

DEMA GRIP

MATERIAL SAFETY DATA SHEET

Knitted Cotton Fabric

Section I

Manufacturer's Name: RX Textiles

Address: 3107 Chamber Drive, Monroe, NC 28110

Emergency Telephone No.: 704-283-9787

Chemical Name and Synonyms:

Trade Name and Synonyms:

2 anhydro b-glucose (cotton)

Knitted cotton fabric all sizes and types

Chemical Family:

Formula:

Cellulose

(C₆H₁₀O₅)*

SECTION II - HAZARDOUS INGREDIENTS (N/A)

Paints, Preservatives, & Solvents

	%	TLV (units)
Pigments	<u>N/A</u>	_____
Catalyst	<u>N/A</u>	_____
Vehicle	<u>N/A</u>	_____
Solvents	<u>N/A</u>	_____
Additives	<u>N/A</u>	_____
Others	<u>N/A</u>	_____

Alloys and Metallic Coatings:

	%	TLV (units)
Base Metal	<u>N/A</u>	_____
Alloys	<u>N/A</u>	_____
Metallic Coatings	<u>N/A</u>	_____
Filler Metal & Coating	<u>N/A</u>	_____
Other	_____	_____

Hazardous mixtures of other liquids, solids or gases:

	%	TLV (units)
Silicone:	<u>N/A</u>	_____

Esterified acid derivates

SECTION III - PHYSICAL DATA

Boiling Point (Degrees F)	N/A
Vapor Pressure (Hg.)	N/A
Vapor Density (Air=1)	N/A
Specific Gravity (H2O-1)	1.55
Percent of Volatile by Volume (%)	N/A
Evaporation Rate	N/A
Solubility in Water	Insoluble

Appearance and Odor - White, fibrous material, odorless

Lubricant: Fully Refined Paraffin Wax M.P. 125 Degree F <2.0%>

Silicone Fluid (Dimethylpolysiloxane) <4.0%>

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): Undetermined

Extinguishing Media: Any conventional media, e.g., water, dry chemical, CO2

Special Fire Fighting Procedures: None known

Unusual Fire and Explosion Hazard: None known

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value: Not established: N/A

Effects of Overexposure: No known effects

Emergency and First Aid Procedures: N/A

SECTION VI - REACTIVITY DATA

Stability: Stable - no known conditions to avoid

Incompatibility (material to avoid): None known

Hazardous decomposition Products: Smoke, carbon monoxide

Hazardous Polymerization: No known polymerization

SECTION VIII - Special Protection Information

Respiratory Protection (Specify type): N/A

Ventilation: N/A

Protective Gloves: N/A Eye Protection: N/A

Other Protective Equipment: N/A

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McMICHAEL MILLS
COVERED YARN SPECIFICATIONS

STYLE: DP-370-48T

CORE: 560 V800 Dorlastan Inlay: 9.3"/8.0"

INNER COVER: 150/34 Textured Polyester

OUTER COVER: 150/34 Textured Polyester

TPI INNER COVER: 66.9

TPI OUTER COVER: 42.5

% CORE: 23.63

% INNER COVER: 38.00

% OUTER COVER: 38.37

% ELONGATION: 310%

YIELD: 2,383 Yds./Lb.

PACKAGE WEIGHT: 48 Ounce

PACKAGE TYPE: 9" Tube

PRICE:

Drop Test:
Weight: 188 Grams

P.O. BOX 507 5 MADISON, NORTH CAROLINA 27025 5 TELEPHONE (336) 548-4242 FAX (336) 548-4744

NO. 0821 P. 2/13

SEP. 9. 2004 3:36PM MCMICHAEL MILLS

MANUFACTURER PRODUCT IDENTIFICATION

Product Name: Dorlastan
 Product Code: In the W-Series
 Chemical Family: Segmented polyurethane-polyurea filament yarn
 Synonyms: Spandex fiber; elastane filament yarn

Bayer Corporation 100 Bayer Road Pittsburgh, PA 15205-9741	Bayer Emergency Telephone: 412-923-1800 Bayer Information Telephone: 800-662-2927
Transportation Emergency:	
CHEMTREC: In Washington, D.C.:	800-424-9300 202-483-7616

INGREDIENTS

Dorlastan is an organic filament yarn essentially composed of carbon, hydrogen, nitrogen and oxygen. The fiber contains additives and lubricants to achieve desired chemical and physical properties. These

ingredients are not expected to create any unusual hazards when handled and processed according to good industrial hygiene and manufacturing practices and the guidelines provided in this MSDS.

