



Material Safety Data Sheet
LUBRIZOL® 5178J

Prepared according to 29CFR 1910.1200.

1	Chemical Product and Company Identification
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THE LUBRIZOL CORPORATION
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Product Trade Name	LUBRIZOL® 5178J
CAS Number	Not applicable for mixtures.
Synonyms	None.
Generic Chemical Name	Mixture.
Product Type	Antiwear hydraulic oil additive.
Preparation/Revision Date	20 January 2010
Transportation Emergency Phone No.	FOR TRANSPORT EMERGENCY call CHEMTREC: (+1) 703-527-3887 (outside the U.S.), 1-800-424-9300 (in the U.S.)
MSDS No.	59557849-2523121-3017011-102103

2	Hazards Identification
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Appearance	Dark colored liquid.
Odor	Pungent
Principal Hazards	Warning. <ul style="list-style-type: none"> • Causes skin irritation. • May cause eye irritation.

See Section 11 for complete health hazard information.

3	Composition/Information on Ingredients
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Hazardous Ingredients

Comp	CAS No.	Percentage (by wt.)	Carcinogen
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Zinc alkyldithiophosphate	Confidential.	From 40 to 49.9 percent	N/E
Aryl phosphite	101-02-0	From 1 to 4.9 percent	N/E
Calcium sulfonate	Confidential.	From 1 to 4.9 percent	N/E
Phenol	108-95-2	From 0.1 to 0.9 percent	N/E

(N/E) - None established

4	First Aid Measures
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Eyes	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.
Skin	Wash with plenty of soap and water. Remove contaminated clothing. If skin irritation occurs, get medical attention. Launder contaminated clothing before reuse and discard leather articles saturated with the material.
Inhalation	Remove exposed person to fresh air.
Oral	DO NOT INDUCE VOMITING. Get immediate medical attention. Call a poison center or doctor if exposed or you feel unwell.
Additional Information	Note to physician: Treat symptomatically.

5	Fire Fighting Measures
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Flash Point	> 100 °C, 212 °F PMCC (Minimum)
Extinguishing Media	CO ₂ , dry chemical, or foam. Water can be used to cool and protect exposed material.
Firefighting Procedures	Recommend wearing self-contained breathing apparatus. Water may cause splattering.
Unusual Fire & Explosion Hazards	None known.

6	Accidental Release Measures
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Spill Procedures	Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate area if spilled in confined space or other poorly ventilated areas. Prevent entry into sewers and waterways, dispose of in accordance with all federal, state and local environmental regulation. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.
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7	Handling and Storage
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Pumping Temperature Not determined.

Maximum Handling Temperature 70 °C, 158 °F

Handling Procedures Keep containers closed when not in use. Do not discharge into drains or the environment, dispose to an authorized waste collection point. Use appropriate containment to avoid environmental contamination. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Launder contaminated clothing before reuse. Empty container contains product residue which may exhibit hazards of product.

Maximum Storage Temperature 45 °C, 113 °F

Storage Procedures Odorous and toxic fumes may form from the decomposition of this product if stored at temperatures in excess of 113 deg F (45 deg C) for extended periods of time or if heat sources in excess of 250 deg F (121 deg C) are used. Material will solidify during storage. Do not hold at high temperatures for long periods.

Loading Temperature 70 °C, 158 °F

8	Exposure Controls/Personal Protection
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Exposure Limits

Comp	Exposure Guidelines					
	OSHA		ACGIH		Other	
	TWA	STEL	TWA	STEL	TWA	STEL
Phenol	5 ppm (s)	N/E	5 ppm (s)	N/E	N/E	N/E

(s) - Skin exposure

(p) - Proposed limit

(c) - Ceiling exposure

(l) - Recommended exposure limit

(u) - Supplier recommended exposure limit

(N/E) - None established

Other Exposure Limits Contains mineral oil. Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIH STEL of 10 mg per cubic meter.

Engineering Controls Use with adequate ventilation.

Gloves Procedures Use nitrile or neoprene gloves.

Eye Protection Safety Glasses.

Respiratory Protection Use NIOSH/MSHA approved full face respirator with a combination organic vapor and high efficiency filter cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.

Clothing Recommendation Long sleeve shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin

reaction. Launder contaminated clothing before reuse.

