MATERIAL SAFETY DATA SHEET

DO NOT USE THIS PRODUCT UNTIL YOU HAVE READ THIS INFORMATION

MSDS Prepared By: TenCate Geosynthetics Americas
365 South Holland Drive
Pendergrass, GA 30567

Chemtrec Emergency: 24-hour Phone: (800) 424-9300
Nicolon Phone: (706) 693-2226
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Section 1: General Information

Trade Names and Synonyms: Products: Mirafi® RS280®, RS380® and RS580®

Chemical Names and Family: Polypropylene woven fabrics
Product Use: Construction Products
HMIS Ratings: Health 1, Fire 1, Reactivity 1, PPE (see section 6)

Section 2: Hazardous Ingredients/Identity Information

<table>
<thead>
<tr>
<th>Ingredient (Chemical Name, CAS#, and Common Name)</th>
<th>OSHA PEL or TWA</th>
<th>ACGIH TLV</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polypropylene resin (9003-07-0)</td>
<td>n/a</td>
<td>n/a</td>
<td>94%</td>
</tr>
<tr>
<td>Carbon Black (1333-86-4)</td>
<td>3.5 mg/cm TWA</td>
<td>3.5 mg/cm TWA</td>
<td>3.5%</td>
</tr>
<tr>
<td>N,N’’’-(1,2 Ethanediylbis(((4,6-Bis(Butyl (1,2,2,6-Pentamethyl-4-Piperidinyl) Amino]-1,3,5-Triazin-2-YI)Imino]-3,1-Propanediyl)]Bis[N’N’-Bis(1,2,2,6,6- Pentamethyl-4-Piperidinyl)] (106990-43-6)</td>
<td>Not established</td>
<td>Not established</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Butanedioic Acid, Dimethyl Ester, Polymer with4-Hydroxy-2,2,6,6-Tetramethyl-1-Piperidineethanol</td>
<td>Not established</td>
<td>Not established</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Proprietary Compound</td>
<td>n/a</td>
<td>n/a</td>
<td>2%</td>
</tr>
</tbody>
</table>

Section 3: Hazards Identification/Potential Effects

Overview: Based upon pertinent data available, polypropylene cloth products are not hazardous under OSHA Hazard Communication Standard (29 CFR
1910.120).

**Routes of Exposure:**

<table>
<thead>
<tr>
<th>Route</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Inhalation of dust, fumes, or smoke generated during processing or burning of fabric may irritate respiratory tract and mucous membranes.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>May sensitization by skin contact.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Low hazard under normal handling.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Not likely to occur, but swallowed material may physically irritate the digestive system.</td>
</tr>
</tbody>
</table>

**Symptoms of Acute Overexposure:** Product may contain surface applied process lubricants that may cause skin to dry out.

**Symptoms of Chronic Overexposure:** No known health effects have been observed with normal use.

**Medical Conditions Aggravated By Exposure:** Persons with pre-existing skin disorders may be susceptible to effects of the material.

**Carcinogenity:** Carbon black is classified as a Group 2B possible human carcinogen. When encapsulated in a plastic matrix, risk of exposure is minimized.

### Section 4: First Aid Procedures

<table>
<thead>
<tr>
<th>Route</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Move affected person from exposure to fresh air if overcome by fumes, mist, dust, or adverse exposure to vapors and/or aerosols formed at elevated temperatures.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Wash contact areas with soap and water. Consult physician in case of irritation. For hot product, immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention. Do not remove material from skin as the damaged flesh can be easily torn.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Not likely to be ingested in present form.</td>
</tr>
</tbody>
</table>

### Section 5: Fire and Explosion Hazard Data

**Flash Point (Method Used):** Greater than 600°F (300°C)

**Flammable Limits:**

- **LEL:** N/A
- **UEL:** N/A

**Extinguishing Media:**

- **x** Water Fog
- **x** Carbon Dioxide
- **x** Regular Foam
- **x** Dry Chemical
- ___ Other

**Special Fire Fighting Procedures:** Material will not burn unless preheated. Over heated or molten material may burn slowly with dense smoke. As with any fire, wear standard protective equipment and approved self-contained breathing apparatus.

**Unusual Fire and Explosion Hazards:** Not applicable
Section 6: Accidental Release Measures
No environmental threat is expected from release.