Ingredient	CAS No.	Exposure Limits	Percent	Fiber Type
Segmented Polyurethane-Polyurea	Proprietary	OSHA-NE ACGIH-NE	>88%	All Types
Polydimethylsiloxane (Silicone Oil)	63148-62-9	OSHA-NE ACGIH-NE	Proprietary	All Types
Magnesium Stearate	557-04-0	OSHA-NE ACGIH-NE	<1%	All Types
Titanium Dioxide	13463-67-7 1317-80-2	OSHA-10mg/m ³ TWA-total dust ACGIH-10mg/m ³ TWA-total dust	Max 3%	V400, V500, V600 V800, V820
Zinc Oxide	1314-13-2	OSHA-10mg/m ³ TWA-total dust ACGIH-10mg/m ³ TWA-total dust	Max 2%	V610, V810
Dimethylacetamide (DMAC)	127-19-5	OSHA-10ppm TWA (skin) OSHA-35 mg/m ³ TWA (skin) ACGIH-10ppm TWA (skin) ACGIH-35mg/m ³ TWA (skin)	Max 1% for: Max 3% for:	V600, V610, V800 V810, V820 V400, V500
Auxiliary Additives	Proprietary	OSHA-NE ACGIH-NE	Max 3%	All Types

PHYSICAL PROPERTIES

Physical Form	Solid
Appearance	Filament yarn
Color	Colorless or white
Odor	Odorless at room temperature; at higher temperatures an ammonia-like odor of DMAC may be detectable
Odor Threshold	47ppm (DMAC)
pH	Not applicable
Boiling Point	Not applicable
Melting/Freezing Point	482-572°F (250-300°C) with decomposition
Softening Point	329-338°F (165-170°C)
Solubility in Water	Insoluble at 68°F (20°C)
Specific Gravity	1.15-1.20 at 68°F (20°C)
Bulk Density	Not established
% Volatile by Weight	Max 3% (DMAC)
Vapor Pressure	Non-Volatile at 68°F (20°C)

FIRE EXPLOSION DATA

Flash Point	Not applicable
Flammable Limits	
Upper Explosive Limit (UEL)(%)	Not established
Lower Explosive Limit (LEL)(%)	Not established
Extinguishing Media	All extinguishing media are suitable
Special Fire Fighting Procedures	Full emergency equipment with self-contained breathing apparatus must be worn by fire fighters. During a fire, irritating and toxic gases and aerosols may be generated by thermal decomposition and combustion. See "Reactivity Data" Section.
Unusual Fire/Explosion Hazards:	Prevent or remove fiber fly (dust). Keep away from sources of ignition. Take effects of static charges into account. Do not extinguish an electrical fire with water. See "Handling and Storage Precautions" Section.

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HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Dorlastan is a non-reactive solid fiber. It has been manufactured and processed since 1964 without reports of adverse health effects. When used under recommended processing and ventilation conditions, no adverse health effects are expected. Titanium Dioxide is an additive used as a dulling agent and is bound within the polymer matrix. Zinc Oxide is an additive used in the V610 and V810 types to enhance the fibers' chlorine resistance. Under certain dyeing and finishing conditions, it is possible for zinc oxide to be partially converted to a soluble form, no adverse human health effects are expected. DMAC and silicone oil may be released into the air or extracted into the fiber during aqueous or solvent finishing. Insufficient ventilation could cause airborne DMAC to exceed the exposure limits. See "Ingredients" Section.

ROUTES OF ENTRY:

Inhalation; skin contact; skin absorption; eye contact.

ACUTE EFFECTS OF EXPOSURE:

Under normal fiber processing conditions overexposure to fiber fly (dust) is unlikely. However, if such an exposure occurs, we anticipate symptoms of respiratory irritation with sneezing, coughing or runny nose.

