SAFETY DATA SHEET

Date of issue / Date of revision: **January 2020** **Version: 3**

Section 1. Identification

Product name: **Fiberglass, Continuous Filament**

Other means of identification: **Product Family; Product Name:**

Chopped Strand: T-Series Chopped Strands, ChopVantage®, ChopVantage®XM, ChopVantage®HP, ChopVantage®XM HP, Delta Chop®, Chopped Strands for Nonwovens.
Direct Roving: HYBON®, TUFRov®, InnoFiber®NTY, LFT4000, LFT9000.
Yarn: FiberGlass Yarn, L.E.X.® Yarn, TEXO® Yarn, InnoFiber®DCS
Mat: Chopped Strand Mat, MatVantage® II Continuous Strand Mat
Roving: Roving for Continuous Laminating, Roving for Pultrusion / Filament Winding.
INNOFIBER®: CR, HP, LD, TS, XM
Insulation: Texo® HTM Mat
Recycled Products: Chop/Open ESM, Chop/Open Plastic Reinforcement, Chop/Open 10 micron, Chop/Open 900, Reject Roving, Reject Chopped Strand

Relevant identified uses of the substance or mixture and uses advised against

Product use: Industrial applications

Use of substance/mixture: Industrial applications

Uses advised against: None identified

Manufacturer:
Nippon Electric Glass
940 Washburn Switch Road
Shelby, NC 28150

Emergency telephone number: 1-704-434-2307 (U.S.)

Technical telephone number: 1-704-434-2261 ext. 2150

Section 2. Hazards identification

OSHA/HCS status: While this material is not classified as hazardous by the OSHA Hazard Communication Standard (29CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture: Not classified

GHS label elements

Signal word: No signal word

Hazard statements: No known significant effects or critical hazards

Precautionary statements

Prevention: Not applicable

Response: Not applicable

Storage: Not applicable

Disposal: Not applicable

Other hazards: May emit toxic fumes when heated

Hazards not otherwise classified: None known

Section 3. Composition / information on ingredients

Product name: Fiberglass, Continuous Filament

Other means of identification: **Product Family; Product Name:**

Chopped Strand: T-Series Chopped Strands, ChopVantage®, ChopVantage®XM, ChopVantage®HP, ChopVantage®XM HP, Delta Chop®, Chopped Strands for Nonwovens.

Direct Roving: HYBON®, TUFRov®, InnoFiber®NTY, LFT4000, LFT9000.

Yarn: FiberGlass Yarn, L.E.X.® Yarn, TEXO® Yarn, InnoFiber®DCS

Mat: Chopped Strand Mat, MatVantage® II Continuous Strand Mat

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Recycled Products: Chop/Open ESM, Chop/Open Plastic Reinforcement, Chop/Open 10 micron, Chop/Open 900, Reject Roving, Reject Chopped Strand

Section 3. Composition / information on ingredients (continued)

Ingredient name	%
Fiberglass, Continuous Filament	> 95
Organic surface binder / sizing	< 5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.
There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.
Some fiberglass wet chop products may contain residual water / solvents.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occurs during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM or PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact: **Do Not Rub or Scratch Eyes.** Immediately flush eyes with tepid running water, keeping eyelids open. Check for and remove contact lenses, if possible. Repeat flushing with tepid running water for at least 15 minutes. If irritation persists, seek medical attention.

Skin contact: **Do Not Rub or Scratch Affected Area.** Remove contaminated clothing and shoes. Gently wash with plenty of soap and cold water. If irritation persists or if glass fiber becomes imbedded, seek medical attention.

Inhalation: Move to fresh air and keep comfortable. Seek medical attention if irritation persists.

Ingestion: Ingestion of this material is an unlikely route of exposure.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Dusts/fibers from this product may cause temporary mechanical irritation.

Inhalation: Dusts/fibers from this product may cause mechanical irritation of the nose, throat and respiratory tract.

Skin contact: Dusts/fibers from this product may cause temporary mechanical irritation.

Ingestion: Although ingestion of this product is not likely to occur in industrial applications, accidental ingestion may cause illness or irritation of the mouth and gastrointestinal tract.

Section 4. First aid measures (continued)

Over-exposure signs/symptoms

Eye contact: No specific data.
Inhalation: No specific data.
Skin contact: No specific data.
Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Note to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments: No specific treatment.
Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media: None known.
Specific hazards arising from the chemical: No specific fire or explosion hazard. Material is not an electrical conductor and may accumulate static charge.
Hazardous thermal decomposition products: Fiberglass will not burn, but smoking of the product may occur at approximately 400 – 500°F (approximately 200 – 260°C) due to decomposition of the sizings/binders. Sizings/binders may decompose in a fire situation and release carbon monoxide, carbon dioxide and water. Additionally, there are many chemicals that can evolve during any partial decomposition of chemical products. The amounts or identities cannot be predicted and can differ in each situation.
Special protective actions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters: Fiberglass itself will not support combustion, but in a sustained fire, proper protection against products of combustion from the fuel and sizings/binders must be worn.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No special protection is required.