9	Physical and Chemical Properties
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Flash Point	> 100 °C, 212 °F PMCC (Minimum)
Upper Flammable Limit	Not determined.
Lower Flammable Limit	Not determined.
Autoignition Point	Not determined.
Explosion Data	Material does not have explosive properties.
Vapor Pressure	Not determined.
pH	Not determined.
Specific Gravity	1.04 (15.6 °C)
Bulk Density	Not determined.
Water Solubility	Insoluble.
Percent Solid	Not determined.
Percent Volatile	Not determined.
Volatile Organic Compound	Not determined.
Vapor Density	Not determined.
Evaporation Rate	Not determined.
Odor	Pungent
Appearance	Dark colored liquid.
Viscosity	70 Centistokes (40 °C) 7.8 Centistokes (100 °C)
Odor Threshold	Not determined.
Boiling Point	Not determined.
Pour Point	Not determined.
Temperature	Not determined.
Melting / Freezing Point	Not determined.

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

10	Stability and Reactivity
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Stability	Material is normally stable at room temperature and pressure. See the Handling and Storage Section for further details.
Decomposition	Not determined.

Temperature**Incompatibility**

Acids. Reducing agents. Oxidizing agents.

Polymerization

Will not occur.

Thermal**Decomposition**

Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be released. Under combustion conditions, oxides of the following elements will be formed: phosphorus, sulfur, zinc.

Conditions to Avoid

Not determined.

11	Toxicological Information
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-- ACUTE EXPOSURE --**Eye Irritation**

Weak to moderate eye irritant. Does not meet EU R36 criteria. Based on data from components or similar materials.

Skin Irritation

Skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.

Respiratory Irritation

If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components or similar materials. Exposure to a high concentration of vapor or mist may be irritating.

Dermal Toxicity

The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials.

Inhalation Toxicity

No data available to indicate product or components may be a toxic inhalation hazard.

Oral Toxicity

The LD50 in rats is 2000 – 5000 mg/Kg. Based on data from components or similar materials.

Dermal Sensitization

May cause skin sensitization in sensitive individuals. Based on data from components or similar materials.

Inhalation Sensitization

No data available to indicate product or components may be respiratory sensitizers.

-- CHRONIC EXPOSURE --**Chronic Toxicity**

This product contains triphenyl phosphite which produced neurotoxic effects (weakness, tremors and paralysis) in experimental animals.

Carcinogenicity

This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity

This product contains para-dodecylphenol. Rats given high, repeated daily

Teratogenicity	<p>doses of para-dodecylphenol by oral intubation experienced adverse reproductive effects. The relevance of these effects to humans is uncertain.</p> <p>This product contains para-dodecylphenol. Pregnant rats given high, repeated daily doses of para-dodecylphenol by oral intubation gave birth to pups with cleft palate and skeletal malformations. The relevance of these effects to humans is uncertain.</p>
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-- ADDITIONAL INFORMATION --

Other	No other health hazards known.
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12	Ecological Information
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-- ENVIRONMENTAL TOXICITY --

Freshwater Fish Toxicity	The acute LC50 is 100 - 1000 mg/L based on component data.
Freshwater Invertebrates Toxicity	The acute EC50 is 10 - 100 mg/L based on component data.
Algal Inhibition	Not determined.
Saltwater Fish Toxicity	The acute LC50 is 10 - 100 mg/L based on component data.
Saltwater Invertebrates Toxicity	The acute LC50 is 1 - 10 mg/L based on component data.
Bacteria Toxicity	The acute EC50 is 100 - 1000 ppm based on component data.
Miscellaneous Toxicity	Not determined.

-- ENVIRONMENTAL FATE --

Biodegradation	At least 25% of the components in this product show limited biodegradation based on OECD 301-type test data. At least 25% of the components in this product show limited biodegradation based on OECD 302-type test data.
Bioaccumulation	10 – 25% of the components potentially bioconcentrate, based on octanol/water coefficients.
Soil Mobility	Not determined.

