



Biodegradable  
Recyclable

# United Bio Lube

Enabling Compliance with White House Executive Orders  
13101, 13123, 13134, 13148, 13149

Sustainable  
Renewable



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A Green Chemistry Company

Enabling U.S. Oil Independence

## Bio Multi-Purpose High Temp EP Grease - NLGI 2

### Product Information

**Military Government Industry Transportation Marine Agriculture**

**United Bio Lube's Bio Multi-Purpose High Temp EP Grease - NLGI 2** is a **premium**, state-of-the-art biobased extreme-pressure grease for use in a wide variety of high temperature operations.

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** is characterized by exceptional mechanical stability, superior oxidation stability, excellent load carrying capacity, high resistance to water, and a very high resistance to corrosion. This outstanding feature set yields a high **quality** multi-purpose Bio EP Grease with exceptional performance capability over a wide temperature range.

The **Extreme Pressure (EP)** performance is supported from the over-based **Lithium Complex Thickener**.

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** contains no heavy metals, such as Zinc, Antimony, Barium and Lead, or other harmful or environmentally undesirable additives.

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** is non-hazardous, worker friendly, and safe for the environment.

**United Bio Lube's Bio Multi-Purpose High Temp EP Grease - NLGI 2** is reliable, affordable, and available in all quantities today.

*To purchase, simply call (650) 213 - 9979.*



### Made From Renewable National Resources

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** is an **Ultimate**<sup>1</sup> biodegradable **Biobased Lubricant** made from **High Oleic Base Stocks, HOBS**<sup>2</sup> and processed with **Stabilized**<sup>TM3</sup> technology for ultra performance and longevity.

Bio Multi-Purpose High Temp EP Grease - NLGI 2 is formulated with **Anti-Corrosion, Anti-Wear, Anti-Oxidation**, and **Extreme Pressure** additives. The sticky HOBS base stock formula adheres to metal surfaces better than petroleum oils, while delivering unparalleled **Lubricity** and **Surface Protection**.

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** is specially formulated and engineered to replace petroleum based EP greases. Bio Multi-Purpose High Temp EP Grease - NLGI 2 outperforms petroleum and synthetic based products. The natural oily **film** of this product has shown in laboratory and field tests to out perform petroleum base oils in terms of **Lubricity** and **Load Carrying Capacity**.

Extensive performance testing data shows this High Temperature Biobased Grease is a truly outstanding multi-purpose grease with excellent high temperature properties and good cold temperature mobility.

# Numerous Heavy Duty Industrial Applications

**Conveyors**  
**Journal Bearings**  
**Electric Motors**  
**Pumps**  
**Rollers**

## Advanced Tribological Properties

Bio Multi-Purpose High Temp EP Grease - NLGI 2 made from HOBS show performance improvements over petroleum in nearly all physical properties:

### Superior Lubricity

**United Bio Lube's Bio Multi-Purpose High Temp EP Grease - NLGI 2** is formulated to OUTPERFORM petroleum based products. The natural oily **fluid film** of these high viscosity products has proven in laboratory and field tests to outperform petroleum base oils in terms of **Lubricity**.

Greater lubricity leads to:

- Less Wear
- Less Energy Consumption
- Lower Operating Temperatures

Bio Multi-Purpose High Temp EP Grease - NLGI 2 has a very high **Viscosity Index, VI = 191** on par with leading synthetic grease formulations. The differences are many; one key difference is Bio Greases are renewable and sustainable products.

### Superior Oxidation Stability - #1 Leading Brand!

Advanced **Stabilized™ HOBS** chemistry keeps Bio Multi-Purpose High Temp EP Grease - NLGI 2 from breaking down and forming acidic residues that harm rubber seals and other elastomers.

Bench tests measuring **Oxidation Stability** indicate United Bio Lube's Bio Multi-Purpose High Temp EP Grease - NLGI 2 is superior in comparison with Mineral Oils in terms of resistance to oxidation, or decomposition of biobased grease.

This enhanced chemical stability ensures long lasting performance.

### Mechanical Shear Stability

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** retains its physical properties under shear force at all temperatures subjected to during use.

Its shear stable viscosity will not breakdown under high mechanical shear conditions and varying temperatures.

