



SPECIALIZED LUBRICANTS

1. Substance/Product Identification

Product Name: 529 Ecoshield™ Biodegradable Grease NLGI #2

Company/Address: Schaeffer Mfg
102 Barton Street
Saint Louis, Missouri 63104
USA

Preparation/Revision Date: 07/31/2014

Product Use/Type: Biodegradable extreme pressure grease

Emergency Phone Number: +1 314 865-4105 (24-hour response number)
+ 1 314 865-4100 (Business hours 8:30AM-5:00PM)
1-800-325-9962 (US & Canada)

Website: www.schaefferoil.com

MSDS Number: 529 Version 1.1

2. Hazards Identification

Appearance: Tan color semi solid grease

Odor: Slight petroleum odor



GHS Symbol:

Principal Hazards: Warning! Contact with eyes and skin can cause irritation. Prolonged or repeated contact without proper cleaning can clog pores of skin resulting in disorders such as acne/folliculitis High pressure injection under the skin may cause serious damage including local necrosis.

See Section 11 for complete health hazard information

3. Composition and Information on Ingredients

Hazardous Ingredients

Ingredient Name	CAS No.	EU Number	Percentage (by wt.)
Mixture of High Oleic Vegetable oils	Mixture of 68918-91-2 164250-88-8 120962-03-0		20-60
Mixture of trimethylolpropane esters	173832-39-8 85005-23-8	284-956-6	15-30
Organophilic Clay	71011-25-1	275-125-9	2-15
Sulfurized Rapeseed Oil	68153-37-7	268-883-7	2-4.5
Sulfurized Vegetable Fatty Acid Esters	Trade Secret	Trade Secret	0.3-0.9
Benzenepropanoic acid,3,5,bis(1,1-dimethylethyl)-4-hydroxy-,C7-9 branched alkyl esters	125643-81-0	406-040-9	<1

Product Name: 529 Ecoshield™ Biodegradable Grease NLGI #2

4. First Aid Measures

Ingestion: If swallowed, do not induce vomiting. Give the person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.

Eyes: Flush eyes with running water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get immediate medical attention.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

Skin: To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. Get medical attention if any irritation or redness develops.

Additional Information: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis

In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene.

5. Fire Fighting Measures:

Flash Point: Base Oils- 484°F (251°C) Cleveland Open Cup ASTM D-92

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

Firefighting Procedures: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus

Unusual Fire & Explosion: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, aldehydes and unidentified organic compounds will be evolved when this material undergoes combustion.

6. Accidental Release Measures

Spill Procedures and Clean-up methods: Eliminate all sources of ignition in vicinity of spilled material. Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Personal Precautions: Wear appropriate personal protective equipment when cleaning up spills.

Environmental Precautions: U.S.A. regulations may require reporting spills of this material that could reach any surface waters. Report spills to local authorities and/or the National Response Center at (800) 424-8802 as appropriate or required. Report spills to all applicable National, International, Federal, State, Provincial and local authorities. 529 Ecoshield™ Biodegradable Grease NLGI #2 passes the U.S. EPA's Static Sheen Test

Product Name: 529 Ecoshield™ Biodegradable Grease NLGI #2**7. Handling & Storage**

Handling: Avoid all contact of product with eyes and skin. Wash thoroughly after handling and before eating, smoking or using toilet facilities. Do not swallow or inhale vapors. Do not eat, drink or smoke in work areas. Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources.

Storage: Do not store product at elevated temperatures. Store the product in a cool dry place that has adequate ventilation. Maximum storage temperature is 120°F (49°C). Do not store near food or feed products. Keep containers closed when not in use.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid and/or vapor) and can be dangerous. Do not cut, weld, braze, solder, drill, grind or expose containers to heat, flame, sparks, static electricity or other sources of ignition. There may explode and cause injury or death. Empty containers should be completely drained, properly closed and promptly returned to a drum reconditioner or disposed of properly

8. Exposure Controls and Personal Protection**Occupational Exposure Limits**

Ingredient	OSHA TWA	OSHA STEL	ACGIH TWA	ACGIH STEL
Vegetable oils	5mg/m ³		5mg/m ³	10mg/m ³
Mixture of trimethylolpropane esters	5 mg/m ³		5 mg/m ³	
Sulfurized Rapeseed Oil	5mg/m ³		5mg/m ³	10mg/m ³
Sulfurized Vegetable Fatty Acid Esters	5mg/m ³		5mg/m ³	10mg/m ³
Benzenepropanoic acid,3,5,bis(1,1-dimethylethyl)-4-hydroxy-,C7-9 branched alkyl esters	NE		NE	

(s)-Skin exposure (p) proposed limit (c) – Ceiling limit (l) Recommended exposure limit
(u) supplier limit (N/E) – not established

Other Exposure Limits

Engineering Controls: If user operations generate an oil mist, determine if airborne concentrations are below the OSHA Permissible Limit (PEL) of 5 mg/m³ for mineral oil mist. If not, wear a NIOSH approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge

Personal Protective Equipment

Gloves: Nitrile or oil resistant gloves

Protective Clothing: Wear impervious protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing.

8. Exposure Controls and Personal Protection continued

Personal Protective Equipment

Gloves: Nitrile or oil resistant gloves

Protective Clothing: Wear impervious protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing.

Eye Protection: Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact.