13	Disposal Considerations
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Waste Disposal	This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.
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14	Transport Information
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ICAO/IATA I	Not regulated.
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ICAO/IATA II	UN3082 Environmentally hazardous substance, liquid, n.o.s. (Dodecylphenol, Triphenyl phosphite), 9, III, Marine Pollutant (Dodecylphenol, Triphenyl phosphite)
IMDG	UN3082 Environmentally hazardous substance, liquid, n.o.s. (Dodecylphenol, Triphenyl phosphite), 9, III, Marine Pollutant (Dodecylphenol, Triphenyl phosphite)
IMDG EMS Fire	F-A
IMDG EMS Spill	S-F
IMDG MFAG	NONE
MARPOL Annex II	Not determined.
USCG Compatibility	Not determined.
U.S. DOT Bulk	UN3082 Environmentally hazardous substance, liquid, n.o.s. (Dodecylphenol, Triphenyl phosphite) 9, III, Marine Pollutant (Dodecylphenol, Triphenyl phosphite)
DOT NAERG	171
U.S. DOT (Intermediate)	UN3082 Environmentally hazardous substance, liquid, n.o.s. (Dodecylphenol, Triphenyl phosphite) 9, III, Marine Pollutant (Dodecylphenol, Triphenyl phosphite)
U.S. DOT Intermediate NAERG	171
U.S. DOT Non-Bulk	Not regulated.
U.S. DOT Non-Bulk NAERG	Not applicable.
Canada	UN3082 Environmentally hazardous substance, liquid, n.o.s. (Dodecylphenol, Triphenyl phosphite), 9, III, Marine Pollutant (Dodecylphenol, Triphenyl phosphite)
Mexico	UN3082 Environmentally hazardous substance, liquid, n.o.s. (Dodecylphenol, Triphenyl phosphite), 9, III, Marine Pollutant (Dodecylphenol, Triphenyl phosphite)
Bulk Quantity	85000 KG, 187391 lbs.
Intermediate Quantity	11000 KG, 24251 lbs.
Non-Bulk Quantity	400 KG, 882 lbs.

Review classification requirements before shipping materials at elevated temperatures.

15	Regulatory Information
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-- Global Chemical Inventories --

USA	All components of this material are on the US TSCA Inventory or are exempt.
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Other TSCA Reg.	None known.
EU	All components are in compliance with the EC Seventh amendment Directive 92 /32/EEC.
Japan	All components are in compliance with the Chemical Substances Control Law of Japan.
Australia	All components are in compliance with chemical notification requirements in Australia.
New Zealand	May require notification before sale under New Zealand regulations.
Canada	All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.
Switzerland	All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.
Korea	All components are in compliance in Korea.
Philippines	All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).
China	All components of this product are listed on the Inventory of Existing Chemical Substances in China.

-- Other U.S. Federal Regulations --

SARA Ext. Haz. Subst.	This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.
SARA Section 313	From 40 to 49.9 percent zinc compounds; contains 5.7% as Zn.

SARA 311

Classifications

Acute Hazard	Yes
Chronic Hazard	No
Fire Hazard	No
Reactivity Hazard	No

CERCLA Hazardous Substances

None known.

-- State Regulations --

Cal. Prop. 65	This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects based on maximum impurity levels of components: < 0.01 ppm arsenic < 0.5 ppm cadmium < 1 ppm lead 0.001% Ethyl acrylate, CAS no. 140-88-5
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-- Product Registrations --

U.S. Fuel Registration	Not applicable.
Finnish Registration Number	Not Registered
Swedish Registration Number	Not Registered
Norwegian Registration Number	Not Registered

Danish Registration Number Not Registered

Swiss Registration Number Not Registered

Italian Registration Number Not Registered

-- Other / International --

Miscellaneous Regulatory Information Not determined.

16	Other Information
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US NFPA Codes

Health	Fire	Reactivity	Special
1	1	0	N/E

(N/E) - None established

HMIS Codes

Health	Fire	Reactivity
1	1	0

Precautionary Labels

Warning.

- Causes skin irritation.
- May cause eye irritation.

Revision Indicators

Section: 2 Principal hazards.	Changed: 16 April 2009
Section: 2 Target organs.	Changed: 29 March 2009
Section: 3 Hazardous ingredients.	Changed: 27 October 2009
Section: 4 Skin first aid.	Changed: 16 April 2009
Section: 7 Handling procedures.	Changed: 29 March 2009
Section: 8 Clothing recommendations.	Changed: 16 April 2009
Section: 8 Eye protection.	Changed: 16 April 2009
Section: 8 Hazardous ingredients.	Changed: 27 October 2009
Section: 8 Respiratory protection.	Changed: 16 April 2009
Section: 10 Incompatibility.	Changed: 27 October 2009
Section: 11 Skin irritation.	Changed: 16 April 2009
Section: 11 Teratogenicity.	Changed: 4 August 2009
Section: 14 U.S. DOT Bulk shipping description.	Changed: 4 August 2009
Section: 14 U.S. DOT Intermediate shipping description.	Changed: 14 October 2009
Section: 14 ICAO shipping description.	Changed: 4 August 2009

Section: 14 TDG shipping description.	Changed: 4 August 2009
Section: 15 SARA section 313.	Changed: 27 October 2009
Section: 16 HMIS codes.	Changed: 23 December 2009
Section: 16 NFPA Codes.	Changed: 23 December 2009
Section: 16 Principal hazards.	Changed: 16 April 2009

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