

PRODUCT NAME: ABRO Gear Lube SAE GL 1-90
PRODUCT NUMBER/SIZE: GL-1-90-1QT / 1 Quart

Revision Date: 7/22/2015

SECTION 1 Identification of the Substance and of the Company/Undertaking

MANUFACTURER'S NAME: ABRO INDUSTRIES, INC.

ADDRESS: 3580 Blackthorn Drive
South Bend, IN 46628 USA

PRODUCT DESCRIPTION: Gear Oil, lubricant

COMPANY PHONE: 574-232-8289

EMERGENCY 24-HR TELEPHONE: Chemtrec: US/Canada 1-800-424-9300
International +1-703-527-3887

SECTION 2 Hazards Identification

Classification:

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Label Pictogram(s):

None required.

Signal Word:

None required.

Hazard Phrases:

None

Precautionary Phrases:

Read label before use. If medical advice is needed, have product container or label at hand. If medical advice is needed, have product container or label at hand.

Response:

None required.

Storage / Disposal:

Not Applicable.

Other:

Keep out of reach of children.

Hazards not otherwise classified (HNOC): Defatting to the skin.

SECTION 3 Composition/Information on Ingredients

Petroleum mineral oil lubricant base stock with proprietary performance additives mixture.

Substance/mixture: Mixture

COMPONENTS	CAS Number	Percent by weight
Lubricant Base Oil (Petroleum) Highly refined mineral oils (C15-C50)	Various	90 – 99.9
Hydraulic Fluid Additive Mixture	Proprietary	0.1-10

This product does not contain known hazardous materials at the $\geq 1\%$ level or known carcinogens at the $\geq 0.1\%$ level as defined by 29 CFR 1910.1200.

* The exact percentage of composition has been withheld as a trade secret.

SECTION 4 First Aid Measures

General Advice: No specific first aid measures are required. Get medical attention if irritation develops and persists.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if irritation develops and persists.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation or allergic reaction develops and persists.

Inhalation: In case of inhalation of decomposition products in a fire, symptoms may be delayed. If inhaled, remove to fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

Ingestion: Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Most Important

Symptoms and Effects: Personnel with pre-existing skin disorders should avoid contact with this product. Under normal use conditions, no adverse effects to health are known.

Eye contact: Not expected to cause prolonged or significant eye irritation.

Skin contact: Contact with skin is not expected to cause prolonged or significant irritation. Contact with skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Inhalation: Not expected to be harmful if inhaled. Contains petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficult breathing.

Ingestion: Not expected to be harmful if swallowed.

Note to physician: Treat symptomatically.

SECTION 5 Fire Fighting Measures

OSHA Flammable Category: None

Uniform Fire Code: Class IIIB

Flash Point: >137.8°C (>280°F)

Extinguishing Media

Suitable Media: In case of fire, use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water fog, alcohol resistant foam, dry chemical, carbon dioxide (CO₂) extinguisher or spray.

Unsuitable Media: CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical: Keep product and empty container away from heat and sources of ignition as product will burn. Contact with strong oxidizers may cause fire. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be contained, prevented from being discharged to any waterway, sewer or drain and disposed of in accordance with local regulations.

Hazardous Combustion Products: Combustion products may include the following: Carbon dioxide (CO₂) Carbon monoxide (CO), and Nitrogen oxides.

Protection of Fire Fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against

static discharges. All equipment used when handling the product must be grounded. See also the information in "For non-emergency personnel".

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). See Section 12 for ecological information.

Methods and materials for containment and cleaning up

Small Spills: Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spills: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non- combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

NOTE: If RQ (Reportable Quantity) is exceeded or if spills enter a body of water, report immediately to the USEPA's National Response Center at (800) 424-8802. Check with your local and state regulators regarding their reporting requirements.

**SECTION 7
Handling and Storage**

Precautions for safe handling

Protective measures: Eye protection and face shield should be used if material is used under conditions that increase the chances of splattering. Put on appropriate personal protective equipment (see Section 8). Keep out of reach of children.

Advice on general occupational hygiene: Do not get in eyes, on skin or on clothing. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, strong oxidizing agents (see Section 10) and food and drink. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination. Avoid contaminating soil or releases into sewage or drainage systems and bodies of water.

Bulk material handling: Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient.

