



MATERIAL SAFETY DATA SHEET

Section 1: Product and Company Information

Product Name(s): Cardable Fiber, Complex Reinforcements (Agimat, Aginap, Bi-Ply[®] Mat), CRATEC[®] Chopped Strand, CRATEC^{Plus}[®] Chopped Strand; Chopped Strand, Cordage, Lot Glass, Mat or Veil Products, Roving, S2 Glass[®] Fibers, Type-30[®] Roving, Wax Bonded Strand, Wet Chop, Woven Roving, Yarn.

Manufacturer: Owens Corning, One Owens Corning Parkway, World Headquarters, Attn. Product Stewardship, Toledo, OH, 43659, Telephone: 1-419-248-8234 (8am-5pm ET weekdays).

Emergency Contacts:

Emergencies ONLY (after 5pm ET and weekends): 1-419-248-5330,
CHEMTREC (24 hours everyday): 1-800-424-9300,
CANUTEC (Canada- 24 hours everyday): 1-613-996-6666.

Health and Technical Contacts:

Health Issues Information (8am-5pm ET):1-419-248-8234,
Technical Product Information (8am-5pm ET): 1-800-GET-PINK.

Section 2: Composition and Ingredient Information

<u>Common Name</u>	<u>Chemical Name</u>	<u>CAS No.</u>	<u>Wt. %</u>
Fiber Glass Continuous Filament (non respirable)*	Fibrous Glass	65997-17-3	98- 100
- Nonrespirable filaments and particulate			>98%
- Respirable particulate			<1%
- Respirable particulate with fiber-like dimensions (glass shards)			<0.002%
Size	Size	mixture	0-2%

Note: *See Section 8 of MSDS for exposure limit data for these ingredients.



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Section 3: Hazards Identification

Appearance and Odor: White/off-white colored solid with no odor.

Emergency Overview

No unusual conditions are expected from this product

Primary Route(s) of Exposure: inhalation, skin, eye

Potential Health Effects:

ACUTE (short term): Fiber glass continuous filament is a mechanical irritant. Breathing dusts and fibers may cause short term irritation of the mouth, nose and throat. Skin contact with dust and fibers may cause itching and short term irritation. Eye contact with dust and fibers may cause short term mechanical irritation. Ingestion may cause short term mechanical irritation of the stomach and intestines. See Section 8 for exposure controls.

CHRONIC (long term): There is no known chronic health effects connected with long term use or contact with this product. In a laboratory test of a different product with comparable composition and durability, animals breathing very high concentrations of respirable fibers on a long-term basis developed fibrosis, lung cancer and mesothelioma. See Section 11 of MSDS for more toxicological data.

Medical Conditions Aggravated by Exposure: Respiratory or skin conditions that are aggravated by mechanical irritants may be at a increased risk for worsening from exposure to this product.



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Section 4: First Aid Measures

Inhalation: Move person to fresh air. Seek medical attention if irritation persists.

Eye Contact: Flush eyes with running water for at least 15 minutes. Seek medical attention if irritation persists.

Skin Contact: Wash with mild soap and running water. Use a washcloth to help remove fibers. To avoid further irritation, do not rub or scratch affected areas. Rubbing or scratching may force fibers into skin. Seek medical attention if irritation persists.

Ingestion: Ingestion of this material is unlikely. If it does occur, watch the person for several days to make sure that intestinal blockage does not occur.

Section 5: Fire Fighting Measures

Flash Point and Method: None

Flammability Limits (%): None.

Auto Ignition Temperature: Not Applicable.

Extinguishing Media: Water, foam, CO₂ or dry chemical.

Unusual Fire and Explosion Hazards: None known.

Fire Fighting Instructions: Use self contained breathing apparatus (SCBA) and full bunker turnout gear in a sustained fire.

Hazardous Combustion Products: Primary combustion products are carbon monoxide, carbon dioxide and water. Other undetermined compounds could be released in small quantities.



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Section 6: Accidental Release Measures

Releases of this product to the land, water and air may require reporting to federal, state or local authorities.

Land Spill: Scoop up material and put into suitable container for disposal as a non-hazardous waste.

Water Spill: This material will sink and disperse along the bottom of waterways and ponds. It can not easily be removed after it is waterborne; however, the material is non-hazardous in water.

Air Release: This material will settle out of the air. If concentrated on land it can then be scooped up for disposal as a non-hazardous waste.

Section 7: Handling and Storage

Storage Temperature: Not applicable.

Storage Pressure: Not applicable.

General: No special storage or handling procedures are required for this material.



