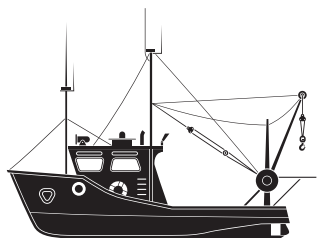


What is VGP?

Vessel General Permit is a regulation put in place to stop harmful lubricant discharge and its impact on U.S. waterways.



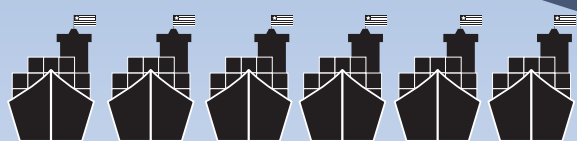
Applies to vessels that are 79 ft or greater in length

Covers all U.S. waters, including seaward from coasts & Great Lakes up to

3 MILES

Deck
Suggested

Below waterline
(oil-to-sea interfaces)
Required



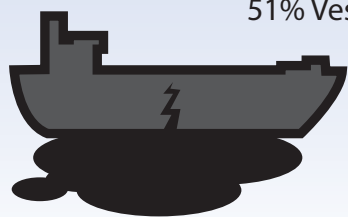
61,000 U.S. ships subject to VGP

(EPA estimates)



8,000 Foreign ships subject to VGP

Top 5 Inputs of Lubricants in World's Marine Port Waters



- 51% Vessel Operational Discharges
- 19% Tank Ship Spills
- 10% Lube Leakages
- 7% E&P Produced Waters
- 7% Tanker Cargo Washings

Estimated annual total discharge:
37-61 M liters (10-16 M gallons)

What is an EAL?

An environmentally acceptable lubricant (EAL) is a VGP compliant lubricant.

EALs are:

- biodegradable
- minimally toxic
- not bioaccumulative

... as defined in Appendix A of the 2013 VGP



EAL Base Oil Selections

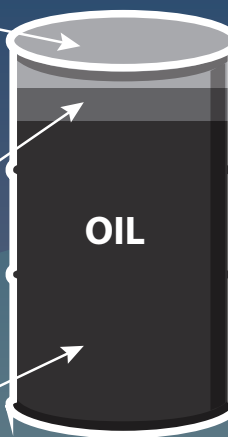
- Soybean, canola, sunflower plus blends
- Other vegetable matter base stocks
- PAGs
- Synthetic esters



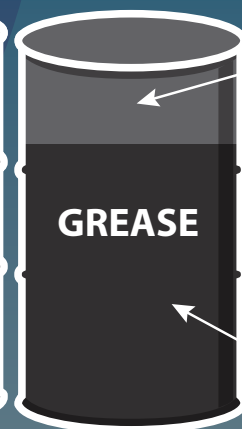
Remainder must be inherently biodegradable

Up to 5% may be non-biodegradable (but not bioaccumulative)

At least 90% readily biodegradable



OIL



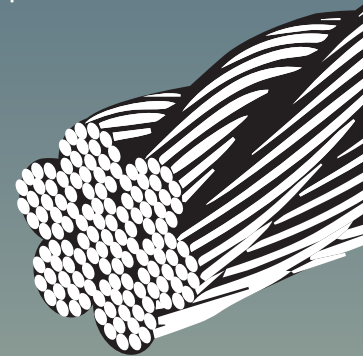
GREASE

25% may be either inherently biodegradable or non-biodegradable (but not bioaccumulative)

At least 75% readily biodegradable

VGP affects a wide range of equipment

- Wire rope
- Stern tubes
- Controllable pitch propellers
- Azipods
- Rudder bearings
- Stabilizers
- Thruster azimuth bearings
- Thruster hydraulic fluids
- Mechanical equipment subject to immersion



Go Green Without Sacrificing Performance

Earthwise™ EAL Wire Rope Grease (3353)

LE's Earthwise™ lubricants are specifically formulated to be earth friendly while still meeting the rigorous demands of industrial applications. With these products, you can "go green" – and keep up with the latest environmental regulations – without having to sacrifice performance.

Earthwise EAL Wire Rope Grease (3353) is a certified Environmentally Acceptable Lubricant (EAL), recommended for use in applications on or near waterways. It meets the specifications required by the EPA's Vessel General Permit (VGP). Formulated with aluminum complex thickener and 100% biodegradable base fluid, this NLGI 0 grease is readily biodegradable, exhibits minimal aquatic toxicity and will not accumulate in the cells of fish and other aquatic life forms.



Beneficial Qualities

- ▶ Well-suited for applications in or around waterways
- ▶ Meets VGP standard for aquatic toxicity
- ▶ Meets VGP standard for biodegradability
- ▶ Meets VGP standard for bioaccumulation
- ▶ Clings to metal surfaces, including moving parts
- ▶ Stays in place in presence of moisture for long service life
- ▶ Reduces wear to wire rope and all moving parts, including chains & cables
- ▶ Protects sprockets, sheaves & other wear-intensive areas
- ▶ Seals surfaces, protecting against rust and corrosion

For more information about this VGP-compliant EAL, contact us today.

LI50103 7-15



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Fort Worth, TX • Wichita, KS

LE operates under an ISO 9001 Certified Quality System.

