

Polaris Material Safety Data Sheet

Polaris Sales Inc.
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Emergency: 800-424-9300
Information: 763-542-0500

SECTION 1 CHEMICAL PRODUCT IDENTIFICATION

Product: POLARIS PREMIUM DEMAND DRIVE HUB FLUID
CAS Registry Number: Mixture
Synonyms: Hub Fluid
Item Number(s): 2871654, 2872277, 8570068
MSDS Number: 0407
Product Type: Hydraulic fluid
Preparation/Revision Date: 07/30/2007

SECTION 2 HAZARDOUS COMPOSITION INFORMATION

INGREDIENTS	CAS #	%	ACGIH TWA	OSHA PEL	OSHA STEL	SKIN
Front Hub Fluid	Mixture	100	5 mg/m ³ (oil mist)	5 mg/m ³ (oil mist)	--	NO

SECTION 3 HAZARDOUS IDENTIFICATION

WARNING:

- MAY CAUSE EYE IRRITATION
- MAY CAUSE SKIN IRRITATION
- HOT VAPORS MAY CAUSE RESPIRATORY IRRITATION
- HARMFUL IF SWALLOWED

Eye contact: This product contains materials that can cause mild eye irritation with discomfort, tearing, or blurring of vision.

Skin contact: Avoid prolonged skin contact. This product contains materials that may cause skin irritation. Prolonged or repeated contact may result in dermatitis (dryness, chapping and reddening of skin).

Inhalation: Overexposure by inhalation of hot material may cause nonspecific discomfort, such as nausea, headache, or weakness. Caution should be taken to prevent aerosolization or misting of this product without proper respiratory protection.

Ingestion: Do not ingest. Product is expected to be relatively non-toxic unless lung aspiration occurs. Aspiration may lead to chemical pneumonitis which is characterized by pulmonary edema and hemorrhage and may be fatal. Signs of lung involvement include increased respiratory rate, increased heart rate, and a bluish discoloration of the skin. Coughing, choking and gagging are often noted at the time of aspiration. Gastrointestinal discomfort may develop, followed by vomiting with a further risk of aspiration. This product has laxative properties and may result in abdominal cramps and diarrhea.

Other: Not applicable.

SECTION 4 FIRST AID MEASURES

Eye contact: Immediately flush eyes with large amounts of water and continue flushing until irritation subsides. If irritation persists call a physician. If material is hot, treat for thermal burns and take victim to hospital immediately.

Skin contact: Remove contaminated clothing. Wash contaminated area thoroughly with soap and water. If redness or irritation occurs, seek medical attention. If material is hot, submerge injured area in cold water. If victim is severely burned, remove to a hospital immediately. Wash contaminated clothing before reuse.

Inhalation: If overcome by inhalation of hot vapors, remove to fresh air. Use oxygen if

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Ingestion:

there is difficulty breathing or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary. DO NOT INDUCE VOMITING. Do not induce vomiting due to aspiration hazard. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. If vomiting occurs lower head below knees to avoid aspiration. Seek immediate medical attention.

Other:

Not applicable.

SECTION 5

FIRE FIGHTING MEASURES

Flash point:

94°C (201°F) minimum by ASTM D 92 (COC).

Flammable limits:

LEL - 0.9% UEL - 7.0%.

Extinguishing media:

Foam, dry chemical, carbon dioxide or water spray (fog).

Special firefighting procedures:

Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Unusual fire & explosion hazards:

Dense smoke may be generated while burning. Toxic fumes, gases or vapors may evolve on burning. Heavy flammable vapors may settle along ground level and low spots to create an invisible fire hazard. The vapors may extend to sources of ignition and flash back.

Byproducts of combustion:

Smoke, carbon monoxide and dioxide, and other aldehydes of incomplete combustion. Oxides of carbon, sulfur and zinc.

Autoignition temperature:

Not determined.

Explosion data:

Not determined. Care should always be exercised in dust/mist areas.

Other:

Not determined.