**SECTION 8
Exposure Controls/Personal Protection**

Control parameters

Occupational Exposure Limits

Chemical Name	ACGIH TLV		OSHA PEL		NIOSH IDLH	
	TLV	STEL	PEL	STEL	TWA	Ceiling
Lubricant Base Oil	5 mg/m3	10 mg/m3	5 mg/m3 (mist)	-	-	-

(Petroleum) Highly refined mineral oils (C15-C50)	(mist)	(mist)				
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Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/Face Protection: Wear safety glasses with side shields. A face shield may be necessary under some conditions.

Skin and Body Protection

Hand protection: Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. Consult your supervisor or Standard Operating Procedure (SOP) for special handling instructions.

Body protection: No protective equipment is needed under normal use conditions. For non-routine tasks, personal protection equipment for the body should be selected based on the task being performed and the risks involved.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory protection: No respiratory protection is normally required. If user operation generates an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from measured concentrations of this material. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide.

SECTION 9
Physical and Chemical Properties

<u>Appearance</u>	<u>(Typical or Target)</u>
Physical State:	Liquid
Color:	Amber
Odor:	Petroleum like
Odor threshold:	Not available
pH:	Not applicable
Boiling Point:	Not available
Flash Point (Closed cup):	>137.8°C (>280°F) (Typical or Target)
Evaporation rate (Butyl acetate = 1):	Not Available
Flammability (solid, gas):	Not applicable. Based on - Physical state
Flammable) Limit in Air	Not available

Vapor pressure:	Not available
Vapor density (Air = 1):	>1
Relative density:	0.86 - 0.91 g/l at 15°C (Typical or Target)
Solubility:	In soluble in water
Partition coefficient (n-Octanol/water):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity – Kinematic (cSt (mm ² /s)@ 40°C):	26 – 74
Viscosity – Dynamic (cSt (mm ² /s) @ 100°C):	4.5 – 8.8
VOC %:	0 %

SECTION 10 Stability and Reactivity

Reactivity: Not reactive under normal storage conditions
Chemical stability: Stable under normal storage conditions
Possibility of hazardous reactions: None under normal processing.
Hazardous polymerization: Hazardous polymerization does not occur.
Conditions to avoid: Heat, flames and sparks.
Incompatible materials: Oxidizing agents and open flames.
Hazardous decomposition products: May include: Fumes, Oil vapors, Smoke, Carbon Oxides (including carbon monoxide and carbon dioxide), Aldehydes, Nitrogen oxides, and incomplete combustion products.

SECTION 11 Toxicological Information

Information on toxicological effects

Substance/Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
			Typical for Mineral Oil
Inhalation	Unlikely to be harmful		>2.18 mg/L (rat) (mist, estimated)
Dermal	Unlikely to be harmful		>2000 mg/L (rabbit) (estimated)
Oral	Unlikely to be harmful		>2000 mg/l (rat) (estimated)

Aspiration hazard: Not expected to be an aspiration hazard.
Skin Corrosion/Irritation: No known significant effects or critical hazards.
Serious Eye Damage/Irritation: No known significant effects or critical hazards.
Skin Sensitization: No known significant effects or critical hazards.
Respiratory Sensitization: No known significant effects or critical hazards.
Specific Target Organ Toxicity (Single Exposure) - STOT-SE: No known significant effects or critical hazards.
Specific Target Organ Toxicity (Repeated Exposure) – STOT-RE: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Germ Cell Mutagenicity: No known significant effects or critical hazards.
Reproductive Toxicity No known significant effects or critical hazards.

Information on Toxicity Effects of Compounds

Lubricant Base Mineral Oil (Petroleum)

Mineral oils are known to cause cancer because of carcinogenic components (e.g. Benzene). The lubricant base mineral oils in this product have been highly refined by a variety of processes including severe solvent extraction, severe hydro cracking or severe hydro treating to reduce aromatics and

improve performance characteristics. The oils in the is product meets the IP-346 criteria of less than 3 percent PHA's and are not considered to be a carcinogen by the International Agency for Research on Cancer.

None of the oils in this product requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IRAC) as: carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 Ecological Information

The information is based on data available for the material, the components of the material, and similar materials.

Ecotoxicity: No testing has been performed by the manufacturer. Ecotoxicity hazard is based on an evaluation of data for the components or a similar material. Not expected to be harmful to aquatic organisms.

Mobility: Base oil component – Low solubility and floats and is expected to migrate from water to land. Expected to partition to sediment and wastewater solids.

