



TECHNICAL DATA SHEET

RAILMASTER® LF HIGH PERFORMANCE RAIL GREASE WITH MoS₂

Railmaster® LF is a premium, high performance rail curve grease. Railmaster® LF has proven itself in the field as a cost saver to the Rail Industry by doing what rail curve grease is supposed to do. It coats the gage face and protects from wear.

Carry down: Railmaster® LF has been seen on the gage face as far as 8 miles from the wayside applicator.

Rain resistant: Railmaster® LF can be applied to a wet rail and will resist being removed by pounding rain.

Wide temperature range: There are several grades of Railmaster® LF. Each grade is capable of handling a wide temperature range. In many areas a single grade can be used year-round.

Slumps in the wayside reservoir: Railmaster® LF does not cause pump cavitation. Despite its robust consistency and adhesion to the rail, in the holding tank it moves cleanly down the walls with minimal vortex effect.

Stands at the wiping bar: Forms a vertical bead as it emerges from the port of the wiping bar. Doesn't spatter when hit by the wheel.

Easily visible: Close inspection is not necessary in order to see the coating on the gage face.

BENEFITS:

- **LOW TEMPERATURES** – excellent low temperature pumpability and adhesion for winter use.
- **WEAR PROTECTION** – extreme pressure and antiwear additive package extends rail and wheel life.
- **COHESIVE** – stands at the wiping bar and doesn't spatter.
- **LONG CARRY DOWN** – for protection that carries up to 8 miles.
- **WATER-RESISTANT** – protection during wet weather.
- **SOLID LUBRICANTS** – contains the wear-reducing solid lubricant molybdenum disulfide at levels that meet or exceed the specifications of major rail companies.

APPLICATIONS:

Railmaster® LF can be used in Hi-Rail and Wayside lubricators.

Railmaster® LF is available through a labor-saving, custom-tailored bulk lubricant system which we call Maintainer™.

ASTM #		TYPICAL CHARACTERISTICS					
	Grade	0-LT	0	1 LT	1	1.5	2
D-217	Cone Penetration (Worked)	385-415	355-385	310-340	310-340	290-320	265-295
D-2265	Dropping Point, °F (°C)	350 (177)	350 (177)	380 (194)	380 (194)	380 (194)	380 (194)
D-445	Kinematic Viscosity (Base Oil with Polymer)						
	cSt @ 40°C	31.00	209.50	290.50	290.50	249.00	1,119.70
	cSt @ 100°C	5.00	16.71	15.27	15.27	15.13	32.58
Gardner Method	Density, lb/gal @ 60°F (15.5°C)	7.60	7.73	7.68	7.68	7.68	7.70
	Specific Gravity, g/cc @ 60°F (15.5°C)	0.91	0.928	0.922	0.922	0.922	0.924
D-2509	Timken OK Load, lb	30	30	30	30	30	30
D-3704	Falex Ring and Block Test (Using Rail & Wheel Steel Test Specimens)						
	Wear Scar, mm @ 630 lb Load	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	1.583
	Metal Removed, mg @ 630 lb Load	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	4.800
	Coefficient of Friction @ 630 lb Load	Not Tested	Not Tested	Not Tested	Not Tested	Not Tested	0.250
D-2596	Four Ball EP, Weld Point, kg	315	315	315	315	315	315
D-2266	Four Ball Wear, Wear Scar, mm	0.50	0.50	0.50	0.50	0.50	0.50
D-4049	Water Spray-Off, % Loss (Rainstorm) 12 psi @ 77°F (25°C) @ 30 min.	NR	NR	<10	<10	8	<5
D-1743	Rust Test	Pass	Pass	Pass	Pass	Pass	Pass
D-4048	Copper Strip Corrosion for Greases 212°F (100°C) @ 3 hrs	1B	1B	1B	1B	1B	1B
	Thickener Type	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium
	Ambient Usable Temperature Range, Wayside						
	°F	-40 to 15	-10 to 30	0 to 60	20 to 60	35 to 80	70 to 110
	°C	-40 to -9	-23 to -1	-18 to 16	-7 to 16	2 to 27	21 to 43

The above are average values. Minor variations which do not affect product performance are to be expected in normal manufacturing.

PACKAGING

Shuttle Tanks	Drums	Kegs	Pails
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Distributed By:



