dust in eye.
- Skin Contact - No significant health hazards identified. Particles may cause slight discomfort similar to rubbing sand on skin.
- Inhalation - No significant irritation expected other than possible mechanical irritation. When heated, the vapors/fumes given off may cause respiratory tract irritation.
- Ingestion - No significant health hazards identified.
- HMIS Hazard ID - Type V steel fiber - (Health: 0) (Flammability: 0) (Reactivity: 0) & monofilament microfiber (Health: 1) (Flammability:1) (Reactivity:0)
- NFPA Hazard ID - Type V steel fiber - (Health: 0) (Flammability: 0) (Reactivity: 0) & monofilament microfiber (Health: 1) (Flammability:1) (Reactivity:0)

STABILITY AND REACTIVITY

Type V Steel Fiber

- Stability - Stable
- Conditions to Avoid: None identified.
- Materials to Avoid: Acid contact will release Hydrogen gas.
- Hazardous Decomposition Products - N/A
- Hazardous Polymerization - Will not occur.

Monofilament Microfiber

- Stability - Stable
- Conditions to Avoid: Avoid elevated temperatures for prolonged periods of time.
- Materials to Avoid: Strong oxidizers, Fluorine.
- Hazardous Decomposition Products - Material does not decompose at ambient temperatures
- Hazardous Polymerization - Will not occur.

ACCIDENTAL RELEASE MEASURES

Type V Steel Fiber

- Contain and remove by mechanical means.

Monofilament Microfiber

- Spilled material may present a slip hazard. Contain and remove by mechanical means. Prevent entry into waterways and sewers.

FIRST AID MEASURES

- Eyes - Flush eyes with plenty of water. Seek medical attention if irritation persists.
- Skin - Wash exposed skin with soap and water. Seek medical attention if irritation develops.
- Inhalation - If adverse effects occur, remove to uncontaminated area.
- Ingestion - If large amount is swallowed, seek medical help.

FIREFIGHTING MEASURES

Type V Steel Fiber

- Flashpoint - Not applicable.
- UEL - Not determined.
- LEL - Not determined.
- Autoignition Temperature - Not determined.
- Flammability Classification - None.
- Unusual Fire and Explosion Hazards - None.

Type V Steel Fiber & Monofilament Microfiber

- Extinguishing Media - Agents approved for Class A hazards (e.g., halogenated agents, foam, steam) or water fog.
- Specific Hazards - Incomplete burning can produce carbon monoxide and/or carbon dioxide and other harmful products. Monofilament microfiber only - Avoid generating dust; fine dust dispersed in air in sufficient concentration and in the presence of ignition source is a potential dust explosion hazard.
- Firefighting Equipment - Firefighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.

HANDLING AND STORAGE

- Handling - No special requirements.
- Storage - No special requirements.

TOXICOLOGICAL INFORMATION

Acute Toxicity Data

- Eye and Skin Irritation - Testing not conducted.**
- Dermal LD50, Oral LD50, Inhalation LD50 - Testing not conducted.**

**Other Toxicity Data

Specific toxicity tests have not been conducted. Hazard evaluation is based on similar product information, the ingredients, technical literature, and/or professional experience.

ECOLOGICAL INFORMATION

Type V Steel Fiber

Enclosed-controlled incineration is recommended unless directed by applicable ordinances

Monofilament Microfiber

Ecological testing has not been conducted on this product. Information given is based on data available for the material and similar materials.

Ecotoxicity

- Not expected to be harmful to terrestrial or aquatic organisms.

Persistence and Degradability

- Biodegradation - Expect to be persistent.
- Hydrolysis - Transformation due to hydrolysis not expected to be significant.
- Photolysis - Transformation due to photolysis not expected to be significant.
- Atmospheric Oxidation - Transformation due to atmospheric oxidation is not expected to be significant.
- Mobility - Low solubility and floats and is expected to migrate from the water to the land. Expected to partition to sediment and wastewater solids.
- Bioaccumulation Potential - Potential to bioaccumulate is low.

REGULATORY INFORMATION

Monofilament Microfiber

- SARA (311/312) Reportable Hazard Categories - None
- T.S.C.A - All components are listed in the T.S.C.A. inventory.
- SARA 313 - This product contains no chemicals subject to supplier notification requirements of the SARA 313 Toxic Release Program.
- EPCRA Section 302 - This product does not contain any extremely hazardous substances.
- Ozone Depletion Potential - This product does not contain Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A + B).
- California Prop. 65 Components - This product does not contain any components listed under California Prop. 65.

TRANSPORTATION INFORMATION

Type V Steel Fiber

- U.S. Department of Transportation - Not regulated for transport.
- SEA (IMDG) - Not determined.
- AIR (IATA) - Not determined.
- European Road/Rail (ADR/RID) - Not determined.
- Canadian Transport of Dangerous Goods - Not determined.