Soil/water partition coefficient (Koc): Not available.

Persistence and degradation

Biodegradation: The material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

Bioaccumulative potential

Bioaccumulation: This product is not expected to bioaccumulate through food chain in the environment.

Other adverse effects: No known significant effects or critical hazards.

Other ecological information: Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

SECTION 13 Disposal Considerations

Disposal recommendations based on material supplied.

Waste treatment methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Consult the appropriate state, regional, or local regulations for additional requirements. The generation of waste should be avoided or minimized wherever possible.

Product waste: Significant quantities of waste product residues should not be disposed of via the sanitary sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Incineration or landfill should only be considered when recycling is not feasible. Oil collection services are available for used oil recycling.

Contaminated packaging: Empty containers or liners may retain some product residues and could pose a potential fire and explosion hazard. Do not cut, puncture, or weld containers.

Other information: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 Transport Information

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

U.S. DOT UN/ID Number: Not Regulated
Proper shipping name:
Hazard class:
Packing Group:
Exceptions:
Environmental Hazards:
Transport in Bulk:
Special Precautions:

IMO/IMDG UN/ID Number: Not Regulated
Proper shipping name:
Hazard class:
Packing Group:
Exceptions:
Environmental Hazards:
Transport in Bulk:
Special Precautions:

ICAO/IATA UN/ID Number: Not Regulated
Proper shipping name:
Hazard Class:
Packing Group:
Exceptions:
Environmental Hazards:
Transport in Bulk:
Special Precautions:

Canada (TDG) UN/ID Number: Not Regulated
Proper shipping name:
Hazard class:
Packing Group:
Exceptions:
Environmental Hazards:
Transport in Bulk:
Special Precautions:

Europe (ADR/RID) UN/ID Number: Not Regulated
Proper shipping name:
Hazard class:
Packing Group:
Exceptions:
Environmental Hazards:

Transport in Bulk:
Special Precautions:

Special precautions for user: Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15 Regulatory Information

United States Regulations

United States Inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304: No products were found.

SARA 311/312:

Immediate (Acute) Health Effects:	No
Delayed (Chronic) Health Effects:	No
Fire Hazard:	No
Sudden Release of Pressure Hazard:	No
Reactivity Hazard:	No

SARA 313:

The following components of this material are found on the EPCRA 313 list:
None

Supplier notification: This product does not contain any hazardous ingredients at or above regulated thresholds.

CWA (Clean Water Act): This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA: This material, as supplied, does not contain any substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

State Regulations

Massachusetts: None of the components are at or above regulated thresholds.

New Jersey: Petroleum Oil (Motor Oil)

Pennsylvania: None of the components are at or above regulated thresholds.

California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer. None.

Canada

WHMIS Hazard Class: Not classified. This Product Is Not Controlled Under WHMIS (Canada)

International Chemical Inventories:

All components comply with the following chemical inventory requirements: DSL (Canada)

SECTION 16 Other Information

NFPA Rating:	Health Hazard – 1	Flammability – 1	Instability/Reactivity – 0
HMIS Rating:	Health Hazard – 1	Flammability – 1	Physical Hazards – 0

(NFPA & HMIS Hazard Rating Key: 0 - Minimum Hazard; 1 - Slight Hazard; 2 - Moderate Hazard; 3 - High Hazard; 4 - Extreme Hazard; * - Chronic Hazard Indicator, & PPE - Personal Protective Equipment Index

A to L. These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS or Hazardous Material Identification System).

Key to abbreviations:

OSHA = Occupational Safety and Health Administration LogPow = logarithm of the octanol/water partition coefficient

ACGIH= American Conference of Industrial Hygienists OEL = Occupational Exposure Limit

ATE = Acute Toxicity Estimate SDS = Safety Data Sheet

BCF = Bioconcentration Factor STEL = Short term exposure Limit

CAS = Chemical Abstracts Service Registry Number UN = United Nations

cSt = Centistroke (mm²/s) UN Number = United Nations Number, a four digit number

GHS = Global Harmonized System of Classification and Labeling assigned by the United Nations Committee of Experts on

Of Chemicals. the Transportation of Dangerous Goods

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

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This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

ABBREVIATIONS:

NG="NOT GIVEN"

BT="BETWEEN"

<="LESS THAN"

>="GREATER THAN"

ND = Not Determined

NA = Not Applicable