

BLUEPLUS - 131

LITHIUM COMPLEX GREASE

Product Description

BLUEPLUS 131 greases are extended service lithium complex greases intended for a wide variety of applications & severe operating conditions. These greases were designed to outperform conventional products by applying cutting edge, proprietary, and lithium complex manufacturing technology. This is formulated to provide excellent high temperature performance with superb adhesion, structural stability and resistance to water contamination. These greases have a high level of chemical stability and offer excellent protection against rust and corrosion. These greases feature high dropping points and maximum recommended operating high temperature. BLUEPLUS - 131 greases are available in NLGI grades, 2 with an ISO VG 220 base oil viscosity. BLUEPLUS 131 greases are designed for a wide range of applications including the industrial, automotive, construction marine sectors. Their performance features make them ideal choices for operating conditions including high temperature, water contamination, shock loading and extended re-lubrication operations. BLUEPLUS - 131 Special is extreme pressure grease containing molybdenum disulfide that provides protection from wear under conditions pivoting and other conditions that lead to loss of oil film.

Applications

BLUEPLUS - 131 is recommended for industrial and marine applications, like heavy bearings etc.

Typical Properties

BLUEPLUS - 131	
NLGI Grade	3
Thickener Type	Li-Complex
Color, Visual	Dark Blue
Penetration, Worked, 25 ^o C, ASTM D 217	220-250
Dropping Point, ^o C, ASTM D 2265	280
Viscosity of Oil,cSt @ 40 ^o C ASTM D 445	220
4-Ball Wear Test, ASTM D 2266, scar, mm	0.5
4-Ball Weld Load, ASTM D 2596, kg	315
Timken OK Load, ASTM D 2509, lb	40
Bomb Oxidation, ASTM D 942, Pressure Drop at 100 hrs, kPa (psig)	35 (5)
Corrosion Prevention, ASTM D 1743	Pass
Rust Protection, IP 220-mod., Distilled Water Washout	0,0
Copper Strip Corrosion, ASTM D 4048	1B

Performance Standard

NLGI-3

Available Pack:18, 180 KG

Shelf Life:36 Months from manufacturing month.

Due to continual product research and development, the information contained herein is subject to change without notification. Typical Properties may vary slightly.

The Material Safety Data Sheet (MSDS) are available upon request through our sales office.

* All related specifications are meets or exceeds.

1. PRODUCT AND COMPANY IDENTIFICATION

Product BLUEPLUS 131-Lithium Complex Grease
Supplier PETRELPLUS INC.
One World Center, Tower One,
9TH Floor, SenapatiBapatMarg,
Lower Parel, Mumbai-400013, Maharashtra.
Call # +91 22 6216 7072
(Monday to Friday)
Cell # +91 93522 25457
marketing@petrelplus.com
www.petrelplus.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

3. HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines

POTENTIAL HEALTH EFFECTS.

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

ENVIRONMENTAL HAZARDS

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST-AID MEASURES

INHALATION Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

SKIN CONTACT Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION First aid is normally not required. Seek medical attention if discomfort occurs.

5. FIRE-FIGHTING METHODS**EXTINGUISHING MEDIA**

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING: Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel. Hazardous Combustion Products: Aldehydes,

Oxides of carbon, Sulfur oxides, Smoke, Fume, Incomplete combustion products

FLAMMABILITY PROPERTIES

Flash Point [Method]:>200C (392F) [EST. FOR OIL, ASTM D-92 (COC)]

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D

Autoignition Temperature: N/D

6. ACCIDENTAL RELEASE MEASURE**NOTIFICATION PROCEDURES**

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks.

SPILL MANAGEMENT Land Spill: Allow spilled material to solidify and scrape up with shovels into a suitable container for recycle or disposal. Scrape up spilled material with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Skim from surface. Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS Prevent entry into waterways, sewers, basements or confined areas.

7. STORAGE AND HANDLING**HANDLING**

Prevent small spills and leakage to avoid slip hazard. Static Accumulator: This material is not a static accumulator.

STORAGE Do not store in open or unlabeled containers.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory

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mail-marketing@petrelplus.com, www.petrelplus.com

☎+91 93522 25457 📞+91 95098 25457

requirements, if applicable. Types of respirators to be considered for this material include: No protection is ordinarily required under normal conditions of use and with adequate ventilation. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS See Sections 6, 7, 12, 13.

9. PHYSICAL & CHEMICAL PROPERTIES:

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Solid

Form: Semi-fluid

Color: Blue

Odor: Characteristic

Odor Threshold: N/D IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.92

Flash Point [Method] :>200C (392F) [EST. FOR OIL, ASTM D-92 (COC)]

flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D

Autoignition Temperature: N/D

Boiling Point / Range: N/D

Vapor Density (Air = 1): N/D

Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C

Evaporation Rate (n-butyl acetate = 1): N/D

PH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): N/D

Solubility in Water: Negligible

Viscosity: 220 cSt (220 mm²/sec) at 40°C [Base oil]

Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/D

DMSO Extract (mineral oil only), IP-346: < 3 %wt

NOTE: Most physical properties above are for the oil component in the material.

10. STABILITY AND REACTIVITY

Stability: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on assessment of the components
Irritation: No end point data	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation (Rabbit): Data available	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS Contains: Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

12. ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

Ecotoxicity

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment

Persistence and degradability

Biodegradation: Base oil component -- Expected to be inherently biodegradable

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MATERIAL SAFETY DATA SHEET

Mobility Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

BIOACCUMULATION POTENTIAL Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container

14. TRANSPORT INFORMATION

DOT Not Regulated by any means of transportation

TDG Not Regulated

IATA-DGR Not Regulated

IMO / IMDG Not Regulated

15. REGULATORY INFORMATION

Classification and labeling according to EC Directives 67/548

Not classified as hazardous. EC Risk Phrases

Not classified as hazardous. Other Hazardous

EC Safety Phrases

Not classified as hazardous

16. OTHER INFORMATION

For safety reasons, it is IMPERATIVE that customer: - Ensure that all those within their control who use the products are supplied with all relevant information contained within the Material Safety Data Sheet and Technical Bulletin concerning the applications for which the product is designed and any instructions or warning.

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