



BioTac OG

Environmentally responsible open gear lubricant

Description

Castrol BioTac OG is a highly tenacious high performance open gear lubricant developed specifically for the rack and pinion jacking mechanism of self-elevating mobile drilling rigs. This is one of the most arduous environments to which a lubricant can be exposed - not only is it subject to high loads and water washing in the splash zone, it also has to provide protection against corrosion to both the rack and pinion between rig moves.

In addition, this is one area of operation where a lubricant is deliberately introduced to the marine environment in the course of normal use. The oceans and seas constitute the major part of our planet, using an environmentally responsible open gear lubricant can minimise environmental impact in comparison to conventional mineral oil based greases.

Castrol BioTac OG has been specifically formulated to minimise impact upon the marine environment. All the components of Castrol BioTac OG have been selected for their reduced environmental impact, either from the PLONOR* list of chemicals or following a thorough assessment of their biodegradability, potential for bioaccumulation and their toxicity towards marine species. As a result, Castrol BioTac OG is OSPAR compliant and contains no substitutable components.

*PLONOR - Pose Little or No Risk to the Environment (according to the OSPAR definition).

Application

Castrol BioTac OG can be used in rack and pinion gearing on the legs of jack-up drilling rigs where the lubricant is deliberately placed in contact with the marine environment.

It can be considered for use in all open gear applications but it is especially suitable in all open gearing applications in exposed locations where there is a risk of lubricant egress to the marine environment, such as anchor winches or other deck machinery.

Advantages

Castrol BioTac OG has been formulated to provide the following key benefits and environmental credentials:

- High load carrying performance to minimise wear on pinion teeth and guides as indicated with 4 Ball Weld test IP239.
- Very good corrosion protection as indicated by Emcor salt water test result.
- Minimises environmental impact in service, particularly in comparison with conventional open gear lubricants.
- OSPAR compliant with no substitutable components.
- All components classified as Green (PLONOR) or Yellow in Norway and registered on NEMS.
- UK OCNS group D.
- All components are either PLONOR or are expected to biodegrade completely in the marine environment, a significant improvement in comparison with conventional open gear lubricants.
- Contains significantly reduced levels of components with the potential to bioaccumulate in comparison to a conventional open gear lubricant.
- Exceeds US EPA toxicity requirements*.
- Passes US EPA static sheen test.

*As specified in NPDES permit GMG29000 for subsea production control fluids

Additional Information

Tested and registered according to OSPAR (Oslo and Paris Convention for the Protection of the Marine Environment of the North-East Atlantic) requirements and therefore meets the definition of an Environmentally Acceptable Lubricant under the US Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels (VGP) 2013.

Typical Characteristics

Name	Method	Units	BioTac OG
Appearance	Visual		Beige, Tacky
Base Oil Kinematic Viscosity at 40°C	IP 71	mm ² /s	600
NLGI Grade	ASTM D217		0/1
Worked Penetration, 60 strokes at 25°C	ASTM D217	0.1 mm	340-360
Four Ball EP Test:	IP 239	kg	>800
Wear Scar Diameter, 1 hr at 40 kg	ASTM D2266	mm	0.85
EMCOR Corrosion Test, 0.5M NaCl	IP 220		1
Flow Pressure:	DIN 51 805		
at 0°C		mBar	<125
at -10°C		mBar	<325
at -20°C		mBar	<500

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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