



Material Safety Data Sheet

Issuing Date 10-Jun-2013

Revision Date 24-Feb-15

Revision Number 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name TM LF YEL HPS 8 EXTRUDE

Product Code(s) 884901

Recommended Use Traffic Markings

Product Technology Integrated Multi Polymer

Manufacturer Address

Ennis-Flint
115 Todd Court
Thomasville, North Carolina 27360
Telephone: (336) 475- 6600

Chemical Emergency Phone Number Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Product dust may be irritating to eyes, skin and respiratory system
May cause respiratory impairment and lung damage
Cancer hazard

WARNING! This product contains a chemical known in the State of California to cause cancer.

Appearance Yellow

Physical State Solid.

Odor Odorless

Potential Health Effects

Acute Toxicity

Eyes

May cause irritation. The molten product can cause serious burns.

Skin

May cause irritation. The molten product can cause serious burns.

Inhalation

Inhalation of dust in high concentration may cause irritation of respiratory system. Excessive inhalation of vapors in molten state can cause nose and throat irritation, may cause nervous system depression characterized by headache, dizziness, nausea, staggering gait, confusion and unconsciousness. In molten state, the material does not give off fumes that are toxic or injurious to persons or property.

Ingestion

Ingestion may cause irritation to mucous membranes.

Chronic Effects

Inhalation overexposure to free crystalline silica may cause delayed lung injury including silicosis, a disabling and potentially fatal lung disease. Crystalline silica (quartz) has been classified by the International Agency for Research on Cancer (IARC) as a known human carcinogen (Group 1). Titanium dioxide has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B) by inhalation.

Aggravated Medical Conditions Respiratory disorders.

Environmental Hazard See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Limestone	1317-65-3	10-30
Calcium carbonate	471-34-1	1-5
Titanium dioxide	13463-67-7	1-5
Quartz	14808-60-7	0.1-1

4. FIRST AID MEASURES

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Contact with molten materials, requires immediate medical assistance.
Skin Contact	Wash off with warm water and soap. If skin irritation persists, call a physician. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Removal of solidified molten material from skin requires medical assistance. If burned by contact with molten material, remove patient from heat source. Remove smoldering clothing, including shoes, boots and jewelry. Cool the burn with water or saline until the skin returns to normal temperature. Cover patient with dry clean sheet. Do not attempt to remove the molten thermoplastic from the skin. Removal could result in severe tissue damage. Do not use ice. Conduct primary survey. If indicated transport patient to emergency treatment facility.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Consult a physician.
Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable.			
Flash Point	> 500 °F			
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.			
Explosion Data				
Sensitivity to Mechanical Impact	None.			
Sensitivity to Static Discharge	None			
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.			
NFPA	Health Hazard 1	Flammability 1	Instability 0	Physical and Chemical Hazards - Personal Protection X
HMIS	Health Hazard 1*	Flammability 1	Physical Hazard 0	

*Indicates a chronic health hazard.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.
Environmental Precautions	Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.
Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up	Use personal protective equipment. Avoid dust formation. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically and collect in suitable container for disposal.

7. HANDLING AND STORAGE

Handling	<p>Ensure adequate ventilation. Avoid breathing dust. Wear personal protective equipment. Avoid dust formation. Fine dust dispersed in air may ignite.</p> <p>Do not heat over 500°F in a closed container. This product when heated to above 500°F can lead to flashing. Appropriate protective equipment must be worn when mixing and applying this product.</p> <p>The thermoplastic bag can be hazardous when empty, because it can retain product residue. Therefore do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur. Always obey hazard warnings and handle containers as if they were full.</p> <p>The meltable bag is compatible with the thermoplastic allowing them to melt and become part of the hot melt mixture at application temperature.</p>
Storage	Keep container tightly closed. Keep in properly labeled containers. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glass, oxide 65997-17-3	TWA: 1 fiber/cm ³ respirable fibers: length >5 μm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination TWA: 5 mg/m ³ inhalable fraction	-	
Limestone 1317-65-3	-	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Calcium carbonate 471-34-1	-	TWA: 15 mg/m ³ TWA: 5 mg/m ³ (vacated) TWA: 15 mg/m ³ (vacated) TWA: 5 mg/m ³	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ total dust	IDLH: 5000 mg/m ³
Quartz 14808-60-7	TWA: 0.025 mg/m ³ respirable fraction	30/(%SiO ₂ +2) mg/m ³ TWA, Total Dust; 250/(%SiO ₂ +5) mppcf TWA, respirable fraction; 10/(%SiO ₂ +2) mg/m ³ TWA, respirable TWA: 0.1 mg/m ³ (vacated)	IDLH: 50 mg/m ³ respirable dust TWA: 0.05 mg/m ³ respirable dust
Aluminum hydroxide 21645-51-2	TWA: 1 mg/m ³ respirable fraction	-	
Silica 7631-86-9	-	(vacated) TWA: 6 mg/m ³ <1% Crystalline silica TWA: 20 mppcf : (80)/(% SiO ₂) mg/m ³ TWA	IDLH: 3000 mg/m ³ TWA: 6 mg/m ³

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment

Eye/Face Protection

Safety glasses with side-shields.