For emergency responders: No special protection is required.

Environmental precautions: Fiberglass is generally considered to be an inert solid waste. No special precautions are needed in case of a release or spill.

Methods and materials for containment and cleaning up

Small spill: Vacuum or sweep material and place in a designated, labeled waste container. Avoid creating dust.

Large spill: Vacuum or sweep material and place in a designated, labeled waste container. Avoid creating dust.

Reference to other sections: See Section 1 for emergency contact information
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

Section 7. Handling and storage

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 8. Exposure controls / personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Fiberglass/Synthetic vitreous fibers	**OSHA PEL (United States)** TWA; 5 mg/m^3 Form: PNOR/Respirable dust TWA; 15 mg/m^3 Form: PNOR/Total dust **ACGIH TLV (United States)** TWA; 3 mg/m^3 Form: PNOS/Respirable dust TWA; 10 mg/m^3 Form: PNOS/Total dust TWA; 5 mg/m^3 (Inhalable) Form: Continuous filament glass fibers TWA; 1 f/cc (Respirable)* Form: Continuous filament glass fibers *Respirable fibers; length greater than (>) 5µm; aspect ratio equal to or greater than (≥) 3:1 as determined by the membrane filter method at 400-450X magnification (4-mm objective) using phase contrast illumination
Organic Surface Binder / Sizing	**None.**

Note: As manufactured, continuous filament glass fibers are non-respirable.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
OSHA = Occupational Safety and Health Administration
PNOS = Particulates Not Otherwise Specified
PNOR = Particulates Not Otherwise Regulated
TLV = Threshold Limit Value
TWA = Time Weighted Average
PEL = Permissible Exposure Limit

Recommended monitoring procedures: Personal, workplace atmosphere monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances also will be required.

Appropriate engineering controls: Local exhaust ventilation or effective general ventilation should be sufficient to maintain exposures below occupational exposure limits.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 8. Exposure controls / person protection (continued)

Individual protection measures

Hygiene measures: Wash hands before breaks and after handling of material. Head coverings, protective gloves, cotton coveralls or long sleeved loose fitting clothing will maximize comfort. Appropriate techniques should be used to remove potentially contaminated clothing. Work clothing should be laundered separately from other clothing before reuse. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye / face protection: Safety goggles or safety glasses with side shields.

Skin protection

Hand protection: Use gloves to protect against physical irritation or injury if required by handling conditions.

Body protection: Wear clean, body-covering clothing (i.e., long sleeved shirts and long pants).

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: If dust/fiber is generated and ventilation is inadequate, use respirator that will protect against dust/fiber such as a properly fitted NIOSH approved N95/N100 disposable filtering face-piece respirator (i.e., dust mask) or equivalent. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state: Solid.

Color: White to yellowish.

Odor: Odorless.

Odor threshold: Not available.

pH: Not available.

Melting point: Not available.

Boiling point: Not available.

Flash point: Closed cup: Not applicable [Product does not sustain combustion].

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Flammability (solid, gas): Not available

Section 9. Physical and chemical properties (continued)

Lower and upper explosive (flammable) limits:	Not available.
Evaporation rate:	Not available.
Vapor pressure:	Not available.
Vapor density:	Not available.
Relative density:	2.65 to 2.7
Solubility:	Insoluble.
Partition coefficient: n-octanol/water:	Not available.
Viscosity:	Not applicable.
Volatility:	0% (v/v), 0% (w/w)
% solid (w/w):	100, with exception of wet chop (see Section 3)

Section 10. Stability and reactivity

Reactivity:	No specific test data related to reactivity is available for this product or its ingredients.
Chemical stability:	Stable under recommended storage and handling conditions (see Section 7).
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	When exposed to high temperatures - may produce hazardous decomposition products. Refer to protective measures listed in Sections 7 and 8.
Incompatible materials:	None known.
Hazardous decomposition products:	Fiberglass products may release small amounts of acetic acid and other organic materials at elevated temperatures.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Conclusion / summary:	No known significant effects or critical hazards.

Irritation / Corrosion

Conclusion / summary

Skin:	No known significant effects or critical hazards.
Eyes:	No known significant effects or critical hazards.
Respiratory:	No known significant effects or critical hazards.

