

IRONTURF ULTRA GREEN

Material Safety Data Sheets

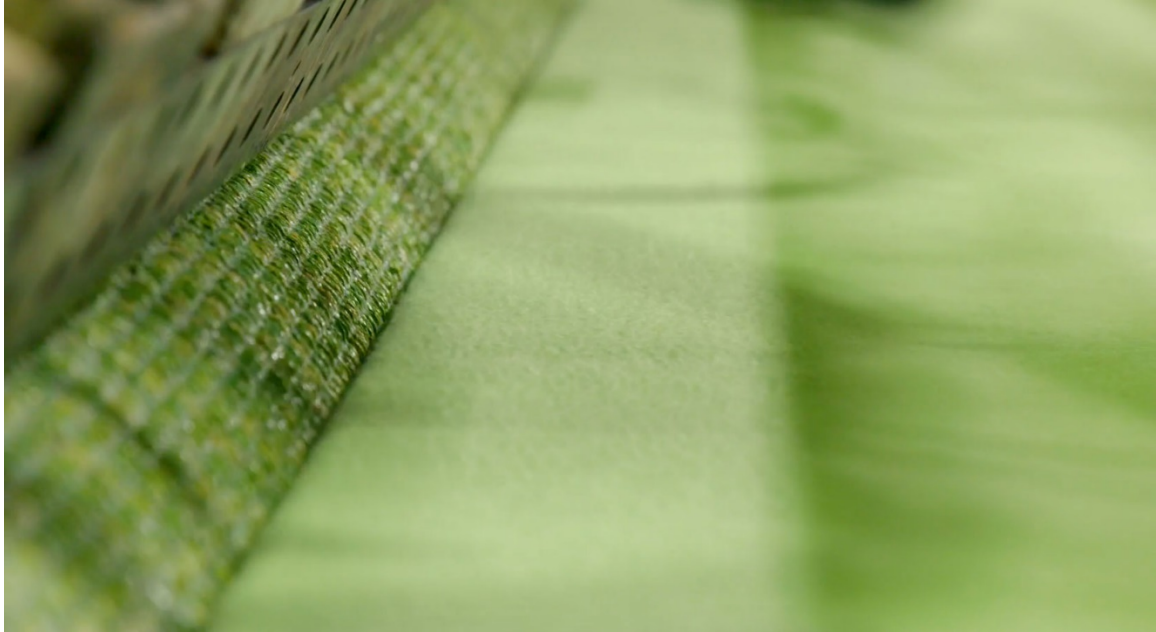


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YARN

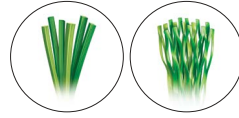
DENSITY (DENIER)	10,000/1 (XPS); 12,000/6 (XWRD)
THICKNESS (MICONS)	125 (XPS); 365 (XWRD)
MELTING POINT	128° C 260° F
BREAKING STRENGTH	24 lbs/force (XPS/XWRD)
LEAD CONTENT (PPM)	<100

STANDARD COLORS

 FIELD GREEN Pantone: 575C	 LIME GREEN Pantone: 7496C	 FIELD GREEN/ LIME GREEN
 BROWN Pantone: 1545C	 NAVY BLUE Pantone: 282C	 FLORIDA BLUE Pantone: 281C
 GRAY Pantone: 422+429	 BLACK Pantone: 000C	 RED Pantone: 185C
 ORANGE Pantone: 166C	 BLUE LAGOON Pantone: 2925C	 RED CLAY Pantone: 7526C
 CRIMSON Pantone: 202C	 BLUEPLE Pantone: 268C	 TAN Pantone: 728C
 BRIGHT YELLOW Pantone: 136C	 WHITE Pantone: 000	 VEGAS GOLD Pantone: 466C

TURF

TURF CONTENT*



WOVEN BLEND OF DURABLE XPS FIBERS AND PLAYABLE DIAMOND FIBERS

TenCate U.V. resistant XWRD monofilament and Tencate U.V. resistant XPS Plus woven with a unique blend of 13 oz/yd² of U.V. stable PP and PE weft/warp fibers for the base structure

STABILITY COATING**

13.0 oz/yd² Recyclable Duraflto polyolefin permeable coating

TOTAL WEIGHT

85 oz/yd²

PILE HEIGHT

2 inch

FACE WEIGHT†

59 oz/yd²

ROLL WIDTH

15 feet

WATER PERMEABILITY

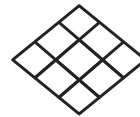
≥ 13.2 gal/yd²/min

TUFT BIND††

≥ 18 lbs

STITCHING

12 pic



59 OZ. FACE WEIGHT CREATES DENSER CONSTRUCTION



12-PIC STITCHING FOR CLEAN TURF GRAPHICS



FOOTBALL, SOCCER AND MULTISPORT FIELDS

Pile Height, Max Thickness, Face Weight, Primary & Secondary Backing, and Total Weight can differ by ±10%. Roll Width can differ by ±0.8 inch.

