

Safety Data Sheet



KEVLAR® Para-aramid

Version 4.0

Revision Date 11/18/2015

Ref. 150000002634

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : KEVLAR® Para-aramid
 Tradename/Synonym : formerly MSDS# SP1889

Product Grade/Type : Yarn, Staple, Floc, Fabric

Product Use : Fiber manufacturing, For industrial use only.

Restrictions on use : Do not use product for anything outside of the above specified uses
 Manufacturer/Supplier : DuPont
 974 Centre Road
 Wilmington, DE 19805, USA

Product Information : 1-800-931-3456
 Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
 Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Product hazard category
 Combustible dust

Label content

Pictogram : not required

Signal word : Warning

Hazardous warnings : May form combustible dust concentrations in air.

Safety Data Sheet



KEVLAR® Para-aramid

Version 4.0

Revision Date 11/18/2015

Ref. 150000002634

Hazardous prevention measures : not required

Other hazards

The hazards of this product are associated mainly with its processing., If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Para-aramid fiber	26125-61-1	>85%

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures. If symptoms persist, call a physician. If irritation occurs, flush area thoroughly with water.

Inhalation : No applicable data available.

Skin contact : No applicable data available.

Eye contact : No applicable data available.

Ingestion : No applicable data available.

Most important symptoms/effects, acute and delayed : No applicable data available.

Protection of first-aiders : No applicable data available.

Notes to physician : No applicable data available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Safety Data Sheet



KEVLAR® Para-aramid

Version 4.0

Revision Date 11/18/2015

Ref. 15000002634

- Unsuitable extinguishing media : No applicable data available.
- Specific hazards : Hazardous decomposition products formed under fire conditions.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : No applicable data available.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Safeguards (Personnel) : None.
- Environmental precautions : Do not let product enter drains.
- Spill Cleanup : Avoid dust formation. Clean up dusts and fibres with high efficiency particulate air (HEPA) filtered vacuum equipment, or by wet cleaning.
- Accidental Release Measures : No applicable data available.

SECTION 7. HANDLING AND STORAGE

- Handling (Personnel) : Avoid dust formation. Exposure to fibre fly, dust and decomposition products of spinfinishes should be avoided by ventilation and/or vacuum cleaning. High concentrations of dust can irritate eyes, nose and respiratory system and cause coughing and sneezing. Continual rubbing of fibre particulates and dust on the skin can cause a transitory, mild irritation with redness or itching. Do not touch moving threadlines. Entanglement with this fibre can severely cut or even sever fingers. Avoid breathing dust.
- Handling (Physical Aspects) : No applicable data available.
- Dust explosion class : No applicable data available.
- Storage : Keep away from direct sunlight.
- Storage period : No applicable data available.

Safety Data Sheet



KEVLAR® Para-aramid

Version 4.0

Revision Date 11/18/2015

Ref. 150000002634

Storage temperature : No applicable data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Ensure adequate ventilation. Recirculated air should be filtered to remove respirable dust. Provide for appropriate exhaust ventilation and dust collection at machinery. Static charges can cause explosions in solvent and dust laden atmospheres. Provide grounding of equipment to prevent static build-up.

Personal protective equipment
Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Eye protection : Safety glasses with side-shields

Exposure Guidelines
Exposure Limit Values

Para-aramid				
AEL *	(DUPONT)	2 RFP/cc	8 & 12 hr. TWA	Respirable fibers.
AEL *	(DUPONT)	5 mg/m3	8 & 12 hr. TWA	Non-fibrous particulate and/or non-respirable fibres.

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Physical state : solid
Form : Nonwoven fabric, woven fabric, fibres, yarn
Color : natural, various

Odor : odourless

Odor threshold : No applicable data available.

pH : No applicable data available.

Safety Data Sheet



KEVLAR® Para-aramid

Version 4.0

Revision Date 11/18/2015

Ref. 150000002634

Melting point/freezing point	:	Melting point/range Not applicable
Boiling point/boiling range	:	Boiling point/boiling range Not applicable
Flash point	:	Not applicable
Evaporation rate	:	No applicable data available.
Flammability (solid, gas)	:	May form combustible dust concentrations in air.
Upper explosion limit	:	No applicable data available.
Lower explosion limit	:	No applicable data available.
Vapour Pressure	:	No applicable data available.
Vapour density	:	No applicable data available.
Specific gravity (Relative density)	:	1.44 - 1.45 at 20 °C (68 °F)
Water solubility	:	insoluble
Solubility(ies)	:	No applicable data available.
Partition coefficient: n-octanol/water	:	No applicable data available.
Auto-ignition temperature	:	No applicable data available.
Ignition temperature	:	does not ignite
Decomposition temperature	:	> 300 °C
Viscosity, kinematic	:	No applicable data available.
Viscosity, dynamic	:	No applicable data available.