Skin and Body Protection

Protective gloves. When handling molten materials, use of long sleeved shirts is required.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Yellow.	Odor	Odorless.
Odor Threshold	Not applicable.	Physical State	Solid
pH	Not applicable		
Flash Point	> 500 °F	Autoignition Temperature	Not applicable
Decomposition Temperature	Not applicable	Boiling Point/Boiling Range	Not applicable
Melting Point/Range	95 -120 °C / 203 - 248 °F		
		Flammability Limits in Air	Not applicable
Specific Gravity	1.7 - 2.3	Water Solubility	Insoluble in water.
Solubility	Not applicable	Evaporation Rate	Not applicable
Vapor Pressure	Not applicable	Vapor Density	Not applicable
VOC (g/l)	0		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible Products	None known based on information supplied.
Conditions to Avoid	Dust formation.
Hazardous Decomposition Products	Carbon oxides. Nitrogen oxides (NOx).
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

No acute toxicity information is available for this product.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium carbonate	= 6450 mg/kg (Rat)		
Titanium dioxide	> 10000 mg/kg (Rat)		> 6820 mg/m ³
Butanamide, 2,2'-[(3,3'-dichloro[1,1'-biphenyl]-4, 4'-diyl)bis(azo)]bis[N-(4-chloro-2,5-d imethoxyphenyl)-3-oxo-	> 5000 mg/kg (Rat)		
Quartz	500 mg/kg (Rat)		
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	> 1.95 mg/L (Rat) 4 h > 46 mg/L (Rat) 1 h
2,2-bis[[3-[3,5-bis(1,1-dimethylethyl)- -4-hydroxyphenyl]-1-oxopropoxy]me thyl]-1,3-propanediyl ester			
Silica	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>2.2 mg/L (Rat) 4 h
Aluminum hydroxide	> 5000 mg/kg (Rat)	-	-
Sodium polyacrylate	> 40 g/kg (Rat)		

Chronic Toxicity

Chronic Toxicity

Inhalation overexposure to free crystalline silica may cause delayed lung injury including silicosis, a disabling and potentially fatal lung disease. Crystalline silica (quartz) has been classified by the International Agency for Research on Cancer (IARC) as a known human carcinogen (Group 1). Titanium dioxide has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B) by inhalation.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium dioxide		Group 2B		X
Quartz	A2	Group 1	Known	X

ACGIH: (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Target Organ Effects

Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
Contaminated Packaging	Do not re-use empty containers.
US EPA Waste Number	Not applicable

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated (If product is shipped in granulated powder form)
	DOT PLACARD IS REQUIRED IN MOLTEN STATE (When product is in use):
Description	ELEVATED TEMPERATURE MATERIAL, LIQUID, N.O.S.(COMPOUND PAVEMENT MARKING), 9, UN 3257, PGIII.
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Titanium dioxide	13463-67-7	Carcinogen
Quartz	14808-60-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Limestone	X	X	X		X
Calcium carbonate	X	X	X		
Titanium dioxide	X	X	X	-	X
Quartz	X	X	X	-	X

International Regulations

Chemical Name	Carcinogen Status	Exposure Limits
Limestone		Mexico: TWA 10 mg/m ³ Mexico: STEL 20 mg/m ³
Calcium carbonate		Mexico: TWA 10 mg/m ³ Mexico: STEL 20 mg/m ³
Titanium dioxide		Mexico: TWA= 10 mg/m ³ Mexico: STEL= 20 mg/m ³
Quartz		Mexico: TWA= 0.1 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2A Very toxic materials



16. OTHER INFORMATION

Prepared By	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
Issuing Date	10-Jun-2013
Revision Date	23-May-2014 24-Feb-15
Revision Note	Name change Update product description

General Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication and it does not purport to be all inclusive and shall be used only as a guide. We urge each customer or recipient of this MSDS to study it carefully to become aware of and understand the potential hazards associated with the product. The information given is designed only as a guide 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 material or in any process, unless specified in the text. Any use of the product not in conformance with this MSDS or in combination with any other product or process is the responsibility of the user. Customary precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work. Remove all soiled and contaminated clothing immediately.

End of Safety Data Sheet