

BIO GREASE EP

Biodegradable Grease

In construction machines used in the sea, a river, a lake, there is a risk that the environment will be polluted due to leaks of grease from ruptured equipment. A very effective method to eliminate the pollution risk is to adopt a biodegradable grease. **BIO GREASE EP** is an ideal general-purpose grease which passed a severe ecomark standard in consideration for "person", "environment (biodegradability)", "resources (long life)".

● Special Features

1. Gentle to Nature

BIO GREASE EP, which is formulated with polyolester, special lithium soap thickeners, extreme-pressure agents and other additives, provides superior lubrication, chemical stability and durability.

BIO GREASE EP registered as an Eco Mark product (Eco Mark certification number 04 110 026) easily deteriorates in the environment and is naturally friendly.

2. Excellent Load-Bearing Performance

BIO GREASE EP is blended with outstanding extreme-pressure agents, so it has excellent load-bearing and anti-wear performances.

3. Good Lubricity on Broad Range of Temperatures

BIO GREASE EP, which has superior lubricity, can be used in a very wide temperature range, from -50°C to 130°C.

● Applications

- (1) Construction machinery used at resorts, seashores, etc.
- (2) Dredging vessels and river- and lake-bed improvement vessels
- (3) Ceramics processing machinery
- (4) Water turbine generators

● Packaging

16-kg pail can and 400g bellows-type tube (20 pcs.)

● Typical Properties of BIO GREASE EP

| | | |
|-----------------------------------------|-------|------------|
| NLGI grade | | 2 |
| Texture | | semi solid |
| Color | | tan |
| Penetration(25°C, 60 strokes) | | 280 |
| Worked stability(25°C, 100,000 strokes) | | 325 |
| Dropping point | °C | 186 |
| Oil separation(100°C, 24h) | mass% | 0.7 |
| Oxidation stability (80°C, 100 h) | kPa | 29 |
| Evaporation (99 °C, 22h) | mass% | 0.2 |
| Biodegradability(OECD 301C) | | |
| Acceptability criterion | | |
| :28days, $\geq 60\%$ | % | ≥ 65 |
| Acute toxicity test(JIS K 0102) | | |
| Acceptability criterion | | |
| :96h, LC50 $\geq 100\text{mg/L}$ | mg/L | ≥ 100 |
| Approx. operating temperature range | °C | -50 to 130 |

Note: The typical properties may be changed without notice. (November 2011)



Handling Precautions

▼ Follow these precautions when handling this product.

| | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Composition : | Base Oil, Thickener, Additives |
| Precautionary pictograms: | |
| Signal word: | Warning |
| Hazard Statement: | May be harmful if swallowed Causes mild skin irritation Causes serious eye irritation Harmful to aquatic life Harmful to aquatic life with long lasting effects |
| Precautionary Statements: | |
| Prevention | <ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product. |
| Response | <ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.• Avoid release to the environment.• If skin irritation occurs: Get medical advice/attention.• IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists : Get medical advice/attention. |
| Storage | <ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed. |
| Disposal | <ul style="list-style-type: none">• Dispose of contents/container in accordance with local/regional/national/international regulations.• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage. |