Overexposure to DMAC by inhalation: causes nausea, vomiting, headache and dizziness. Jaundice has been reported in workers repeatedly exposed to 20-25 ppm. Significant skin penetration reportedly contributed to those effects; by eye and skin: liquid and vapor is readily absorbed and may cause irritation with redness, rash, tearing, pain and blurred vision; by ingestion: may cause nausea, vomiting,

alcohol intolerance, abdominal spasms and headache. DMAC overexposure can also cause abnormal liver function with yellowing of the skin (jaundice), nausea, vomiting, reduced appetite or abdominal pain. Laboratory testing indicates that abnormal kidney function can also occur.

At decomposition temperatures, silicone oil fumes may be generated, causing irritation to the eyes and respiratory tract. In addition, this product contains various agents and mixtures below the OSHA de minimis level. They may vaporize at processing temperatures in excess of 266°F (130°C). Local exhaust ventilation should be maintained at the processing equipment in order to limit exposure. See "Ventilation Recommendations" Section.

CHRONIC EFFECTS OF EXPOSURE:

Workers in a polymer manufacturing plant exposed to 0 to 2 ppm DMAC with some excursions between 11 and 34 ppm reported symptoms of dizziness, lethargy and weakness.

CARCINOGENICITY:

The components of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Preexisting eye, skin, bronchial, liver, kidney, or lung disorders.

EXPOSURE LIMITS:

For fiber fly (dust) observe nuisance dust exposure limits-also see "Ingredients" Section.

OSHA-PHL	15 mg/m ³ - total dust
	5 mg/m ³ - respirable dust
ACGIH-TLV	10 mg/m ³

FIRST AID

If an employee should happen to develop symptoms of overexposure to DMAC or Silicone Oil, remove to fresh air. If breathing is difficult, give oxygen and call a physician. There is no specific antidote for overexposure,

treat effects symptomatically and supportively. If overexposure to fiber fly (dust) occurs, remove to fresh air. If symptoms persist, call a physician. Eyes, skin and ingestion are not likely routes of overexposure.

EMPLOYEE PROTECTION

EYE PROTECTION:

Safety goggles are recommended as a good industrial hygiene practice, especially when curing wires and straps for packaging.

SKIN PROTECTION REQUIREMENTS:

If prolonged handling of unprocessed yarn produces temporary discomfort due to skin contact with lubricants and other surface deposits, wear impermeable gloves such as butyl rubber.

RESPIRATOR REQUIREMENTS:

The specific respirator selected must be based upon contamination levels found in the workplace, must not exceed the working limits of the respirator and must be jointly approved by NIOSH and MSHA. Use an approved dust respirator if airborne dust concentration is at or exceeds nuisance dust exposure limits. Use a

respirator equipped with an organic vapor cartridge if DMAC or Silicone Oil is generated in excess of listed exposure levels. See "Ingredients" Section.

VENTILATION REQUIREMENTS:

Local exhaust is recommended to control fiber fly (dust) and to capture DMAC, Silicone Oil and other processing vapors and decomposition products which can be emitted. Effective ventilation is particularly important when heat setting, hot wire and/or laser cutting are being used because hazardous decomposition products may be formed.

ADDITIONAL SAFETY MEASURES:

Safety shoes and general purpose work gloves should be worn when cutting wires and straps for packaging.

REACTIVITY DATA

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibilities:	None known
Instability Conditions:	None known
Decomposition Temperature:	482-572°F (250-300°C)
Decomposition Products:	By fire or high heat: carbon monoxide, carbon dioxide, nitrogen oxides, nitriles, hydrogen cyanide, methylene diisocyanate (MDI), and other undetermined decomposition products. Additionally small amounts of formaldehyde may be formed through oxidative decomposition of Silicone Oil.

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SPILL/LEAK PROCEDURES

Remove mechanically by method which minimizes the generation of airborne dust (i.e. vacuum cleaner). If accumulation of silicone oil occurs on workroom floor, take up with

suitable absorbent and place in container for disposal. Wear appropriate protective equipment.

