



BioTac MP

Environmentally responsible multipurpose EP grease

Description

BioTac MP is an environmentally responsible, multipurpose EP grease based on a combination of Lithium Complex thickener technology, biodegradable base oil and an optimised performance additive system to impart corrosion protection, oxidation stability and load carrying capability. The inclusion of polymer technology enhances the adhesive properties of the grease, improving water resistance and thus reducing the potential for contamination of both the open deck and the marine environment.

Castrol BioTac MP has been registered according to OSPAR (Oslo and Paris Convention) requirements and approved by the UK regulators for use offshore. It therefore meets the requirements for being an environmentally acceptable lubricant under the 2013 US Vessel General Permit.

Application

BioTac MP has been developed primarily for use on exposed marine deck applications and combines excellent physical properties that enable resistance to both mechanical shear and water spray-off with an additive system developed to protect exposed components from corrosion, oxidation and the effects of load, friction and wear.

BioTac MP is intended for use in a wide range of applications including plain bearings, wire ropes and open gears typically found in marine mooring and cargo winches. Furthermore, ramp door bearings, pedestal bearings and cargo hatch rollers are also examples of slow/medium speed marine deck applications for which BioTac MP is ideally suited.

The combination of thickener and base oil technology enables BioTac MP to have a broad operating temperature range of between -35C and +125C.

Advantages

FEATURES	BENEFITS
Load Carrying Capacity	Good protection of equipment under loaded conditions to minimise wear.
High Base oil Viscosity	BioTac MP provides a strong oil film to give better protection than a lower viscosity oil, at slow speeds and high loads.
Corrosion Protection	BioTac MP is specifically developed for use in marine applications, providing good resistance to the effects of salt water and corrosion.
Low temperature flow properties	BioTac MP retains its ease of application and flow at lower temperatures than mineral-based alternatives
Colour	Due to its white colour, BioTac MP stains less than dark greases and better shows contamination making visual inspection far easier.
Strand formation tendency	Limited strand formation helps to minimise the safety risk posed by grease strings on deck, as well as the potential for water pollution.

FEATURES	BENEFITS
Bioaccumulation potential	BioTac MP contains a significantly reduced amount of components with the potential to bioaccumulate in comparison to a conventional mineral oil based grease- this means a lower potential to accumulate in the fatty tissues of organisms and enter the food chain.
Marine toxicity	BioTac MP has significantly reduced toxicity to marine crustaceans when compared to a conventional mineral oil based grease- this means reduced potential to harm marine life.
Marine biodegradability	BioTac MP has superior marine biodegradation when compared to a conventional mineral oil based grease- this means an increased tendency to be broken down in the sea.

Additional Information

It is preferable to completely remove and clean all used grease from components before applying BioTac MP. If this is not feasible, during transition period, it is advisable to apply BioTac MP more frequently, to purge the old grease and monitor the operating conditions to ensure optimum performance.

Whilst traditional ways of applying grease on wire ropes may be utilized, use of a proprietary pressurised grease applicator in accordance with manufacturer's instructions may assist in applying the appropriate quantity of grease and may also help to protect the core of the wire rope. Care should be taken to ensure that only a thin film of grease is applied to the external surfaces of the wire ropes as excessive greasing could potentially lead to contamination of surrounding areas.

Crew on board should always ensure that relevant equipment and surfaces are properly lubricated and coated with grease.

Typical Characteristics

Name	Method	Units	Result
Worked penetration at 25°C after 60 strokes	ISO 2137	0.1 mm	280-310
NLGI Classification	ASTM D217	NLGI	1.5
Appearance	Visual	-	Creamy White
Base Oil Kinematic Viscosity @ 40 deg C	ASTM D445	cSt	500
Oil Separation, 168 hrs @ 40C	IP 121	% wt	3
Water Spray Off, Grease Loss	ASTM D4049	% wt	30
Flow Pressure @ -35 deg C	DIN 51805	hPa	<1400
Drop Point	ASTM D566	deg C	290
Corrosion Preventative Properties (3% NaCl Solution)	ASTM D 1743	-	Pass
Copper Corrosion, 24 hrs@ 100C	IP 112	-	1a
EMCOR Corrosion test	DIN 51802	-	0/0
4 Ball Weld Point	DIN 51350-4	N	4000
Bioaccumulation Potential	Molecular weights of the components	% non-bioaccumulative	>70
Marine Toxicity	ISO 14669:1999 (Acartia Tonsa).	LC50 (mg/l)	>1000
Marine Toxicity	EPA 821-R-02-14 Method 1007 (Mysiodopsis bahia)	NOEC (mg/l)	<7000

Name	Method	Units	Result
Marine Biodegradation	OECD 306- Biodegradation in seawater, max@28 days	%	20-60
Sheen	EPA Static Sheen Test		No Sheen
Renewability	Renewable content	%	>55

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification

Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.

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