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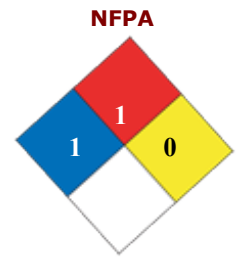
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## SECTION 1 - IDENTIFICATION

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**Product Name:** Lubrizol R 5178 F  
**Product Code:** 119-8015  
**MSDS Manufacturer Number:** 119-8014  
**Product Use/Restriction:** Hydraulic oil additive  
**Manufacturer Name:** The Toro Company  
**Address:** 8111 Lyndale Ave S  
Bloomington,, Minnesota 55420  
U.S.A.  
**General Phone Number:** 1-952-888-8801  
**MSDS Creation Date:** September 24, 2012  
**MSDS Revision Date:** September 24, 2012  
**GHS Class:** Eye Damage, Category 1  
Skin Irritant, Category 2  
Hazardous to the aquatic environment



**HMIS**

Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	X

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## SECTION 2 - HAZARD(S) IDENTIFICATION

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GHS Pictograms:



**GHS Class:** Eye Damage, Category 1  
Skin Irritant, Category 2  
Hazardous to the aquatic environment

**Hazard Statements:** Causes serious eye damage  
Causes skin irritation  
Toxic to aquatic life with long lasting effects

**Precautionary Statements:** Wear protective gloves/protective clothing/eye protection/face protection.  
Wash hands thoroughly after handling.  
Avoid release to the environment.

**Emergency Overview:** WARNING! Irritant. Harmful if swallowed.

**Route of Exposure:** Eyes. Skin. Inhalation. Ingestion.

**Potential Health Effects:**

**Eye:** May cause irritation.

**Skin:** May cause irritation.

Inhalation:	May cause irritation.
Ingestion:	Harmful if swallowed.
Target Organs:	Digestive system.
Aggravation of Pre-Existing Conditions:	None generally recognized.

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## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical Name	CAS#	Ingredient Percent	EC Num.
Zinc alkydithiophosphate	68649-42-3	50 - 60 %	200-362-1
Butylated phenol	Mixture	20 - 30 %	
Calcium sulfonate	No Data	1 - 4.9 %	
Phenol	108-95-2	0.1 %	

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## SECTION 4 - FIRST AID MEASURES

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<b>Eye Contact:</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
<b>Skin Contact:</b>	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Inhalation:</b>	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
<b>Ingestion:</b>	IF SWALLOWED: Rinse mouth. Do not induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Note to Physicians:</b>	Treat symptomatically.

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## SECTION 5 - FIRE FIGHTING MEASURES

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<b>Flash Point:</b>	>100°C (212°F)
<b>Flash Point Method:</b>	Data not available.
<b>Auto Ignition Temperature:</b>	Data not available.
<b>Lower Flammable/Explosive Limit:</b>	Data not available.
<b>Upper Flammable/Explosive Limit:</b>	Data not available.
<b>Extinguishing Media:</b>	Carbon dioxide, dry chemical powder, or water spray.
<b>Protective Equipment:</b>	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<b>Unusual Fire Hazards:</b>	Toxic fumes, gases or vapors may evolve on burning.

Hazardous Combustion  
Byproducts:

Oxides of carbon, oxides of nitrogen and other organic substances may be formed.

**NFPA Ratings:**

NFPA Health: 1  
NFPA Flammability: 1  
NFPA Reactivity: 0

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

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**Personnel Precautions:** Use proper personal protective equipment as listed in section 8. Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

**Environmental Precautions:** Avoid runoff into storm sewers, ditches, and waterways.

**Methods for containment:** Contain spills with an inert absorbent material such as soil, sand or oil dry.

**Methods for cleanup:** Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

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## SECTION 7 - HANDLING and STORAGE

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**Handling:** Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing. Max Handling Temp: 70 °C, 158 °F

**Storage:** Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.

**Work Practices:** Handle in accordance with good industrial hygiene and safety practices. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Hygiene Practices:** Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

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## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

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**Engineering Controls:** Good general ventilation should be sufficient to control airborne levels. Otherwise, use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls including use of a biosafety cabinet / fume hood to control airborne levels below recommended exposure limits.