Section 11. Toxicological information (continued)

Sensitization

Conclusion / summary

Skin: No known significant effects or critical hazards.

Respiratory: No known significant effects or critical hazards.

Mutagenicity

Conclusion / summary: No know significant effects or critical hazards.

Carcinogenicity

Conclusion / summary: No known significant effects or critical hazards.

Classification

Product / ingredient name	OSHA	IARC	NTP
Fiberglass, Continuous Filament	-	3	-

Carcinogen Classification Code:

IARC: Group 3 - *Not classifiable as to its carcinogenicity to humans*

TLV: A4 – *Not classifiable as a human carcinogen*

Not listed / not regulated: -

Reproductive toxicity

Conclusion / summary: No known significant effects or critical hazards.

Teratogenicity

Conclusion / summary: No known significant effects or critical hazards.

Specific target organ toxicity (single exposure): Not available.

Specific target organ toxicity (repeated exposure): Not available.

Target organs: Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes.

Aspiration hazard: Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact: Dusts/fibers from this product may cause temporary mechanical irritation.

Inhalation: Dusts/fibers from this product may cause mechanical irritation of the nose, throat and respiratory tract.

Skin contact: Dusts/fibers from this product may cause temporary mechanical irritation.

Section 11. Toxicological information (continued)

Ingestion: Although ingestion of this product is not likely to occur in industrial applications, accidental ingestion may cause illness or irritation of the mouth and gastrointestinal tract.

Over-exposure signs / symptoms

Eye contact: No specific data.

Inhalation: No specific data.

Skin contact: No specific data.

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion / summary: There are no known health effects from the long term use or contact with non-respirable continuous filament fibers, which is the type of fiberglass that NEG produces. According to the WHO definition, respirable fibers have a diameter (d) smaller than 3 microns, a length (l) larger than 5 microns and an l/d-ratio greater 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.

Animal study: In 2000, the Institute of Occupational Medicine (IOM) in Scotland published the results of a long term inhalation study in animals exposed to fibers that were manufactured to be RESPIRABLE. Animals were exposed to a very high concentration of these RESPIRABLE fibers (1022 fibers/cc for 5 hours/day, 7 days/week for 52 weeks). Exposure to these microfibers resulted in the development of fibrosis, lung cancer and mesothelioma as a result of the fibers being able to reach the lower regions of the lung.

Chopped, crushed or severely mechanically processed fiberglass may contain a very small amount of respirable fibers that could reach the deep lung. The measured airborne concentration of these respirable fibers in areas where severe processing of fiberglass occurred has been shown to be extremely low and well below the TLV.

Repeated or prolonged exposure to respirable glass fibers may cause fibrosis, lung cancer and mesothelioma. NEG fiberglass, in the form supplied, does not contain respirable fibers.

Section 11. Toxicological information (continued)

Epidemiology Studies: Two major studies in the US (performed by the University of Pittsburgh) and Europe (performed by the International Agency for Research on Cancer) showed no increase in lung cancer or respiratory disease among people working in production facilities producing NON-RESPIRABLE continuous filament fiberglass. An additional smaller study performed in Canada also did not show an association between exposure of workers to fiberglass and respiratory cancer.

Short term exposure

Potential immediate effects: No known significant effects or critical hazards.

Potential delayed effects: No known significant effects or critical hazards.

Long term exposure

Potential immediate effects: No known significant effects or critical hazards.

Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health issues

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Section 12. Ecological information

Toxicity Not available.

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}): Not available.

Section 13. Disposal considerations

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Section 13. Disposal considerations (continued)

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

Refer to Section 7. Handling and Storage and Section 8: Exposure Control / Personal Protection for additional handling information and protection of employees. Also refer to Section 6: Accidental Release measures.

Section 14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated	Not regulated	Not regulated
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards **Marine pollutant substances**	No Not applicable	No Not applicable	No Not applicable

Additional information

DOT: None identified.
IMDG: None identified.
IATA: None identified.

Special precautions for user: None identified.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304

SARA 304 RQ: Not applicable.

Composition / information on ingredients: No products were found.

SARA 311/312

Classification: Not applicable.

Composition / information on ingredients: No products were found.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

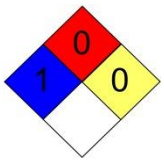
Health	1
Flammability	0
Physical Hazard	0

(*) – Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



HEALTH = **1** **FIRE** = **0** **INSTABILITY** = **0**

Date of previous issue: May 2019
Organization that prepared SDS: EHS

Key to abbreviations:

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
Log P_{ow} = logarithm of the octanol/water partition coefficient
MARPOL = international convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 (Marpol = marine pollution).
UN = United Nations

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by NEG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.