SECTION 6

ACCIDENTAL RELEASE MEASURES

Spill control procedures (land):

Immediately turn off or isolate any source of ignition (pilot lights, electrical equipment, flames, heaters, etc.). Evacuate area and ventilate. Personnel wearing proper protective equipment should contain spill immediately with inert materials (sand, earth, chemical spill pads of cotton) by forming dikes. Dikes should be placed to contain spill in a manner that will prevent material from entering sewers and waterways. Large spill, once contained, may be picked up using explosion proof, non-sparking vacuum pumps, shovels, or buckets, and disposed of in suitable containers for disposal. If a large spill occurs notify appropriate authorities.

Spill control procedures (water):

Remove from surface by skimming or with suitable adsorbents. If a large spill occurs notify appropriate authorities (normally the National Response Center or Coast Guard).

Waste disposal method:

Most oil based products are incinerated, land-filled or reclaimed. All disposals must comply with federal, state, and local regulations. The material, if spilled or discarded may be a regulated waste. Refer to state and local regulations. Department of Transportation regulations may apply for transporting this material when spilled. See Section 14.

Other:

CAUTION - If spilled material is cleaned up using a regulated solvent, the resulting waste mixture will be regulated.

SECTION 7

HANDLING AND STORAGE

Handling procedures:

Keep containers closed when not in use. Do not transfer to unmarked containers. Fire extinguishers should be kept readily available. See NFPA 30 and OSHA 1910.106 -- Flammable and Combustible Liquids. Empty containers retain product residue which may exhibit hazards of material, therefore do not

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pressurize, cut, glaze, weld, or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

Storage procedures: Store containers away from heat, sparks, open flame, or oxidizing materials.

Additional information: No additional information.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protection: Applicable mainly to persons in repeated contact situations such as packaging of product, service/maintenance, and cleanup/spill control personnel.

Respiratory protection: None required if airborne concentrations are maintained below threshold limits listed on page one. Otherwise a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed. Where misting may occur, wear an MSHA/NIOSH approved (or equivalent) half-mask form dust/mist air purifying respirator.

Eye protection: Eye protection is recommended. If material is handled such that it could be splashed into the eyes, wear safety glasses with side shields or vented/splash proof goggles (ANSI Z87.1 or approved equivalent).

Hand protection: Impervious gloves such as neoprene or nitrile rubber to avoid skin sensitization and absorption.

Other protection: Use of an apron and overboots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization and absorption. If handling hot material use insulated protective equipment. Launder soiled clothes. Properly dispose of contaminated leather articles and other materials which cannot be decontaminated.

Local control measures: Use adequate ventilation when working with material in an enclosed area. Mechanical methods such as fume hoods or area fans may be used to reduce localized vapor/mist areas. If vapor or mist is generated when the material is heated or handled, adequate ventilation in accordance with good engineering practice must be provided to maintain concentrations below the specified exposure. Eyewash stations and showers should be available in areas where this material is used and stored.

Other: Consumption of food and drink should be avoided in work areas where product is present. Always wash hands and face with soap and water before eating, drinking or smoking.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Vapor pressure: <0.01 mm Hg. at 15.6°C (60.0°F).

API gravity: 29.3 at 15.6°C (60.0°F).

Density: 7.33 lbs/gal at 15.6°C (60.0°F).

Specific gravity: 0.88 at 15.6°C (60.0°F).

Solubility: Negligible in water. Soluble in most hydrocarbon solvents and mineral oils.

Percent volatile: Negligible.

Vapor density (air=1): >5 at 15.6°C (60.0°F).

Evaporation rate (n-Butyl Acetate=1): <0.01 at 15.6°C (60.0°F).

Odor: Mild petroleum odor.

Appearance: Green, thin fluid.

Viscosity: 5.5 cSt at 100°C (212°F).
16.0 cSt at 40°C (104°F).

Boiling point: >287°C (549°F).

Pour point: -62°C (-80°F) typical by ASTM D 97.

Other: Not applicable.

SECTION 10 STABILITY AND REACTIVITY

Stability: Material is stable at room temperature and pressure.

Conditions to avoid: Avoid high temperatures and product contamination.

Incompatibility with other materials: Avoid contact with acids and oxidizing materials such as liquid chlorine or

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Decomposition products:	concentrated oxygen. Smoke, carbon monoxide and dioxide, and other aldehydes of incomplete combustion. Oxides of carbon, sulfur and zinc.
Hazardous polymerization:	Will not occur.
Other:	Not determined.