SECTION 10. STABILITY AND REACTIVITY

Safety Data Sheet



KEVLAR® Para-aramid

Version 4.0

Revision Date 11/18/2015

Ref. 150000002634

- Reactivity : No applicable data available.
- Chemical stability : No applicable data available.
- Possibility of hazardous reactions : No applicable data available.
- Conditions to avoid : No applicable data available.
- Incompatible materials : Strong acids and strong bases
- Hazardous decomposition products : Hazardous thermal decomposition products:: Carbon dioxide
Nitrogen oxides (NOx) , Hydrogen cyanide (gaseous) , Ammonia, anhydrous
Aldehydes, Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

KEVLAR® Para-aramid

Sensitisation : Patch test on human volunteers did not demonstrate sensitisation properties.

Further information : Effects of breathing high concentration of respirable particles may include: Risk of serious damage to the lungs (by inhalation).

Para-aramid fiber

Inhalation : Rat
An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Dermal : The substance is a polymer and is not expected to produce toxic effects.

Oral LD50 : > 7,500 mg/kg , Rat

Skin irritation : No skin irritation, Guinea pig

Repeated dose toxicity : Inhalation
Rat
-
Respiratory irritation

Carcinogenicity : Not classifiable as a human carcinogen.
Overall weight of evidence indicates that the substance is not carcinogenic.

Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Safety Data Sheet



KEVLAR® Para-aramid

Version 4.0

Revision Date 11/18/2015

Ref. 150000002634

Evidence suggests this substance does not cause genetic damage in animals.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

Additional ecological information : No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product : Can be landfilled or incinerated, when in compliance with local regulations. Do not flush into surface water or sanitary sewer system.

Contaminated packaging : No applicable data available.

SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA (US) Status : On the inventory, or in compliance with the inventory
 SARA 313 Regulated Chemical(s) : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established

Safety Data Sheet



KEVLAR® Para-aramid

Version 4.0

Revision Date 11/18/2015

Ref. 150000002634

by SARA Title III, Section 313.

SECTION 16. OTHER INFORMATION

Restrictions for use : Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of the DuPont POLICY Regarding Medical Applications and DuPont CAUTION Regarding Medical Applications.

It is recommended that additional information be requested if an unusual application of synthetic fibres is intended. The DuPont Oval Logo is a registered trademark of E.I. du Pont de Nemours and Company. DuPont™ is a trademark of E. I. du Pont de Nemours and Company. Kevlar® is a registered trademark of DuPont.

Revision Date : 11/18/2015

Contact person : SDS Coordinator

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.



KEVLAR® Para-aramid

Components: Para-aramid fiber, CAS No. 26125-61-1

Warning

Hazard statements: May form combustible dust concentrations in air.

Supplemental information: The hazards of this product are associated mainly with its processing. If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Refer to Safety Data Sheet (SDS) for further information.

DuPont
974 Centre Road, Wilmington, DE 19805, USA

Product Information: 1-800-931-3456
Medical Emergency: 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency: CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)
Report version: 4.0 11/18/2015 Ref. 150000002634 LBL_US_GHS

The DuPont Oval Logo is a registered trademark of E. I. du Pont de Nemours and Company. DuPont™ is a trademark of E. I. du Pont de Nemours and Company. Kevlar® is a registered trademark of DuPont.

SAFETY DATA SHEET

Mitsubishi Rayon Carbon Fiber and Composites, Inc.

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
--

Product Name:	Grafil Carbon Fiber
Product Code(s):	347W0614A 347W1214A 346R4812A 378W5410A
	347R0312A 347R1207A 347R2412A 346W4807A 347R0612H
	347W0314A 347R1212A 346W2407A 346W4814A 347W0612H
	347R0612A 347W1203A 347W2407A 347R4812A 347W1212H
	347W0612A 347W1207A 347W2414A 378W1810A
Manufacturer's/Distributor's Name:	Mitsubishi Rayon Carbon Fiber, and Composites, Inc.
Manufacturer's/Distributor's Address:	5900 88 th Street Sacramento, CA 95828 Telephone: (916) 386-1733 Facsimile: (916) 383-7668
Emergency Telephone Number: [9:00 am - 5:00 pm, M - F, PST]	(916) 386-1733
Date Prepared:	May 17, 2012 [previous version: March 27, 2012]

SECTION 2 HAZARDS IDENTIFICATION

*****Emergency Overview*****

Black continuous carbon fiber. Not expected to present an immediate concern for emergency response personnel. Not expected to present an immediate acute health, reactivity, or flammability hazard.