Bio Multi-Purpose High Temp EP Grease - NLGI 2 is highly resistant to thermal degradation.

## Load Carrying Capacity

United Bio Lube's Bio Multi-Purpose High Temp EP Grease - NLGI 2 demonstrates a high level of wear protection against **Galling** and **Welding** in heavily loaded gears, as measured by an **EP Weld Point** of 270 kg.



## Anti-Wear Extreme Pressure

Third party, independent test data validates that United Bio Lube's **Bio Multi-Purpose High Temp EP Grease - NLGI 2** is superior to conventional mineral oils in **Extreme Pressure Anti-Wear** and **Accelerated Wear** tests.

Extreme Pressure performance is obtained from a **Lithium Complex Thickener**.

## Advanced Thermal Stability

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** withstands high and low temperature variations.

- High Flash Point = **280 C, 536 F**
- Low Pour Points = **-36 C, -32.8 F**
- Advanced Cold Flow Mobility
- Superb cold temperature Pumpability

## Bio Corrosion Inhibitors (BCI™)

Patented **Bio Corrosion Inhibitors (BCI™)** provide advanced surface protection against corrosion and rust in both fresh and sea water environments.

**BCI™** chemistry effectively inhibits both Corrosion of Yellow metals and Rusting of Ferrous metals.

Bio Multi-Purpose High Temp EP Grease - NLGI 2 is engineered to prevent corrosion and rust from occurring on the surface of metals in both fresh and sea water environments.

No other competitive lubricant company has this advanced BCI™ chemistry offering.

## Adhesion/Cohesion properties.

Tackifiers provide Adhesion/Cohesion properties.

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** will remain in contact with, lubricate, and protect moving surfaces.

Bio Multi-Purpose High Temp EP Grease - NLGI 2 will not leak out under gravity or centrifugal action.

Bio Multi-Purpose High Temp EP Grease - NLGI 2 will not squeeze out under pressure.

Resistant to pound out and splatter.

## Dropping Point

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** will not melt down under normal operation.

Very High Dropping Point = **337 C, 640 F**.

## Water Resistance

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** with **BCI™** chemistry is a water resistant grease.

Bio Multi-Purpose High Temp EP Grease - NLGI 2's outstanding **Hydrolytic Stability** protects equipment and continues working even when exposed to water.

This is a critical attribute considering the constant need for wash downs, or the wet nature of many plant processes.

**0.0 % Loss in Water Washout** testing @ 79 C, 174 F.

## Low Volatility

**Bio Graphite EP Grease - NGLI** is safe to work with. There is **No Off-Gassing** of harmful vapors and fumes to contaminate workspaces or eco-systems.

- Low evaporation means **fewer re-applications, less make-up grease**.
- Low volatility leads to **higher Flash Points** and **protection against fire**.
- Bio Multi-Purpose High Temp EP Grease - NLGI 2 is **durable** and **long lasting**.

## Chemically Compatible

**Bio Multi-Purpose High Temp EP Grease - NLGI 2** is chemically compatible with various materials.

- Compatible with all types of Seals.
- Compatible with all types of Coatings.
- Compatible with all types of Rubbers and other Elastomers.
- Compatible with existing greases.