GreenFields has the right to alter each product specification in order to improve the system according to the latest standards.

GreenFields is not legally liable in case of noncompliance with the above mentioned specifications.

*In woven turf, face yarn and base yarns are woven together into one structure simultaneously - there is no separate backing.

**Conventional coating is not required on woven turf to keep fibers into backing. Woven turf is coated for stability purposes during the installation process.

†Face Weight reflects entire length of yarn, including portion woven into backing, which is consistent with standard ASTM method of measuring tuft including back stitch.

††Our woven technology eliminates the need for backing and makes the term "Tuft Bind" irrelevant. We have included this measure here in order to meet the requirements of certain RFPs.



Material Safety Data Sheet

A. Identity

Chemical Name or Synonyms PP, PE Fiber	Trade Names TENCATE, Thiolon, Polyloom
Manufacturer's Name TENCATE GRASS North America	Color Name/Number FG#65P/Lime#66P
Address 1131 Broadway St. Dayton, TN. 37321, U.S.A.	Emergency Telephone or Contact (423)775-0792

B. Hazardous Ingredients

This product does not contain any hazardous ingredients.		
<u>CAS#</u>	<u>Chemical Name</u>	<u>% by Weight</u>
	None	
This product is considered to be a non-hazardous chemical under the federal Occupational Safety and Health Administration hazard communication Standard 29 CFR 1910.1200.		

C. Physical data

Boiling Point (°C)	N/A	Melting Point (°C)	PE=125± 6 PP=168± 5
Vapor Pressure (mm HG & temp.)	N/A	Specific Gravity (H2O = 1)	PE=0.90-0.96 PP=0.90-0.93
Molecular Weight	N/A	Percent Volatile by Volume %	N/A
Vapor Density (air = 1)	N/A	Evaporation Rate	N/A

D. Reactivity Data

Stability (thermal, light, ect.)	Unstable Stable	Conditions to avoid: None
Incompatibility (materials to avoid): Some hydrocarbons may cause swelling at room temperature. Some solvents will dissolve yarn at elevated temperature.		
Hazardous Decomposition Products:	N/A	
Hazardous Polymerization	May Occur Will not Occur	X
Conditions to avoid:	None	

E. Fire Hazard Data

Flash Point: >600°F	Autoignition Temp(°F) >575°F
Flammable Limits (% by volume in air):	Lel: N/A Uel: N/A
Extinguishing Method: Water, Foam, Carbon Dioxide, Dry Chemicals, and Halon	
Special Fire Fighting Procedures: Use water spray to cool fire exposed surfaces and to protect personel. Wear self contained breathing apparatus when fighting fire in contained area.	
Unusual Fire and Explosion Hazards: Some carbon monoxide smoke formation is possible under oxygen lean conditions.	

Material Safety Data Sheet

F. Physiological Effects and Hazard Data

Threshold Limit Value:	N/A
Effects from Ingestion; if available LD50 and Species:	No information found
Effects from Skin Absorbption; if available LD50 and Species:	N/A
Effects from Inhalation; if available LD50 and Species:	N/A
Skin Irritation and/or Sensitization(species):	No information found
Eye Irritation and/or Injury (species):	N/A
Warning Properties (odor threshold,irritation to eyes, nose, throat):	N/A
Chronic Hazards:	No information found
Industrial and/or Human Experience:	No reported incidents.
Acute Signs or Symptons of Overexposure:	No information found
Chronic Signs or Symptons of Overexposure:	No information found
Medical Conditions Aggravated by Exposure:	No information found
Primary Routes of Entry:	No information found
OSHA PEL:	Not established
ACGIH TLV:	Not established
Carcinogenicity: Not listed as carcinogen or potential carcinogen by NTP, IARC, or OSHA.	

G. Emergency and First Aid Procedures

Eye Contact:	Flush with water. Call a physician if needed.
Skin Contact:	N/A
Inhalation:	N/A
Ingestion:	N/A

H. Spill or Leak Procedures

Steps to be taken in case material is released or spilled:
Shut off water source, advise municiple authorities of possible floating non-toxic substance if material enters course of sewer.
Waste disposal method:
Dispose in accordance with federal, state, and local regulations.