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Section 8: Exposure Controls and Personal Protection

<u>Ingredient</u>	<u>OSHA PEL</u> (8-hr TWA)	<u>ACGIH TLV</u> (8-hr TWA)
Fiber Glass Continuous Filament :		
- Nonrespirable fibers and particulate	15 mg/m ³ (total dust)	5 mg/m ³ (inhalable fraction)
- Respirable particulate	5 mg/m ³ (respirable dust)	3 mg/m ³ (PNOC)
- Respirable particulate with fiber like-dimensions (glass shards)	None Established	1 fiber/cc (respirable)
Size	None Established	None Established

PNOC = Particles not otherwise classified

As manufactured continuous filament glass fibers are not respirable. Continuous filament glass products that are chopped, crushed or severely mechanically processed during manufacturing or use may contain a very small amount of respirable particulate, some of which may be glass shards.

Ventilation: General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below occupational exposure limits.

Personal Protection:

Respiratory Protection: A properly fitted NIOSH/MSHA approved disposable dust respirator such as the 3M model 8210 (formerly 8710) or model 8271 (formerly 9900) in high humidity environments) or equivalent should be used when: high dust levels are encountered; the level of glass fibers in the air exceeds the occupational exposure limits; or if irritation occurs. Use respiratory protection in accordance with your company's respiratory protection program, local regulations and OSHA regulations under 29 CFR1910.134.



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Skin Protection: Loose fitting long sleeved shirt that covers to the base of the neck, long pants and gloves. Skin irritation is known to occur chiefly at pressure points such as around neck, wrist, waist and between fingers.

Eye Protection: Safety glasses, goggles or face shield.

Work and Hygienic Practices: Handle using good industrial hygiene and safety practices. Avoid unnecessary exposures by using adequate local exhaust ventilation. Remove material from the skin and eyes after contact. Remove material from clothing using vacuum equipment (never use compressed air). Always wash work clothes separately from other clothing. Wipe out the washer or sink to prevent loose glass fibers from getting on other clothing). Keep the work area clean of dusts and fibers released during processing or fabrication. Use vacuum equipment to clean up product. Avoid dry sweeping or using compressed air as these techniques re-suspend dusts and fibers into the air. Have access to safety showers and eye wash stations.

Section 9: Physical and Chemical Properties

Vapor Pressure (mm Hg @ 20°C): Not Applicable

pH: Not Applicable

Vapor Density (Air=1): Not Applicable

Specific Gravity (Water=1): 2.60

Boiling Point: Not Applicable

Solubility in Water: Insoluble

Viscosity: Not Applicable

Appearance: Solid

Physical State: Solid

Odor Type: None

Freezing Point: Not Applicable

Evaporation Rate (n-Butyl Acetate=1): Not Applicable



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Section 10: Stability and Reactivity

General: Stable

Incompatible Materials and Conditions to Avoid: None

Hazardous Decomposition Products: Sizings or binders may decompose in a fire.
See Section 5 of MSDS for combustion products statement.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

CARCINOGENICITY: The table below indicates whether or not each agency has listed each ingredients as a carcinogen:

<u>Ingredient</u>	<u>ACGIH</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>	<u>97/69/EC</u>
Fiber Glass Continuous Filament ^(a)	A4	3	No	No	No
Size	No	No	No	No	No

ACGIH: A4 Not Classifiable as a Human Carcinogen

IARC 3: Not Classifiable with respect to Human Carcinogenicity

^(a) includes: Nonrespirable glass particulate, Respirable glass particulate, and Respirable particulate with fiber-like dimensions (glass shards)



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	<u>LD₅₀ Oral</u> (g/kg)	<u>LD₅₀ Dermal</u> (g/kg)	<u>LC₅₀ Inhalation</u> (ppm, 8 hrs.)
Fiber Glass Continuous Filament ^(a)	Not Available	Not Available	Not Available
Size	Not Available	Not Available	Not Available

Fiber Glass Continuous Filament: The International Agency for Research on Cancer (IARC) in June, 1987, categorized fiber glass continuous filament 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 fiber glass continuous filament as a possible, probable, or confirmed cancer causing material.

The American Conference of Governmental Industrial Hygienists (ACGIH) A4 classification,, not classifiable as a human carcinogen, for respirable continuous filament glass fibers is based on inadequate data in terms of its carcinogenicity in humans and/or animals.

For respirable continuous filament glass fibers, a TLV-TWA of 1 fiber/cc was adopted to protect workers against mechanical irritation. The TLV-TWA of 5 mg/m³ was adopted for nonrespirable glass filament fiber, measured as inhalable dust, to prevent mechanical irritation of the upper respiratory tract.