Section 7: Handling and Storage
Storage: Store in a cool, dry area away from oxidizing materials, open flames, heat sources, or sources of ignition. Minimize dust generation.
Handling: Use lifting devices as necessary to lift large rolls, otherwise, no special handling required. If product is molten, avoid contact with skin or eyes

Section 8: Exposure Controls
Ventilation Requirements: If process generates dust, use ventilation to keep exposure below exposure limit.
Personal Protective Equipment:
Eye Protection: Not normally required; safety glasses with side shields can be worn as a precaution.
Skin Protection: Not normally required. Persons with exposure sensitivity may need suitable gloves.
Respiratory Protection: Not required. If dust is generated in handling, wear appropriate respiratory protection to keep concentration below the permissible exposure limit.
Other Clothing and Equipment: Normal work clothing.

Section 9: Physical and Chemical
Boiling Point: N/A
Vapor Pressure (mm Hg): N/A
Vapor Density (Air =1): N/A
Solubility in Water: Insoluble
Specific Gravity (H₂O=1): Less than 1
Evaporation Rate (Butyl Acetate=1): N/A
Melting Point: ~320°F
Appearance and Odor: Black and orange woven polypropylene fabric wound on a cardboard core, no odor.

Section 10: Stability and Reactivity
Stability: _x_ Stable ___Unstable
Conditions to Avoid: Keep away from elevated temperatures for prolonged periods, sparks, & flames
Incompatibility (Materials to Avoid): Strong oxidizers, fluorine
Hazardous Polymerization: ___ May Occur _x_ Will Not Occur
Hazardous Decomposition Products (Including Combustion Products): Oxides of
nitrogen, carbon. Included, but not limited to are smoke, fumes, flammable hydrocarbons, and incomplete combustion products.

Section 11: Toxicological Information

Local Effects
Eye: Not toxic
Skin: No data available
Inhalation: Negligible in ambient temperatures.
Ingestion: N/A
Target Organs: Skin, eyes, respiratory tract if dust is generated
Carcinogenicity: Carbon black is classified as a Group 2B possible human carcinogen. When encapsulated in a plastic matrix, risk of exposure is minimized.

Mutagenic and Reproductive Effects: Not considered to be mutagenic

Section 12: Ecological Information

Environmental Data: Not expected to be hazardous to the environment in present form.
Ecotoxicological Information: May be harmful to wildlife if ingested.
Ecological Comments: Keep out of waterways.

Section 13: Disposal Considerations

Disposal: Spent material should be recycled or disposed according to current regulations and applicable laws at time of disposal.
RCRA Hazard Class: Does not contain RCRA regulated materials.

Section 14: Transport Information

DOT Classification: NOT REGULATED

Section 15: Regulatory Information

This product may contain ingredients in the additives in “De Minimus” quantities, which would be listed in SARA 311/313: Acute Health Hazard. At levels under 0.01% by weight, no “Reportable Quantities” will be reached with typical fabric inventories.

International Inventories
U.S. E.P.A. TSCA: All components in this product appear on the E.P.A.TSCA Inventory.
Canada DSL & NDSL: All components in this product appear on the DSL or NDSL.

U.S. Regulations

The following information pertains to the product:
<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA/SARA 302 TPQ:</th>
<th>CERCLA/SARA 312:</th>
<th>CERCLA/SARA 313:</th>
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</thead>
<tbody>
<tr>
<td>N,N''''-(1,2 Ethanediylbis(((4,6-Bis(Butyl</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(1,2,2,6-Pentamethyl-4-Piperidinyl) Amino]-1,3,5-Triazin-2-Yl)Imino]-3,1-Propanediyli)Bis[N&quot;N&quot;-Bis(1,2,2,6,6-Pentamethyl-4-Piperidinyl)] (106990-43-6)</td>
<td>0.1 Deminimus</td>
<td></td>
<td></td>
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<tr>
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<td></td>
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</table>

The following pertains to the components:

**MARTK, NJRTK, PARTK:** None of the components are listed

**California Proposition 65:** None of the components are listed

### Canada

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada – WHMIS: Classifications of Substances</th>
<th>Canada – Ingredient Disclosure</th>
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<td>Butanedioic Acid, Dimethyl Ester, Polymer with4-Hydroxy-2,2,6,6-Tetramethyl-1-Piperidineethanol</td>
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The information and recommendations contained in this publication have been compiled from sources believed to be reliable and to represent the best current opinion on the subject at the time of publication. Since we cannot anticipate or control the many different conditions under which this information or our products may be used, we make no guarantee that the recommendations will be adequate for all individuals or situations. Each user of the product described herein should determine the suitability of the described product for his particular purpose and should comply with all federal and state rules and regulations concerning the described products.
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