I. Control Measures and Precautions

Eye Protection:
Not needed. However, safety glasses or goggles are recommended
Respiratory Protection:
Not needed
Protective Gloves:
Not needed
Ventilation:
Not needed
Other Precautions:
Not needed
Precautions to be taken in handling and storage:
Do not store near flame, heat, or strong oxidents.
Recommendations for Dusty Process:
If there is a potential to generate airborne fiber dust or mist during processing, we recommend an exposure limit of 2.7 mg/m3 air TWA. Adequate ventilation and, if needed, dust mask are recommended.

J. Section 313 Supplier Notification

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right -To Know Act of 1986 (40 CFR 372):				
<u>CAS#</u>	<u>Chemical Name</u>	<u>% by Weight</u>	<u>% of Total Parent Metal</u>	<u>CAS# of Parent Metal</u>
	None			

K. Legal Disclaimer

While the information and recommendations set forth herein are believed to be accurate and complete as of the date hereof, TENCATE GRASS NORTH AMERICA makes no warranty with respect thereto and disclaims all liability from reliance thereon.
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The Reynolds Company
P.O. Box 1925 (29602)
Greenville, SC 29611

Material Safety Data Sheet

Emergency Overview

Molten material may cause thermal burns.

Hazard Rating

HEALTH: 1
FLAMMABILITY: 1
REACTIVITY: 0
PROTECTIVE:

Date of Print: 8/29/2012

Revision Date: 8/29/2012

1. Identification of the substance/preparation and company

Commercial Product Name: Reynco 55-161FD

Information Phone: 864-232-6791

Chemical Family: Polyolefin

Chemtrec Emergency: 1-800-CHEMTREC

Synonyms:

Product Use: Hot Melt Adhesive

2. Composition/Information on Ingredient

Chemical Name	CAS #	Max %	OSHA PEL	ACGIH TLV
None Hazardous		100		

3. Hazardous Identification

3.1 Potential Health Effects:

Eye Contact: No hazard in normal industrial use. Fumes from molten material may cause irritation.

Inhalation: No hazard in normal industrial use. Heated vapors may cause irritation.

Ingestion: No hazard in normal industrial use.

Skin Contact: No hazard in normal industrial use. Molten material can cause burns!

3.2 Signs and Symptoms of Exposure:

N/A

Reynco 55-161FD

4. First Aid Measures

- Eye Contact:** Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.
- Inhalation:** No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Ingestion:** Ingestion is not an expected route of entry. If ingested, get medical attention immediately.
- Skin Contact:** Wash affected area with soap and water. If irritation persists, get medical attention.

4.1 Aggravated Medical Conditions:

N/A

4.2 Supplemental Health Information:

N/A

5. Fire-Fighting Measures

5.1 Flammable Properties:

Flash Point:	>400F	Flash Point Method Used:	Cleveland Closed Cup
Autoignition::	Not applicable	LEL:	Not determined
		UEL:	Not determined

5.2 Extinguishing Media:

Use water spray or fog, foam, dry chemical or CO2.

5.3 Special Fire-Fighting Procedures:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

5.4 Unusual Fire and Explosion Hazards:

Material will burn in a fire.

5.5 Combustion Products:

Carbon dioxide, carbon monoxide, various hydrocarbons

6. Accidental Release Measures

6.1 Steps to be taken in case material is released or spilled:

Collect material and place in a disposal container. Obey relevant local, state, and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

Reynco 55-161FD

7. Handling and Storage

7.1 Precautions to be taken in handling and storage:

Store in a cool, dry place with adequate ventilation.

7.2 Other Precautions:

Store away from heat.

8. Exposure Control/Personal Protection

8.1 Engineering Controls:

Good ventilation should be sufficient to control airborne levels.

Ventilation:

Local exhaust is preferred and recommended. General room ventilation is satisfactory only if sufficient to keep vapors well below the exposure limits.

8.2 Personal Protection Equipment:

Respiratory Protection:

No respiratory protection required under normal use conditions.

Hand Protection:

Wear gloves to prevent thermal burns from molten product. Rubber or nitrile gloves are sufficient when handling solid form.

Eye Protection:

Safety glasses with side shields.

Other Protective Clothing or Equipment:

N/A

8.3 General Hygiene Practice:

Use good personal hygiene when handling this product. Wash hands after use, before smoking, or using the toilet.