WASTE DISPOSAL METHODS

Material may be incinerated or landfilled in compliance with federal, state and local environmental control regulations. The zinc oxide component in this product can be made partially soluble during dyeing and other fiber

finishing processes. The waste water may therefore contain zinc. If waste water is used in subsequent processing, the effluent must be treated in a waste water treatment plant in accordance with existing regulations.

HANDLING AND STORAGE PRECAUTIONS

Storage Temperature (MIN/MAX)	39°F (4°C)/80°F (27°C)
Shelf Life	6 months maximum recommended
Special Sensitivity	Avoid excessive heat or moisture. Store away from any atmospheric contaminants like exhaust gases from internal combustion engines.

Dorlastan should be stored in a clean, cool, dry environment. Failure to do so may compromise the integrity of the product. To avoid a slipping hazard, prevent accumulation of silicone oil on the workplace floor. Exercise caution in stretching operations to help prevent violent backlashes which can result in injury. Keep open flames, sparks and heat away from dusty areas. Static charges can

accumulate during shipping, unloading or conveying. Regular cleaning of machines, work clothes and workrooms is recommended. Hands should be washed with soap and water before eating, drinking or smoking and at the end of the work shift. Do not breathe any fumes or dusts which may be formed. In addition, avoid eye and skin contact with fumes, dusts or mists.

SHIPPING INFORMATION

Technical Shipping Name: Filament yarn
 Freight Class Bulk: Fiber, synthetic, NEC
 Freight Class Package: Fiber, synthetic, NOINMFC (68555) Sub 8 CL-70
 Product Label: Current assigned label
 DOT (HM-181) (Domestic Surface): Non-regulated
 IMO/MDG CODE (OCEAN): Non-regulated
 ICAO/IATA (AIR): Non-regulated

PACKAGING

Dorlastan is packaged and shipped as single continuous fibers wound on plastic laminated paper tubes or recyclable all-

plastic tubes in cartons and multiple continuous fibers wound on beams in racks.

ANIMAL TOXICITY DATA

Toxicity Data - DMAC (Dimethylacetamide)

ACUTE TOXICITY

Oral LD50 4800mg/kg (rat) ¹
 Dermal LD50 2240mg/kg (rabbit) ¹
 Inhalation LC50 2475ppm/1 hr (rat) ¹
 Eye Effects Mild irritation (100 mg rabbit) ¹
 Skin Effects Mild irritation (10 mg/24 hr rabbit) ¹
 Other Acute Effects Short exposures by inhalation in laboratory animals reportedly caused lung congestion and degeneration of the liver and kidneys²
 Carcinogenicity None reported in rats given 1000mg/kg/day for two years in drinking water ²
 Mutagenicity None reported in bacterial or mammalian cell culture studies ²
 Reproduction Testicular effects or inactive spermatogenesis was reported when rats were given repeated oral doses of 450mg/kg or inhalation exposures to 228ppm ²

ANIMAL TOXICITY DATA

Other Toxicity Data Repeated and long-term exposures by skin contact produced liver effects in laboratory animals²

¹ Occupational Health Services, MSDS on Disc, 12/30/92

² DMAC Supplier, MSDS, 1/21/91

REGULATORY INFORMATION

OSHA Status: This MSDS complies with the OSHA Hazard Communication Standard 29 CFR 1910.1200

TSCA Status: This product is registered as an article, therefore exempt from TSCA Regulation.

CERCLA Reportable Quantity: None

SARA Title III:

Section 302 Extremely Hazardous Substances: .. None

Section 311/312 Hazard Categories: Immediate health hazard; delayed health hazard

Section 313 Toxic Chemicals: Zinc Oxide (CAS #1314-13-2) reported as Zinc Compounds, Upper Bound = 3.5% For V610 and V810 Types Only.)

RCRA Status If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product 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. (40 CFR 261.20-24)

State Right-to-Know Zinc Oxide (CAS #1314-13-2) - PA, NJ, MA
Titanium Dioxide (CAS #13463-67-7) - PA, NJ, MA
Dimethylacetamide (CAS #127-19-5) - PA, NJ, MA

OTHER REGULATORY INFORMATION

	Health	Flammability	Reactivity	Other
NFPA 704M Ratings	1	0	0	
0=insignificant	1=slight	2=moderate	3=high	4=extreme
HMS Ratings	1	0	0	
0=minimal	1=slight	2=moderate	3=serious	4=severe

Bayer's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMS and NFPA ratings are provided by Bayer as a customer service.

