

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

PRODUCT IDENTITY:

PetroGulf Marine Lithium Grease EP 0, 1, 2, 3

COMPANY INFORMATION

PetroGulf Oil Manufacturing L.L.C.

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

3. HAZARD IDENTIFICATION

Warning Statements	HANDLE MATERIAL IN PRESSURE EQUIPMENT WITH CARE. ACCIDENTAL INJECTION CAN CAUSE SERIOUS TISSUE DAMAGE
Eyes	Expected to cause no more than minor eye irritation
Oral	Not expected to be an ingestion problem
Inhalation	Product not volatile at ambient temperatures. Vapours, mist or fumes in high concentrations, as generated from spraying or heating in an enclosed space, may cause eye irritation
Skin	May cause skin irritation. Prolonged or frequently repeated contact may cause more severe irritation or may cause the skin to become cracked or dry from the defatting action of this material. See Long Term Toxic Effects and Section 11 for more details
Long Term Toxic Effects	Suspected cancer hazard. Contains a component(s) that may cause cancer. Risk of cancer depends on duration and level of exposure. See Section11 for more details.

4. FIRST AID MEASURES

Eyes	Flush eyes immediately with fresh water for several minutes while holding the eyelids open. If irritation persists, see a doctor
Skin	Wash skin thoroughly with soap and water. Launder contaminated clothing
Ingestion	If swallowed and person is conscious, give water or milk. DO NOT make person vomit except on advice of medical

Material Safety Data Sheet

	personnel. If advice cannot be obtained, take person with container and label to nearest emergency treatment center. Never give anything by mouth to an unconscious person
Inhalation	This material is not expected to be an acute inhalation problem under typical applications. However, if exposed to excessive levels of fumes, mists or dusts remove to fresh air and get medical attention.
Advice to Doctor	High pressure equipment can cause small, often bloodless puncture wounds where material may have been injected deep into the extremity. With 24 hours, there is usually extensive swelling, discoloration and intense pain in the affected part. Requires immediate treatment at a surgical emergency center; else disfigurement or amputation of the affect part may occur. Treatment of high pressure wounds may include: 1)surgical decompression, debridement and drainage.2) broad-spectrum antibiotic and 3) anti-inflammatory medication. See Shoo M.J. et al. High Pressure Injection injuries of the hand. J Trauma 20:229-238, 1980

5. FIRE FIGHTING MEASURES

Ignition Temperature, °C	Not determined
Flammable Limits (% by Volume)	Not determined
Flash Point, °C	Not determined
Fire Extinguishing Agents	According to the US National Fire Protection Association Guide, use water spray, dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Use water to cool fire-exposed containers. If a leak or spill has not ignited, use water spray to disperse the vapours and to provide protection for personal attempting to stop the leak
Explosion Hazards	For fires involving this material, do not enter any enclosed or confined space without self-contained breathing apparatus to protect against the hazardous effects of combustion products or oxygen deficiency

6. ACCIDENTAL RELEASE MEASURES

In case of Spill	Shovel up material and place in a disposable container, observing precautions outlined in this MSDS. Scrub contaminated area with detergent and water using stiff broom or mop. Pick up liquid with an absorbent and place in a
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	disposable container. Avoid eye and skin contact. Prevent contamination of groundwater or surface water.
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7. HANDLING AND STORAGE

Minimum feasible handling temperatures should be maintained. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Eyes	No special eye protection is usually necessary
Skin	Avoid prolonged or frequently repeated contact with this material. Skin contact can be minimized by wearing impervious protective clothing including gloves. Protective clothing made from neoprene, nitrile, or n-butyl rubber is suitable in these applications. Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin several times daily with soap and water and laundering or dry cleaning soiled work clothing at least weekly.
Inhalation	None required when handling at minimum feasible temperatures
Ventilation	Under normal applications of this product, general dilution ventilation is adequate
Exposure Limits	None established for product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light brown. Semi-solid at ambient temperature.

Odour: Slight hydrocarbon.

Ph: Not applicable.

Initial Boiling Point and Boiling Range: Data not available

Dropping point: Typical 190 °C / 374F

Flash point: > 200 °C / 392 °F (COC)

Lower / upper Flammability: Typical 1 - 10 %(V) (based on mineral oil)

10. STABILITY AND REACTIVITY

Hazardous Polymerizations	DO NOT OCCUR
Products of Combustion	Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur, nitrogen and phosphorous ; incomplete combustion can product carbon monoxide
Conditions to Avoid	Heat, strong oxidizers

11. TOXICOLOGICAL INFORMATION

<p>General</p>	<p>High Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part. Take this information with you if you seek medical treatment.</p> <p>The material is of varying composition and may contain significant amounts of poly nuclear aromatic hydrocarbons (PNAs) which have been shown to cause skin cancer after prolonged or frequent contact with the skin of test animals. When a similar material was repeatedly applied to the skin of mice, there was a moderate increase in skin cancer. Brief or intermittent skin contact with this product is not expected to have serious effects if it is washed thoroughly from the skin. While normal use should not result in any adverse effects, we strongly recommend that the precautions outlined in this MSDS be followed to reduce skin contact and keep inhalation of mists of vapours to a minimum.</p> <p>This product contains petroleum vacuum residuum which is similar to petroleum asphalt. No association has been established between industrial exposure to petroleum asphalt and cancer in humans. The International Agency for Research on Cancer (IARC) has recently reviewed the carcinogenic effects of asphalts. They concluded that there was insufficient evidence that undiluted, air-refined asphalt was carcinogenic to animals, while there was limited evidence that steam-refined asphalts were carcinogenic to animals. Additionally there was insufficient evidence to conclude that asphalts were carcinogenic to human beings. Studies in which mice were exposed to a variety of whole asphalts did not result in any increased incidence of certain types of cancer. Brief or intermittent skin contact with this asphalt product is not expected to produce any serious effects. While normal handling of this product is not likely to cause cancer in humans, skin contact and breathing of mists, fumes or vapours should be reduced to a minimum. We strongly recommend that the precautions outlined in this MSDS be followed when handling this material.</p>
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12. ECOLOGICAL INFORMATION

<p>Environmental Effects</p>	<p>No specific toxicology data on this product is available.</p>
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13. DISPOSAL CONSIDERATIONS

Waste Disposal	Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.
Remarks	None required

14. TRANSPORT INFORMATION

Transportation of Dangerous Goods	
UN Number	Not Applicable
Dangerous Goods Class	Not Applicable
Proper Shipping Name	Not applicable
Hazchem Code	Not applicable
Additional Information	None Determined
The product is not classified as hazardous according to regulations for hazardous materials transport by land (RID, ADR), by sea (IMDG) and by air (ICAO/IATA)	

15. REGULATORY INFORMATION

Respirator Information	None determined
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16. OTHER INFORMATION — No specific notes on this product.