Skin Protection: Wear impervious protective clothing to prevent skin contact

9. Physical and Chemical Properties

Flash Point: 484°F (251°C) Cleveland Open Cup ASTM D-92

Specific Gravity: 0.89 -0.9002

Upper Flammable Limit (UEL): Not established

Lower Flammable Limit (LEL): Not established

Vapor Pressure: <1 mm

Vapor Density (air =1): >1

Percent Volatile: Negligible

Evaporation Rate: Not Determined

pH: Not applicable

Boiling Point: >600°F (>300°C)

Melting Point: Not applicable

Appearance: Green color, semi-solid

Odor: slight petroleum odor

Solubility in Water: Insoluble

The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise specified

10. Stability and Reactivity

Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Materials to Avoid: Strong acids, bases and oxidizers

Polymerization: Not expected to occur during conditions of normal use.

Thermal Decomposition: Not determined

Conditions to Avoid: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Product Name: 529 Ecoshield™ Biodegradable Grease NLGI #2

11. Toxicological Information:

Routes of Exposure: Skin, eyes, ingestion and inhalation

Target Organs: Skin, eyes, upper respiratory tract

Acute Exposure

Ingestion: Ingestion may cause a laxative effect. This material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.

Eye Contact: Slight irritation and redness to eyes

Skin Contact: Contact with skin is not expected to cause prolonged or significant irritation

Inhalation: Contains petroleum base hydrocarbon base oils. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit.

Dermal Sensitization: Not expected to be a dermal sensitizer

Inhalation Sensitization: Not expected to be an inhalation sensitizer.

Carcinogenicity: This product does not contain any of the chemicals listed on the United States National Toxicology Program Annual Reports on Carcinogens, The International Agency for Cancer Research Monographs and United State's Occupational Safety and Health Administrations 29CFR 1910.10 Subpart Z List.

Ames Test: Negative

12. Environmental and Ecological Information

Ecotoxicity:

Not expected to be harmful to aquatic organisms.

LC50 96 hours >10,000 ppm (Fathead Minnow)

LC50 48 hours >10,000 ppm (Daphnia Magna)

LC50 96 hours >10,000 ppm (Mysidosis bahia)

Depending on the contamination and/or degradation levels, small amounts of spilled or leaked Ecoshield™ Biodegradable Grease NLGI # 2 will not adversely affect ground water or the environment. For small spills on the ground uncontaminated product will be readily biodegraded by naturally occurring soil organisms when exposed to air. Nonetheless, spillage of Ecoshield™ Biodegradable Grease NLGI #2 should be handled similarly to currently accepted methods for conventional mineral oil spills.

Environmental Fate

Biodegradation: At least >60% to 90% of this product is biodegradable by the Modified OECD Sturm 301B Method

Bioaccumulation: This product will not bioaccumulate

Water Class Hazard (Germany): WK-1 according to appendix 4 VwVwS dated 27.7.2005

13. Disposal Considerations

Waste Handling and Disposal: This product in its neat state when discarded or disposed of is not a hazardous waste according to Federal Regulations 40CFR 261.4 (b)(4). Dispose of product in accordance with all applicable Federal, State and local laws and regulations. Do not re-use empty containers

14. Transport Information

US DOT Classification Non-Bulk/ Bulk: Not Regulated

IMDG and IATA/ICAO Classification: Not Regulated

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15. Regulatory Information

TSCA Inventory: All of the components in this material are on the US TSCA Inventory or are exempt.
State of California Proposition 65: This product does not contain any of the chemicals that are listed on the State of California's Proposition 65 List as potential cancer causing agents or reproductive toxins

US EPA SARA Title III and CERCLA Listings and Reportable Quantities

US EPA Section 311/313 Classifications

This product does not contain greater than 1% of any chemical substance listed under the SARA Title III Section 313, CERCLA's 302/304 and 102(a) Lists

US EPA SARA Title III and CERCLA Listings and Reportable Quantities continued Section 311/312 (40CFR 370)

Acute (Immediate)	Chronic (Delayed)	Fire	Reactive	Pressure Generating
X				

US EPA Section 313 Chemicals

Not applicable

US Tariff Heading Number: 3403.19.0000

Schedule B Number: 3403.19.0000

Other Regulations

Canada: All of the ingredients of this product are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substance List

Canadian WHMIS Classifications and Symbols: This product is not considered to be a WHMIS controlled product

EEC: All components are in compliance with the EC Seventh Amendment Directive 92/32/EEC

16. Other Information

Hazardous Materials Information System (U.S.A.)

Health: 1
Fire: 0
Reactivity: 0

National Fire Protection Agency System (U.S.A.)

Health: 1
Fire: 0
Reactivity: 0

For additional information call +1 314-865-4100 (outside the US and Canada) or 1-800-325-9962 inside the United States and Canada.

*Although the information and recommendations set forth herein (hereafter referred to as information) are presented in good faith and believed to be accurate and factual as of the date hereof, Schaeffer Mfg. Company makes no representation as to the completeness or accuracy thereof. Information is supplied upon the condition that the person receiving the same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will Schaeffer Mfg. Company be responsible for damages of any natures whatsoever resulting from the use or reliance upon information. **No representation or warranty, either expressed or implied, of merchantability or fitness for a particular purpose is made with respect to information of the product to which the information refers. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.***