**Eye/Face Protection:** Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.

**Skin Protection Description:** Protective laboratory coat, apron, or disposable garment recommended.

**Hand Protection Description:** Use impervious gloves. Nitrile gloves are recommended.

**Respiratory Protection:**

A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

**Other Protective:**

Follow good industrial hygiene practices when handling this material.

**PPE Pictograms:**



**EXPOSURE GUIDELINES**

**Zinc alkydithiophosphate :**

Guideline ACGIH: Not established.

Guideline OSHA: Not established.

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**SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES**

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Physical State:	Liquid.
Color:	dark amber
Odor:	Pungent.
Boiling Point:	Data not available.
Melting Point:	Data not available.
Specific Gravity:	1.03 (15.6 °C)
Solubility:	Soluble in water.
Vapor Density:	Data not available.
Vapor Pressure:	Data not available.
Percent Volatile:	Data not available.
Evaporation Rate:	Data not available.
Evaporation Point:	Data not available.
pH:	Data not available.
Viscosity:	60 Centistokes (40 °C) 7 Centistokes (100 °C)
Flash Point:	>100°C (212°F)
Flash Point Method:	Data not available.
Auto Ignition Temperature:	Data not available.
VOC Content:	Data not available.

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**SECTION 10 - STABILITY and REACTIVITY**

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**Chemical Stability:** Stable under normal conditions.

<b>Hazardous Polymerization:</b>	Will not occur.
<b>Conditions to Avoid:</b>	Avoid freezing and excessive heat.
<b>Incompatible Materials:</b>	Not applicable.
<b>Special Decomposition Products:</b>	Oxides of carbon, oxides of nitrogen and other organic substances may be formed.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Zinc alkydithiophosphate :

**IARC:** IARC: Group 3: Unclassifiable as to carcinogenicity to humans.

### Zinc alkydithiophosphate :

**Skin:** Administration onto the skin - Mouse TDLo: 2880 mg/kg/12W (Intermittent) [Tumorigenic - Protects against induction of experimental tumors]  
Administration onto the skin - Mouse TDLo: 2016 mg/kg/6W (Intermittent) [Biochemical - Metabolism (intermediary) - Effect on inflammation or mediation of inflammation]  
Administration onto the skin - Mouse TDLo: 12240 mg/kg/17W (Intermittent) [Tumorigenic - Protects against induction of experimental tumors] (RTECS)

**Ingestion:** Oral - Rat LD50: 192 mg/kg [Brain and Coverings - Other degenerative changes Behavioral - Withdrawal Kidney/Ureter/Bladder - Interstitial nephritis]  
Oral - Mouse LD50: 127 mg/kg [Gastrointestinal - Hypermotility, diarrhea] (RTECS)

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:** No ecotoxicity data was found for the product.

**Environmental Fate:** No environmental information found for this product.

**Effect of Material On Aquatic Life:** LC50 for freshwater and seawater fish is 10-100 ppm, The acute EC50 for freshwater and seawater invertebrates is 1-10 ppm, The acute EC50 for algae is 1-10 ppm, based on component data

## SECTION 13 - DISPOSAL CONSIDERATIONS

**Waste Disposal:** Dispose of in accordance with Local, State, Federal and Provincial regulations.

## SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name: Environmentally hazardous substances, liquid, n.o.s. (Alkylphenols (C2-C12))  
DOT UN Number: UN3082  
DOT Hazard Class: 9  
DOT Packing Group: III

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## SECTION 15 - REGULATORY INFORMATION

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**Risk Phrases:** R36/37/38 Irritating to eyes, respiratory system and skin.  
R22 Harmful if swallowed.

**Safety Phrase:** S20 When using do not eat or drink.  
S24/25 Avoid contact with skin and eyes.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Zinc alkydithiophosphate :**

TSCA Inventory Status: Listed  
EINECS Number: 200-362-1  
Canada DSL: Listed  
EC Number: 200-362-1

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## SECTION 16 - ADDITIONAL INFORMATION

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**Label Hazard Warning:** Causes serious eye damage  
Causes skin irritation  
Toxic to aquatic life with long lasting effects

**Label Precautions:** Wear protective gloves/protective clothing/eye protection/face protection.  
Wash hands thoroughly after handling.  
Avoid release to the environment.

HMIS Health Hazard: 1  
HMIS Fire Hazard: 1  
HMIS Reactivity: 0  
HMIS Personal Protection: X

MSDS Creation Date: September 24, 2012  
MSDS Revision Date: September 24, 2012

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