


General	
Manufacture	The product is manufactured under a ISO 9001:2008 quality control regime
Composition	The product is a water-based friction modifier consisting of an engineered composite of inorganic solids, polymers, and other additives.
Classification	OSHA (29 CFR 1910, Subpart Z) classifies the product as a non-hazardous substance in the USA.
Packaging	Available in: <ul style="list-style-type: none"> • 19 L (5 US gallon) pail • 1000 L tote • 1125 L tote • 1000 L Fluid Bag 
Storage	Store within warehouse at a temperature between 5°C (41°F) and 35°C (95°F). Avoid exposure to heat sources such as direct sunlight. Keep containers sealed to prevent water loss.
Guarantee	The product is guaranteed for one year from the date of manufacture, after which, a sample of any remaining product can be returned to the supplier for product validation.
Safety & Environment	
Environment	The product has low mobility and is not expected to bioaccumulate.
Ecotoxicity	Practically non-toxic to fresh water fish as indicated by Environment Canada Method EPS1/RM/9 (96-h LC ₅₀ = 8951.6 mg/L (ppm)).
Air Quality	The product is stable and non-volatile.
Fire Safety	The liquid product is non-flammable.
Thermal Regulation	Not Applicable
Physical Properties	
Appearance	Thixotropic gel with dark grey color
Odour	None
Miscibility	Miscible with water, not miscible with oil or grease
Density, g/cm³ at 25°C	1.07 – 1.09
pH	9 - 10
Freezing Point	- 6°C (21°F)
Viscosity, cP at 25°C <i>Brookfield Viscometer with RV6 Spindle at 20 rpm</i>	22,700 – 24,700
Application & Performance	
Friction Coefficient	<ul style="list-style-type: none"> • Intermediate friction coefficient (0.3 – 0.4) for dried thin film coated onto top of rail. • Positive friction characteristic.
Application	Recommended application to top of rail using Portec Rail wayside PROTECTOR® Top-of-Rail application system. When applied, the product leaves a dry Thin Film on the top of rail. The thin film is transferred to train wheels. The product provides friction control at the wheel/rail interface and is intended for use in targeted curve locations in freight systems.
Regulation	The application rate of the product is adjustable by PROTECTOR® Top-of-Rail digital controller.
Contamination	After water evaporation a dry film remains which does not attract or hold dirt or other contaminants.
Performance Validation	Product performance is supported by wide range of successful case histories and detailed technical reports.