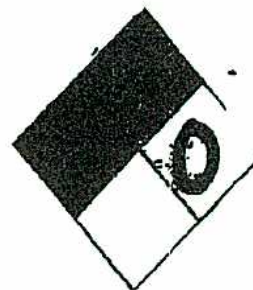
APPROVALS

This MSDS has been prepared by the Product Safety and Regulatory Affairs Department of Bayer Corporation, Pittsburgh, PA.

Approval date: February, 1995
Supersedes date: None



2004 REGULATIONS
2004 GSA 3-151
Charlotte, NC 28213
714 557 3000



**FIBER INDUSTRIES
MATERIAL SAFETY DATA SHEET
NUMBER L32090**

PRODUCT NAME

Polyester Filament fiber with experimental finish.

PRODUCT IDENTIFICATION

Polyester Filament is a family of products made from polyethylene terephthalate and one or more surface finishes.

The polymer immobilizes the constituents of the polymer system (delusterants, catalyst residues, etc.) which, therefore, present no likelihood of exposure under normal conditions of processing and handling. The CAS number for the polymer is 25038-59-9 and its chemical formula is $(C_{10}H_8O_4)_n$. It is also known as "polyester" and "PET".

These products do not have Food and Drug Administration approval for sensitive end uses (food contact, medical devices, diapers etc.).

HAZARDOUS INGREDIENTS

These products are not considered hazardous by the criteria of the OSHA Hazard Communication Standard (20 CFR 1910.2000). However, it does contain an experimental finish which has not been tested. The nonhazardous designation is based on information about the finish components and the level of finish known to be on the fiber.

PHYSICAL-CHEMICAL DATA

Polyethylene terephthalate is chemically stable and resistant to attack by oils, solvents, weak acids, and weak alkalis. The polymer melts at about 500 F.



Dust generated in high-speed texturing operations could be irritating to the skin and eyes. The irritation would be due to the finish, which is usually concentrated in the dust. The ingredients in the finish are confidential.

PHYSICAL HAZARDS

The polymer will burn if exposed to flame. Decomposition products generated from molten polymer may be subject to auto-ignition. Combustion products will be comprised of carbon, hydrogen, and oxygen. The exact composition will depend on the conditions of combustion.

HEALTH HAZARD DATA

This product has not been fully evaluated for toxicological properties. Preliminary evaluation of chemical components used in the finish and toxicological testing of the polymer have given no indication that health problems would occur in normal handling and use.

CONTROL MEASURES

Ventilation and/or other housekeeping measures are recommended to minimize exposure to fiber dust generated in high-speed texturing operations.

Fire fighters should protect themselves from decomposition and combustion products that may include carbon monoxide and other toxic gases.

SAFE HANDLING PROCEDURES

Personal hygiene measures such as washing the hands and face immediately after working with the fibers and before eating, smoking, or using lavatory facilities is recommended.

Use of safety glasses and gloves, and standing to one side when cutting bale wires is advised.

DISPOSAL AND SHIPPING INFORMATION

These products are not classified as hazardous wastes under the Resource Conservation and Recovery Act and, unless prohibited by State or local regulation, can be disposed of in a municipal landfill or incinerated. Any finish oils contained in plant waste water should be biodegradable in conventional biological waste water treatment systems.

These fibers are not classified by the Department of Transportation as a hazardous material.

LABEL INFORMATION

None.

INFORMATION CONTACT

Fiber Industries
Product Safety Coordinator
P.O. Box 11331
Charlotte, NC 28231
704-357-2119

To the best of our knowledge, the information contained herein is accurate. However, Fiber Industries assumes no liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing: No precautions known to be necessary

Other Precautions: To our knowledge, no data exists to suggest that this product is hazardous in any manner other than that which is specified above.

* Comments: This product is made from 100 percent spun cotton fibers and can be considered as biodegradable as any other product made in a similar manner.