

# Polaris Material Safety Data Sheet

Polaris Sales Inc.  
2100 Highway 55  
Medina, MN 55340  
www.polarisindustries.com

Emergency: 800-424-9300  
Information: 763-542-0500

## SECTION 1 CHEMICAL PRODUCT IDENTIFICATION

Product: POLARIS LT DEMAND DRIVE FLUID  
Synonyms: Not applicable  
MSDS Number: 2042  
Product Type: Specialty transmission fluid  
Preparation/Revision Date: 8/4/2010

## SECTION 2 HAZARDOUS COMPOSITION INFORMATION

INGREDIENTS	CAS #	%	ACGIH TWA	OSHA PEL	OSHA STEL	SKIN
Zinc alkyl dithiophosphate	68649-42-3	1-5	--	--	--	NO
Proprietary materials	Mixture	Balance	5 mg/m <sup>3</sup> (oil mist)	5 mg/m <sup>3</sup> (oil mist)	5 mg/m <sup>3</sup> (oil mist)	NO

## SECTION 3 HAZARDOUS IDENTIFICATION

**WARNING:** MAY CAUSE EYE IRRITATION  
HARMFUL IF SWALLOWED

**Eye contact:** May cause slight irritation.

**Skin contact:** Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).

**Inhalation:** No hazard in normal consumer use.

**Ingestion:** Small amounts (a tablespoon) normally are not likely to cause injury; swallowing amounts larger than that may cause injury.

**Other:** Not determined.

## SECTION 4 FIRST AID MEASURES

**Eye contact:** Immediately flush eyes with plenty of water. Get medical attention if irritation persists.

**Skin contact:** Remove contaminated clothing. Wash skin with soap and water. Get medical attention if irritation develops or persists.

**Inhalation:** No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

**Ingestion:** Swallowing less than an ounce will not cause significant harm. For larger amounts, do not induce vomiting, but give one or two glasses of water to drink and get medical attention (vomiting increases risk of lung aspiration). Do not give anything by mouth to an unconscious person.

**Other:** Not determined.

## SECTION 5 FIRE FIGHTING MEASURES

**Flash point:** >192°C by Cleveland Open Cup Tester.

**Flammable limits (% in air):** LEL 0.9 UEL 7.0

**Extinguishing media:** Use foam, dry chemical, or water spray to extinguish fire.

**Special firefighting**  
As in any fire, wear self-contained breathing apparatus pressure-demand,

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<b>procedures:</b>	MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to cool fire exposed surfaces and to protect personnel.
<b>Unusual fire &amp; explosion hazards:</b>	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.
<b>Byproducts of combustion:</b>	Fumes, smoke, oxides of carbon, sulfur, phosphorus, zinc and nitrogen.
<b>Autoignition temperature:</b>	Not determined.
<b>Explosion data:</b>	Not determined. Care should always be exercised in dust/mist conditions.
<b>Other:</b>	Not determined.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

<b>Spill control procedures (land):</b>	Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (Section 15) notify the National Response Center. Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust. Recover by explosion proof pump, hand pump, or suitable absorbent, into appropriate containers. Dispose of in accordance to local ordinances.
<b>Spill control procedures (water):</b>	Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear. Remove from surface by skimming or with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters. Recover adsorbed material into suitable containers and dispose of in accord with local disposal codes.
<b>Waste disposal method:</b>	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 (DOT) regulations may apply for transporting this material when spilled. See Section 14.
<b>Other:</b>	CAUTION - If spilled material is cleaned up using a regulated solvent, the resulting waste mixture will be regulated.

## SECTION 7 HANDLING AND STORAGE

<b>Handling procedures:</b>	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 pressurize, cut, glaze, weld, or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.
<b>Storage procedures:</b>	Store containers such that they are protected from weather elements (rain, snow, direct sunlight). Containers may absorb water through container closures if stored improperly. Store containers away from heat, sparks, open flame, or oxidizing materials.
<b>Additional information:</b>	No additional information.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Personal protection:</b>	Applicable mainly to persons in repeated contact situations such as packaging of product, service/maintenance, and cleanup/spill control personnel.
<b>Respiratory protection:</b>	None required if airborne concentrations are maintained below threshold limits listed on page one. Otherwise a respiratory protection program meeting OSHA

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<b>Eye protection:</b>	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 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).
<b>Hand protection:</b>	Impervious gloves such as neoprene or nitrile rubber to avoid skin sensitization and absorption.
<b>Other protection:</b>	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.
<b>Local control measures:</b>	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.
<b>Other:</b>	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

<b>Vapor pressure:</b>	Negligible at ambient conditions.
<b>Specific gravity:</b>	0.875 at 15.6°C (60.0°F).
<b>Solubility:</b>	Negligible in water, soluble in most petroleum solvents.
<b>Percent volatile:</b>	Negligible.
<b>Vapor density (air=1):</b>	Greater than air.
<b>Evaporation rate (n-Butyl Acetate=1):</b>	Negligible.
<b>Odor:</b>	Mild, bland hydrocarbon odor.
<b>Appearance:</b>	Amber fluid
<b>Viscosity:</b>	Approximately cSt at 40°C .
<b>Boiling point:</b>	>316°C
<b>Pour point:</b>	-42°C

## SECTION 10 STABILITY AND REACTIVITY

<b>Stability:</b>	Stable.
<b>Conditions to avoid:</b>	Avoid high temperatures and product contamination.
<b>Incompatibility with other materials:</b>	Avoid contact with acids and oxidizing materials such as liquid chlorine or concentrated oxygen.
<b>Decomposition products:</b>	Smoke, carbon monoxide and dioxide, and other aldehydes of incomplete combustion. Oxides of carbon, sulfur, zinc, phosphorus and nitrogen.
<b>Hazardous polymerization:</b>	Will not occur.
<b>Other:</b>	Not determined.

## SECTION 11 TOXICOLOGICAL INFORMATION

<b>Oral toxicity:</b>	Not determined.
<b>Dermal toxicity:</b>	Not determined.
<b>Inhalation toxicity:</b>	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

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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:** Not determined.

**Mutagenicity:** Not determined.

**Reproductive toxicity:** Not determined.

**Other:** This product contains petroleum base oils (additive carriers) 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 its 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

**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:**

## SECTION 15 REGULATORY INFORMATION

**Clean water act/oil pollution act:** This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and Oil Pollution Act of 1990. Discharge or spill which produce a visible sheen on either surface water, or in waterways/sewers which lead to

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surface water, must be reported to 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): YES  
     Chronic (delayed health effects): NO  
     Fire (hazard): NO  
     Reactivity (hazard): NO  
     Pressure (sudden release hazard): NO  
 Section 313 toxic chemicals: 1-3% zinc compounds.  
     0-0.5% zinc.

**CERCLA:** For stationary sources – reportable quantity: Not regulated.  
     Due to: Not applicable.  
 For moving sources – reportable quantity: Not regulated.  
     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
<b>HEALTH:</b>	0	0	0 = Minimal
<b>FIRE:</b>	1	1	1 = Slight
<b>REACTIVITY:</b>	0	0	2 = Moderate
<b>SPECIFIC HAZARD:</b>	NONE	N/A	3 = Serious
<b>PROTECTION INDEX:</b>	N/A	B	4 = Severe

Precautionary labels: -MAY CAUSE EYE 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.

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