8.4 Exposure Guidelines:

9. Physical and Chemical Properties

9.1 Appearance and Odor: White to off-white granule with faint odor

Form: Solid at room temperature

9.2 Safety Parameters:

Boiling Point:	N/D	Percent Volatile:	0.00
Vapor Pressure:	Not applicable	Molecular Weight:	Not determined
Specific Gravity:	0.97	PH:	Not applicable
Melting Point:	N/A	Other Properties:	
Evaporation:	N/A	Vapor Density:	Heavier Than Air
Freezing Point:	N/A	VOC:	0.00
Solubility in Water:	Insoluble in water		

Reynco 55-161FD

10. Stability and Reactivity

10.1 General Information:

Stable: Stable

Conditions To Avoid: Avoid high temperatures.

Hazardous Polymerization: Will Not Occur

Conditions To Avoid: N/A

10.2 Hazardous Decomposition or By-products

None under normal conditions.

10.3 Incompatibility:

None Reported.

11. Toxicology Information

11.1 General Information:

N/A

11.2 Acute Toxicity:

N/A

12. Ecological Information

N/A

13. Disposal Considerations

13.1 Material Disposal: Reclaim if feasible. If disposal is required, dispose of waste material in sanitary landfill or incinerate in an industrial, commercial or municipal incinerator.

13.2 Packaging Disposal: N/A

14. Transportation Information

DOT Class: Not Regulated by DOT - HMR

Hazard Class:

UN Number:

Packing:

Guide Number:

Proper Shipping Name: Not Regulated by DOT - HMR

Reynco 55-161FD

15. Regulatory Information

No information available.

TSCA: This product is in compliance with the Toxic Substances Control Act's Inventory requirements.

15.1 U.S. Federal Regulations:

N/A

15.2 Additional Regulations:

California: This product contains no chemicals that are known to the state of California to cause cancer, birth defects or reproductive harm.

New Jersey: This product contains the following non-hazardous components subject to disclosure under New Jersey Right-To-Know legislation: 1-butene. polymer with ethene and 1-propene. C.A.S. #25895-47-0 and Ethene. homopolymer. C.A.S. #9002-88-4.

Massachusetts: This product does not contain toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

Pennsylvania:

PEL: This product contains the following non-hazardous components subject to disclosure under Pennsylvania Right-To-Know legislation: 1-butene. polymer with ethene and 1-propene. C.A.S. #25895-47-0

Sara Reportable: N/A

SARA Title III Chemicals: None

16. Other Information

Warranty and Terms:

"The Reynolds Company ("Reynolds") warrants that our products are manufactured in accordance with Reynolds' specifications in effect on the date of manufacture. These specifications are available upon request. This Warranty does not cover test data, or any defects, damages or other harms caused to any extent or in any way by failure to follow applicable Reynolds instructions, if any, or abuse /misuse of the product.

We believe the information included on this Material Safety Data Sheet to be correct, to the best of our knowledge. The recommendations and suggestions herein are made without guarantee or representation as to results. We recommend that tests be made in a laboratory or plant to determine if this product meets all of your requirements. It is the responsibility of the buyer/user to determine the suitability of this product for his/her application/requirements.

Any claim made or action commenced by purchaser/end user under Reynolds' limited warranty as set forth herein must be brought within one year from date of shipment from Reynolds to the purchaser. Purchaser agrees that all disputes arising from Reynolds' sale of product to purchaser shall be brought, if at all, in and before a court located in the state of South Carolina, to the exclusion of the courts of any other state.

For any valid claim presented under the limited warranty, Reynolds will replace the product, or, at its option, refund the purchase price. This replacement/refund resolution is the purchaser's sole and exclusive remedy against Reynolds. The purchaser agrees that no other resolution (including but not limited to lost profits, lost sales, injury to person or property or any other incidental or consequential loss) shall be available to purchaser for claims arising out of any use of the product regardless of the legal theory (contract, tort or other). In no event will Reynolds be obligated to pay damages to purchaser in any amount exceeding the price that the purchaser paid for the product.

DISCLAIMER - The warranty, as stated above, supersedes all other warranties, express or implied. The Reynolds Company expressly disclaims any other warranties, including warranties of merchantability and fitness for a particular purpose. Reynolds Company's acceptance of purchaser's order for this product is expressly conditional on purchaser's assent to terms and conditions set forth herein. Regardless of whether The Reynolds Company suggested the product or developed the product at the purchaser's request, it is the purchaser's responsibility to test and determine the suitability of the product for the purchaser's intended use and purpose, and purchaser assumes all risk and liability whatsoever."