Note: There are no known chronic health effects connected with long term use or contact with these products.

Products that are chopped, crushed or severely mechanically processed during manufacture or use may contain a very small amount of respirable glass fiber-like fragments. NIOSH defines "respirable fibers " as greater than 5 microns in length and less than 3 microns in diameter with an aspect ratio of $\geq 5:1$ (length-to-width ratio).

Chronic Study in Animals

A laboratory test was conducted with a different product (special application glass fiber) with comparable composition and durability. Test animals breathing very high concentrations of respirable fibers on a long-term basis developed fibrosis, lung cancer and mesothelioma.



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About 23% of the rats (n=43) exposed to 1022 f/cc for 5 hrs/day, 7 days/week for 52 weeks developed lung tumors (adenoma and carcinoma). Five percent (5%) of the unexposed control group (n=38) developed lung tumors (adenoma and carcinoma).

Five percent (5%) of the rats in the exposed group developed mesothelioma and 12.5% developed advanced fibrosis. None of the rats in the unexposed control group developed mesothelioma and 0.6 % developed advanced fibrosis.

A second group of rats was exposed to a similar concentration of asbestos (respirable amosite fibers) for 5 hours/day, 7 days a week for 52 weeks. 38% of the rats developed lung tumors (adenoma and carcinoma) and 5 % developed mesothelioma. 14.5 % developed advance fibrosis.

Importantly, this result, that is similar disease rates for the special application fiber and amosite asbestos, had been predicted in a 1996 scientific paper (Inhal. Tox. 8:323-343, 1996 ref). That paper specifically stated that in rats all fibers which were durable enough to remain in a rat lung for two (2) years or more would produce the same disease rates if the exposures were the same. While the special application fiber is much less durable than asbestos, it is stable enough to remain in the rat lung for more than the two (2) year time period. The results of the current study are therefore not unexpected, and they do not indicate that similar disease rates would be seen in longer lived species or humans, exposed to these fibers.

Section 12: Ecological Information

This material is not expected to cause harm to animals, plants or fish.

Section 13: Disposal Considerations

RCRA Hazard Class: Non-hazardous.



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Section 14: Transport Information

DOT Shipping Names: Not regulated

Hazard Class or Division: None

Secondary: None

Identification No.: None

Packing Group: None

Label(s) required (if not excepted): None

Special Provisions: None

Packaging Exceptions: None

Non-bulk Packaging: None

Bulk packaging: None

EPA Hazardous Substances: None

RQ: None

Quantity Limitations: Passenger Aircraft: None
Cargo Aircraft: None

Marine Pollutants: None

Freight Description: None

Hazardous Material Shipping Description: None



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Transportation of Dangerous Goods - Canada

Proper Shipping Name: Not Regulated

TDG Hazard Classification: (Primary): None (Secondary): None

IMO Classification: None

ICAO/IATA Classification: None

Product Identification Number: None

Packing Group: None

Control Temperature: None

Emergency Temperature: None

Schedule XII Quantity Restriction: None

Reportable Quantity for US Shipments: None

IATA Packing Instructions:

Passenger/Cargo: None

Cargo Only: None

Limited Quantity: None

Maximum Net Quantity per Package:

Passenger/Cargo: None

Cargo Only: None

Limited Quantity: None

Special Provisions: None



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Section 15: Regulatory Information

TSCA Status: Each ingredient is on the Inventory.

NSR Status (Canada): Each ingredient is on the DSL.

SARA Title III:

Hazard Categories:

Acute Health: Yes
Chronic Health: No
Fire Hazard: No
Pressure Hazard: No
Reactivity Hazard: No

Reportable Ingredients:

Sec. 302/304: None
Sec. 313: None

California Proposition 65: No ingredient is listed.

Clean Air Act: No ingredient is listed.

WHMIS (Canada): Status: Not Controlled

WHMIS Classification(s): None

Section 16: Other Information

HMIS and NFPA Hazard Rating:	Category	HMIS	NFPA
	Acute Health	1	1
	Flammability	0	0
	Reactivity	0	0

NFPA Unusual Hazards: None.

HMIS Personal Protection: To be supplied by user depending upon use.

Revision Summary: This MSDS replaces the December 16, 1997 MSDS. The information was revised and updated in Section 2 Ingredients, Section 3 Potential health effects: chronic (long-term), Section 8: Exposure Controls and Personal Protection and Section 11- Toxicological Information