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COMPOSITION / INGREDIENT INFORMATION

The below ingredient list identifies those components which meet the regulated reporting criteria. Concentrations represent a maximum for all grades in a category of steel products.

| Component | CAS # | Range % By Weight |
|---------------|-----------|-------------------|
| Iron | 7439-89-6 | >99 |
| Manganese | 7439-96-5 | 2.2 |
| Nickel | 7440-02-0 | 2.05 |
| Chromium | 7440-47-3 | 1.65 |
| Polypropylene | 9003-07-0 | 100% |

PHYSICAL AND CHEMICAL PROPERTIES

Type V Steel Fiber

- Odor - None
- PH - Not determined
- Vapor Pressure - Not determined
- Vapor Density - Not determined
- Boiling Point - Not determined
- Melting Point - Not determined
- Solubility in Water - Negligible, below 1%
- Specific Gravity (Water=1) - 0.91

Monofilament Microfiber

- Appearance - Solid fiber, translucent white color
- Odor - None to mild
- PH - Not determined
- Vapor Pressure - Not determined
- Vapor Density - Not determined
- Boiling Point - Not determined
- Melting Point - 130°C (266°F) – 170° C (338°F)
- Solubility in Water - Negligible, below 1%
- Specific Gravity (Water=1) - 0.91

PERSONAL PROTECTION

- Eyes - None required; however, if contact is likely, safety glasses with side shields are recommended.
- Skin - None required; however, use of protective gloves/clothing is a good industrial practice.
- Inhalation - None required; however, use of adequate ventilation is a good industrial practice.
- Specific Hygiene Measures - Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping

EXPOSURE CONTROLS

Type V Steel Fiber Exposure Guidelines

| Component | CAS # | T.L.V. (as fume) mg/m | P.E.L. (as fume) mg/m | Ld50/Lc50 (as fume) mg/m |
|-----------|-----------|-----------------------------|-----------------------------|--------------------------------|
| Iron | 7439-89-6 | 5.0 | 10.0 | 30g/kg (1d oral rat) |
| | 7439-96-5 | 0.2 | 5.0 | 9g/kg (1d oral rat) |
| Nickel | 7440-02-0 | 1.0 | 1.0 | N/A |
| | 7440-47-3 | 0.5 | 0.5 | N/A |

Monofilament Microfiber Exposure Limits

OSHA Permissible Exposure Limit

- 8 hour TWA of 15 mg/m cu. Total Dust
- 8 hour TWA of 5 mg/m cu. Respirable Fraction

ACGIH Threshold Limit Value

- 8 hour TWA of 10 mg/m cu. Inhalable Particles
- 8 hour TWA of 3 mg/m cu. Respirable Particles

Engineering Controls

- Control airborne concentrations below the exposure guidelines.

DISPOSAL CONSIDERATIONS

Type V Steel Fiber

Ecological testing has not been conducted on this product.

Monofilament Microfiber

Disposal Recommendations - Material that cannot be saved for either recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Properly dispose of the container and unused contents in accordance with all federal, state and local requirements.

Regulatory Disposal Recommendations - Product is not listed by the EPA as a hazardous waste (40 CFR, Part261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

LIMITED EXPRESS WARRANTY, DISCLAIMER OF IMPLIED WARRANTIES AND LIMITATION OF LIABILITY: As used herein, the term "FiberForce" is a product sold by ABC Polymer Industries, LLC and its subsidiaries ("ABC"). The terms of ABC's invoices including this warranty and limitation of liability, without limitation, shall be governed by and construed in accordance with the laws of the State of Alabama where it was manufactured and from where it was shipped. FiberForce fibers are intended to reduce plastic shrinkage cracking but should not be used as structural reinforcement. ABC's warranty is solely to the purchaser (and no other party) and (1) is limited to a period of 180 days from the date of its invoice and (2) is that the product sold is of good quality and conforms to the seller's most recent published standards and specifications. ABC expressly disclaims any and all other warranties including, without limitation, merchantability and fitness for particular purpose. The seller's sole liability for any claim shall be limited to the cost of replacement of defective or non-conforming product, and not for any of purchaser's other alleged costs. In no event shall the seller be liable for any special, incidental, consequential, liquidated, punitive, or exemplary damages, or for claims of lost profits or lost jobs. Purchaser itself shall determine the suitability of the product(s) for its own particular application. ABC engineering and sales personnel are available to assist in providing information to allow purchaser to select the appropriate fiber for a given application, and will provide an overview of anticipated performance based upon experience and testing data. ABC personnel will provide information as requested but the design and implementation of purchaser's product is solely the responsibility of purchaser. ABC will provide on-site support as requested and when deemed necessary but will not participate in the supervision of any project, or be responsible for its installation or outcome. FullForce's responsibility is to support our customers and to provide our customers with the best materials and assistance in marketing these products. © 2023 FullForce by ABC Polymer Industries, LLC.