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WHITMORE'S

MATERIAL SAFETY DATA SHEET

I. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY					
Product Name:	Railmaster® LF (All Grades)	Manufacturer/Supplier: The Whitmore Manufacturing Company 930 Whitmore Drive Rockwall, Texas 75087, U.S.A.			
Chemical Family:	Petroleum Hydrocarbon	U.S.A. & Canada 800-424-9300 (24 hrs)			
Use:	Rail Lubricant NLGI 2	International 703-527-3887 (Collect - 24 hr)			
Emergency Tel. No.:	CHEMTREC	Australia 00-111-703-527-3887 (Collect - 24 hr)			
II. COMPOSITION INFORMATION ON INGREDIENTS					
Hazardous Components	CAS No.	Wt%	OSHA PEL	ACGIH TLV	Other Limits of Exposure
None					
III. ADVERSE HUMAN HEALTH EFFECTS					
Eyes:	Any eye contact will cause irritation.				
Skin:	Prolonged skin contact will cause irritation.				
Inhalation:	Breathing fumes in confined areas at elevated temperatures will cause lung irritation.				
Ingestion:	Harmful if swallowed.				
IV. FIRST AID MEASURES					
Eyes:	Flush with large amounts of cold water. If irritation persists, SEEK MEDICAL ATTENTION.				
Skin:	Thoroughly wash exposed area with soap and water.				
Inhalation:	Provide fresh air source. If irritation persists, SEEK MEDICAL ATTENTION.				
Ingestion:	Do not induce vomiting. SEEK MEDICAL ATTENTION.				
V. FIRE FIGHTING MEASURES					
Extinguishing Media:	Foam, CO ₂ , Dry Chemical				
Unsuitable Extinguishing Media:	Not Known				
Fire Fighting Protective Equipment:	Treat as an oil fire.				
VI. ACCIDENTAL RELEASE MEASURES					
Personal Precautions:	Wear plastic or neoprene rubber gloves.				
Environmental Precautions:	Do not allow it to enter drains.				
Spillage:	Absorb with dry inert material and shovel up.				
VII. HANDLING AND STORAGE					
Handling:	Keep away from open flame and sparks.				
Storage:	Store in metal containers until disposal.				
VIII. EXPOSURE CONTROL/PERSONAL PROTECTION					
Respiratory Protection:	If product is overheated, use organic NIOSH/MSHA filter-type respirator.				
Hand Protection:	Plastic or Neoprene Rubber				
Eye Protection:	Safety Goggles.				
Body Protection:	None				

HMS SYMBOLS

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	1
Reactivity	0
PPI	B

MSDS-344

Effective Date: 1-22-02

Revised Date: 9-30-09

IX. PHYSICAL AND CHEMICAL PROPERTIES							
Physical State:	Tacky Grease	Color:	Dark Gray	Odor:	Petroleum		
Boiling Range/point, °F (°C):	N/A	Melting Point, °F (°C):	>380 (>193)				
Flash Point (COC), °F (°C):	[>400 (>204) (Base Oils)]		Autoignition Temperature, °F (°C):	Not Known			
Explosive Properties:	LEL: N/A	UEL: N/A	Evaporation Rate (Butyl Acetate):	N/A			
Partition Coefficient (Log Pow):	N/A		Vapor Pressure (kPa):	Nil			
Density:	7.60 - 7.75	Flammability:	Not Known				
Oxidizing Properties:	Nil	Solubilities in Water:	Nil	Vapor Density:	N/A	% Volatiles:	N/A
X. STABILITY AND REACTIVITY							
Stability:	Chemically stable under normal conditions.						
Conditions to Avoid:	Direct flame.						
Materials to Avoid:	Strong inorganic and organic acids and oxidizing agents.						
Decomposition Products:	Oxides of carbon, sulfur, phosphorus, & hydrocarbon.						
XI. TOXICOLOGICAL INFORMATION							
Acute Toxicity:	Not Known		Skin Irritancy:	Very Mild			
Chronic Toxicity:	Not Known		Skin Sensitization:	Not Known			
Sub-acute/Subchronic Toxicity:	Not Known		Genotoxicity:	Not Known			
California Prop 65:	Not Available		EC Classification (67/548/EEC):	No			
Carcinogenicity:	NTP: No	IARC: No	OSHA:	No			
LC-50:	Not Available		LD-50:	Not Available			
XII. ECOLOGICAL INFORMATION							
Possible Effects:	Unknown						
Behavior:	Relatively well behaved. Bioaccumulation potential nil.						
Environmental Fate:	Not thought to be toxic to marine or land organisms.						
XIII. WASTE DISPOSAL							
Product Disposal:	Observe all local, state & federal regulations concerning disposal of lubricating grease.						
Container Disposal:	Observe all local, state & federal regulations concerning disposal of lubricating grease.						
XIV. TRANSPORT INFORMATION							
DOT:	Not Regulated		UN No.:	Not Regulated			
Air Transport (ICAO/IATA):	Not Regulated						
Sea Transport (IMO/IMDG):	Not Regulated						
Road and Rail Transport (ADR/RID):	Not Regulated						
XV. REGULATORY INFORMATION							
Labeling Information:	N/A		EC Annex 1 Classification:	N/A			
R Phrases:	N/A						
S Phrases:	S2 Keep away from children.						
Ozone Depleting Chemicals:	None/Nil		TSCA:	All Components are listed.			
WHMIS (Canada):	Not Regulated						
EPA Regulation 40 CFR Part 372 (SARA Section 313):	None						
XVI. OTHER INFORMATION							
None							

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