Not expected to present an environmental hazard although there is trace amounts of bisphenol A-(epichlorohydrin). See section 15.

POTENTIAL HEALTH EFFECTS

Hazard symbols:



Irritant

R-phrases:

R36 Irritate to eyes.
R-38 Irritating to skin

SKIN: May cause skin irritation. Mechanical irritation may occur from carbon fiber abrading or becoming imbedded in the skin. Chemical irritation may occur from exposure to sizing present on the carbon fiber.

EYES: Fragments of this product may cause mechanical eye irritation. Chemical irritation may occur from exposure to sizing present on the carbon fiber.

INHALATION: Inhalation exposure to respirable fibers of this product is not expected to occur under normal industrial conditions. Under very limited circumstances, however, exposure to respirable fibers of this product can occur and may result in respiratory tract irritation.

INGESTION: Not expected to occur during industrial activities since ingestion is not a relevant route of exposure.

CHRONIC EFFECTS/CARCINOGENICITY: Not regulated as a carcinogen. There are no chronic effects/carcinogenicity data available on this product. Under very limited circumstances, exposure to respirable fibers of this product can occur and may result in respiratory tract irritation; prolonged exposure may result in more adverse effects. See Section 11 – *Toxicological Information* for information on subchronic toxicity.

NTP: *Not listed*
IARC: *Not listed*
OSHA: *Not listed*

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

INCOMPATIBILITY: None known.

SIGNS AND SYMPTOMS OF EXPOSURE: May result in slight skin and eye irritation.

SECTION 3
COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredient	CAS Registry No.	Weight %	Exposure Limits
Carbon fiber	7440-44-0	99%	See Note 1 below
Epoxy resin	25068-38-6	0.5% - 1.4%	See Note 2 below

Notes on Composition and Information on Ingredients

NE = Not established

¹ OSHA and ACGIH have not established air contaminant limits for carbon fibers. Under certain conditions, this substance may be a nuisance dust. OSHA has an established standard for particulates not otherwise regulated (nuisance dust) set at 5 mg/m³ (respirable fraction) and 15 mg/m³ (total dust). ACGIH has established an exposure value of 3 mg/m³ (respirable fraction) and 10 mg/m³ (inhalable fraction) for particulates not otherwise classified.

² This product contains trace impurities of bisphenol A-(epichlorohydrin), Regulatory information can be found in Section 15.

SECTION 4
FIRST AID MEASURES

FIRST AID MEASURES

S-phrases:

- S24 Avoid contact with skin.
- S25 Avoid contact with eyes.
- S28 After contact with skin, wash immediately with plenty of soap-suds.
- S33 Take precautionary measures against static discharges.

SKIN: Wash fibers off of skin with water and soap. If fibers are imbedded in the skin, remove with tweezers. Discard clothing that may contain imbedded fibers. Get medical attention if exposure results in adverse effects.

EYES: Immediately flush with a continuous water stream for at least 20 minutes. Washing immediately after exposure is expected to be effective in preventing damage to the eyes. Get medical attention.

INHALATION: If there is inhalation exposure to the fibers of this product, remove source of exposure and move victim to fresh air. If not breathing give artificial respiration. If there is breathing difficulty, give oxygen. Get immediate medical attention for any respiratory problems.

INGESTION/SWALLOWED: Not expected to occur since ingestion is not a likely route of exposure for this product. If ingestion does occur, do not induce vomiting. Nothing by mouth if unconscious. Get immediate medical attention.

**SECTION 5
FIRE FIGHTING MEASURES**

FLASH POINT: Not applicable

EXPLOSION/FLAMMABLE LIMITS: Not applicable

AUTOIGNITION TEMPERATURE: Not applicable

EXTINGUISHING MEDIA:

SUITABLE: Carbon Dioxide, Dry Chemicals, Foam, Water Fog.

UNSUITABLE: Direct Water Spray

This material is not expected to burn in a fire. If this product is present in a fire, fight fire based on the presence of flammable materials, i.e., packaging material and the sizing may burn off the fiber.