# UBL's Quadruple Bottom Line

## 1. High Performance

- ✔ **Bio Multi-Purpose High Temp EP Grease - NLGI 2** is engineered for sliding surfaces and applications where Extreme Pressure exceeds the **Fluid Film**.
- ✔ Patented **Stabilized™<sup>2</sup>** chemistry for superb **Anti-Oxidation** protection.  
**Stabilized™** chemistry prevents the build-up of insoluble gum, sludge, and lacquer deposits the cause sluggish operations, increased wear, and reduction of tolerances.
- ✔ Excellent pumpability in automatic lubricating equipment.
- ✔ Super High ASTM D-2270 **Viscosity Index = 191**.
- ✔ Superior **Mechanical Shear Stability**.
- ✔ Superior **Load Carrying Capacity**.
- ✔ Meets and exceeds **Extreme Pressure** and **Anti-Wear** qualities as measured by 4-Ball Wear test methods ASTM D-2266, ASTM D-2596.
- ✔ Excellent **Adhesion/Cohesion** properties.
- ✔ Excellent **Thermal Stability**. Wide operating temperature range.
- ✔ Superb **Cold Flow Mobility**. Pour Point @ -36 °C, -32.8 °F.
- ✔ Superb cold temperature **Starting** and **Pumpability**. Pressurized Bio Grease easily flows through lines, nozzles, and fittings of grease dispensing systems.
- ✔ Safe. **Low Volatility**. No Off-Gassing, or Evaporation of Base Oil.
- ✔ Safe. **Fire Resistant**. High **Flash Point** @ 280 °C, 536 °F.
- ✔ High **Dropping Point** @ 271 °C, 520 °F.
- ✔ Resistant to base oil **Bleeding, Migration**, and **Syneresis**.
- ✔ Resistant to water washout and water spray off.
- ✔ Resistant to pound out, splatter, and squeeze out.
- ✔ Resistant to acidic compounds.
- ✔ Prevents **Corrosion** and **Rust** in both **Fresh** and **Salt** water operating conditions.
- ✔ Meets ASTM D-130 Copper Corrosion Test.
- ✔ Meets ASTM D-1743 Rust Prevention Test.



## 2. Health & Occupational Safety

- ✔ **Bio Multi-Purpose High Temp EP Grease - NLGI 2** do not contain any chemical listed as a carcinogen or potential carcinogen by **OSHA, IARC Monographs** or **National Toxicology Program**.
- ✔ **Bio Multi-Purpose High Temp EP Grease - NLGI 2** has no known hazards. This product is considered Non Hazardous when handled properly and used for intended purpose.
- ✔ The extremely **Low Volatility** of HOBS increases this product's flash point and fire safety features. **Flash Point = 280 C, 536 F.**
- ✔ Bio Multi-Purpose High Temp EP Grease - NLGI 2 is **Worker Friendly** and Safe.

NFPA CODE: HEALTH: 1 FIRE: 1 REACTIVITY: 0

HMS CODE: HEALTH: 1 FIRE: 1 REACTIVITY: 0

## 3. Environmental Compliance & Protection

- ✔ **Bio Multi-Purpose High Temp EP Grease - NLGI 2** is preferred over petroleum oils in applications where there is a direct danger of polluting the air, water, soil, or work environment through loss of the lubricant.
- ✔ United Bio Lube's Bio Multi-Purpose High Temp EP Grease - NLGI 2 has the highest U.S.D.A. rating of **Ultimate Biodegradability**.
- ✔ Bio Multi-Purpose High Temp EP Grease - NLGI 2 is **Environmentally Responsible** lubricants formulated from **Renewable** agricultural plant resources.
- ✔ Bio Multi-Purpose High Temp EP Grease - NLGI 2 contain **No Lead** or other **Heavy Metals: No Zinc, No Antimony, No Barium**.
- ✔ Bio Multi-Purpose High Temp EP Grease - NLGI 2 contain **No Chlorine, or Phenols**.

## 4. Return On Capital Investments

- ✔ Bio Multi-Purpose High Temp EP Grease - NLGI 2 generate greater returns on capital investment through longer machine life.
- ✔ Improves equipment performance.
- ✔ Extends grease service life beyond conventional greases.
- ✔ Reduces hazardous materials handling and storage costs.
- ✔ Enables compliance with environmental regulations.
- ✔ Reduces toxic exposures to workers.
- ✔ Reduces risk of product contamination.
- ✔ Helps begin to foster U.S Oil Independence.
- ✔ Promotes a renewable U.S. Bio Economy.

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<sup>1</sup>**Ultimate Biodegradation** (Pw1) within 28 days in **ASTM D-5864 Aerobic Aquatic Biodegradation of Lubricants**.

<sup>2</sup>**High Oleic Base Stocks (HOBS)** are agricultural vegetable oils. Stabilized™ technology enables HOBS to perform as a high performance formula in high and low temperature applications, reducing oil thickening and deposits.

<sup>3</sup>**STABILIZED™** is Renewable Lubricants Inc.'s trademarked, proprietary, and patented anti-oxidant, anti-wear, and cold flow technology.

**For assistance, please call (650) 213 - 9979**

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