SECTION 11 TOXICOLOGICAL INFORMATION

Oral toxicity:	Not determined.
Dermal toxicity:	Not determined.
Inhalation toxicity:	On rare occasions, prolonged and repeated exposure to oil mist poses a risk of pulmonary disease such as chronic lung inflammation. This condition is usually asymptomatic as a result of repeated small aspirations. Shortness of breath and cough are the most common symptoms. Based on data from similar materials.
Dermal sensitization:	Prolonged or repeated contact may make skin more sensitive to other skin sensitizers. Based on data from similar materials.
Chronic toxicity:	Not determined.
Carcinogenicity:	Although the completed product has not been evaluated as a carcinogen - none of the materials contained are currently listed as known carcinogens above de minimus concentrations (due to possible impurities).
Mutagenicity:	Not determined.
Reproductive toxicity:	Not determined.
Other:	This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils require 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 (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

SECTION 12 ECOLOGICAL INFORMATION

Environmental toxicity:	This material has not been evaluated for its environmental impact. This material may be toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water. Based on data from similar materials.
Environmental fate:	This product has not been evaluated for it's environmental fate.
Other:	Not determined.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste disposal:	Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. This product unadulterated by other materials may be classified as a non-regulated waste in some areas - but still needs to be disposed of at approved facilities. Waste management should be in full compliance with federal, state, and local laws.
Disposal consideration:	Most used oil and grease is reclaimed or incinerated (if unadulterated). Place used, contaminated, or excess material into disposable containers and dispose of in a manner consistent with local and state regulations. Contact local environmental or health authorities for approved disposal of this material.
Other:	If material is contaminated with a regulated material, the whole of the material becomes a regulated waste. Try to segregate from regulated material waste streams.

SECTION 14 TRANSPORT INFORMATION

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U.S. DOT shipping description: Not DOT regulated.
U.S. DOT identification number: Not applicable.
U.S. DOT hazard classification: Not applicable.
Packaging class: Not applicable.
Other: Not applicable

SECTION 15 REGULATORY INFORMATION

Clean water act/oil pollution act: Under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Control Act of 1990, this material is considered an oil. Any spills or discharges that produce a visible sheen or film on surface of water, or in waterways, ditches, or sewers leading to surface water must be reported. Contact the National Response Center at 800-424-8802.

TSCA: All components of this material are listed in the U.S. TSCA Inventory.
Other TSCA: Not applicable.
SARA Title III: Section 302/304 extremely hazardous substances: None.
 Section 311, 312 hazard categorization:
 Acute (immediate health effects): NO
 Chronic (delayed health effects): NO
 Fire (hazard): YES
 Reactivity (hazard): NO
 Pressure (sudden release hazard): NO
 Section 313 toxic chemicals: None.

CERCLA: For stationary sources – reportable quantity: Not defined.
 Due to: Not applicable.
 For moving sources – reportable quantity: Not defined.
 Due to: Not applicable.

Other: Recommend contacting the local authorities in the event of any type of spill to determine local reporting requirements and also to aid in the cleanup.

SECTION 16 OTHER INFORMATION

	NFPA 704	NPCA-HMIS	KEY
HEALTH:	1	1	0 = Minimal
FIRE:	1	1	1 = Slight
REACTIVITY:	0	0	2 = Moderate
SPECIFIC HAZARD:	NONE	N/A	3 = Serious
PROTECTION INDEX:	N/A	B	4 = Severe

Precautionary labels:

- MAY CAUSE EYE IRRITATION
- MAY CAUSE SKIN IRRITATION
- HOT VAPORS MAY CAUSE RESPIRATORY IRRITATION
- HARMFUL IF SWALLOWED

This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used. Polaris must rely on information provided by those materials manufacturers or distributors.

Creation date: 8/31/98
File: Polaris Premium Demand Drive Hub Fluid (0407)
Version: VIII

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Revisions:

Now in 16-section MSDS format.

Product not subject to DOT regulation. 06/23/2003

MSDS reviewed: 07/30/2007