SPECIAL EXPOSURE HAZARDS: Fiber or dust may glow in an oxygen-containing atmosphere above 350°C. When glowing, and during combustion CO/CO₂ is generated as well as the potential release of degradation products such as NH₃, HCN and monomeric acrylonitrile.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, wear a self-contained breathing apparatus pressure demand (MSHA/NIOSH approved or equivalent) and full protective gear. Fight fires from a safe distance or protected areas. Fire hoses with fog nozzles may be used for controlling fires but care must be exercised not to spread flaming. Water may not always be effective for large fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Under high heat (> 750 °C), this product may react with oxygen to give off carbon oxides and other decomposition products.

OTHER INFORMATION: This product is not expected to burn. Do not incinerate carbon fibers since airborne fibers may cause electrical malfunctions. See Section 13 – *Disposal Considerations* for additional information.

**SECTION 6
ACCIDENTAL RELEASE MEASURES**

SPILL/RELEASE AND CLEANUP PROCEDURES: In case of spill, collect (*e.g.*, sweep up, vacuum, etc.) spilled material and either reuse or dispose of properly. Chopped or milled carbon fibers may be slippery if spilled posing an accident risk. Wear personal protective equipment as described in Section 8 during cleanup activities.

**SECTION 7
HANDLING AND STORAGE**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store in a cool, dry place. Wash hands with soap and water after handling. Wear appropriate protective clothing as described in Section 8 during handling activities.

**SECTION 8
EXPOSURE CONTROLS AND PERSONAL PROTECTION**

RESPIRATORY PROTECTION: Normal use and processing of this product are not expected to generate carbon fiber dust. Respirable fibers of this product under certain very limited circumstances can be generated. In such circumstances, HEPA respiratory protection should be used to prevent exposure

PROTECTIVE GLOVES: Latex gloves should be worn when handling this product. Rinse and remove gloves after use, and wash hand thoroughly with soap and water. Gloves should be removed and replaced if there are any signs of degradation or breakthrough.

PROTECTIVE CLOTHING: Wear protective clothing to minimize the potential for skin contact. An emergency shower should be readily accessible. Discard any clothing that has become contaminated.

EYE PROTECTION: Wear safety goggles or glasses when handling or processing this product in any form.

AIR MONITORING: No information is available.

EXPOSURE GUIDELINES: OSHA and ACGIH have not established air contaminant limits for carbon fibers. Under certain conditions, this substance may be a nuisance dust. OSHA has an established standard for particulates not otherwise regulated (nuisance dust) set at 5 mg/m³ (respirable fraction) and 15 mg/m³ (total dust). ACGIH has established an exposure value of 3 mg/m³ (respirable fraction) and 10 mg/m³ (inhalable fraction) for particulates not otherwise classified.

**SECTION 9
PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Black continuous fiber
Odor:	None
Specific Gravity:	1.75 - 1.85
Vapor Pressure:	None
Melting Point:	Not applicable
Solubility in Water:	Insoluble

**SECTION 10
STABILITY AND REACTIVITY**

STABILITY: Stable.

CONDITIONS TO AVOID: None.

INCOMPATIBILITY/MATERIALS TO AVOID: Do not expose to strong oxidizing agents such as fluorine. Carbon fiber can react violently with such compounds.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Not expected under normal conditions of processing and use. Thermal decomposition of sizing may begin to occur at high temperatures (> 120 °C) resulting in

the release of small amounts of nitrogen oxides, carbon monoxide, organic compounds, and other potentially hazardous substances.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICOLOGICAL DATA: There are no acute toxicological data available on this product. The oral, dermal, and inhalation acute toxicity are expected to be very low.

EYE IRRITATION DATA: No data are available.

SKIN IRRITATION DATA: No data are available.

SKIN SENSITIZATION DATA: No data are available.

SUBCHRONIC TOXICITY: Two subchronic inhalation tests in rats exposed to carbon fibers have been conducted. In one test, rats were exposed to fibers for 16 weeks. Pulmonary function tests performed on the test animals before necropsy did not show any significant or consistent changes. The only pulmonary finding related to exposure was the occurrence of phagocytosis by alveolar macrophages. No inflammation or fibrosis was observed. In the second study, rats were also exposed to carbon fibers for 16 weeks. Based on clinical signs, no effects due to exposure were observed. Histopathological evaluation revealed non-fibrous particles in the pulmonary lymphoid clearance system and in alveolar macrophages. There were no signs of fibrosis.

REPRODUCTIVE TOXICITY: No data are available.

TERATOGENICITY (birth defects): No data are available.

MUTAGENICITY: Several *in vitro* mutagenicity tests have been performed on carbon fibers. Carbon fibers have been found to be negative in the gene mutation assay in bacteria (Ames test), did not cause sister chromatid exchanges in Chinese hamster ovary (CHO) cells, and did not cause unscheduled DNA synthesis in rat liver cells or forward mutations in studies with CHO cells.

CHRONIC EFFECTS/CARCINOGENICITY: No data are available.

SECTION 12 ECOLOGICAL INFORMATION
--

ECOTOXICOLOGICAL DATA: No data are available.

ENVIRONMENTAL FATE DATA: No data are available.

PHYSICAL/CHEMICAL PROPERTIES: No data are available.

**SECTION 13
DISPOSAL CONSIDERATIONS**

RCRA CLASSIFICATION: If discarded in its manufactured form, this product is not expected to be a characteristic or specifically listed hazardous waste under RCRA. However, it is the responsibility of the user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste.

SPECIAL INSTRUCTIONS: Do not incinerate carbon fibers since airborne fibers may cause electrical malfunctions. Any disposal practices must be in compliance with federal, state, and local requirements.

**SECTION 14
TRANSPORT INFORMATION**

U.S./INTERNATIONAL SHIPPING INFORMATION UNDER DOT/IMO/IATA REGULATIONS: This product is not regulated as dangerous or hazardous goods under DOT, IMO, ICAO, IATA, or UN shipping regulations.

**SECTION 15
REGULATORY INFORMATION**

REGULATORY STATUS: This product, as well as its impurities, may trigger specific reporting, recordkeeping, and testing requirements under TSCA, EPCRA/SARA III, RCRA, CERCLA, CAA, SDWA, and CWA.

CALIFORNIA PROPOSITION 65: This product contains epichlorohydrin, a substance known to the State of California to cause cancer and reproductive toxicity. The maximum level of epichlorohydrin in this product is 2 ppm. This product also contains phenyl glycidyl ether, a substance known to the State of California to cause cancer. The maximum level of phenyl glycidyl ether in this product is 6 ppm. This information is provided to assist users of this product that conduct business in California in discharging any warning obligations that that person may have under California Proposition 65.

OTHER STATE CHEMICAL LISTS: This product contains epichlorohydrin and phenyl glycidyl ether at maximum levels of 2 ppm and 6 ppm, respectively. These chemicals are identified on several state chemical lists.

EPCRA/SARA TITLE III SECTION 313: This compound contains no toxic chemicals at or above the de-minimus threshold subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

EU: Status under Registration Evaluation Authorization of Chemicals EU regulation (EC) No 1907/2006 (REACH)

Continuous Carbon Fiber and cut Carbon Fibers are considered to be articles under REACH and therefore do not require pre-registration or registration. These materials do not contain any substances or preparations of high concern (SVHC) as per the list issued by the ECHA dated 19th December 2011, or are designated "CMR" toxins under REACH.

This product contains a branched nonylphenol ethoxylate sulfated ammonium salt [CAS RN 68649-55-8] which may be present at levels in excess of 0.1% in this product. EU Directive 2003/53/EC establishes certain use and threshold restrictions for nonylphenol and nonylphenol ethoxylates in nine specified sectors. Nonylphenol and nonylphenol ethoxylates may not be placed on the market or used as a substance or constituent of preparations in concentrations equal to or greater than 0.1% by mass for the nine sectors identified under this EU Directive. See EU Directive or applicable national legislation for the nine use sectors. These regulations do not apply to nonylphenol or nonylphenol ethoxylates for research and development or analytical purposes. Contact Mitsubishi Rayon Carbon Fiber and Composites, Inc. (MRCFAC, Inc.) for additional information on this requirement.

Canada: This product contains a branched nonylphenol ethoxylate sulfated ammonium salt [CAS RN 68649-55-8] which may be present at levels in excess of 0.1% in this product. Environment Canada published on December 4, 2004 rulemaking to reduce discharges and use of nonylphenol and nonylphenol ethoxylates in certain use sectors. Canada Gazette Vol. 138, No. 49. See Canadian regulations for the specific use sectors. Companies subject to this rule are required to track their volumes, make threshold calculations, and reduce their use of nonylphenol and nonylphenol ethoxylates. Contact MRCFAC, Inc. for additional information on this requirement.

SECTION 16 OTHER INFORMATION

DISCLAIMER: This information is furnished without warranty, expressed or implied, except that it is believed to be accurate to the best knowledge of MRCFAC, Inc. The information presented in this MSDS is related only to the specific material designated herein. MRCFAC, Inc. assumes no legal responsibility for the use or reliance upon these data. The user should review any recommendation in the specific context of the intended use to determine whether appropriate.