

# Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)



## Section 1: Identification

**Product Identifier:** Megaplex® XD5  
**Other means of identification:** Megaplex® XD5 No. 0  
Megaplex® XD5 No. 1  
Megaplex® XD5 No. 1W  
Megaplex® XD5 No. 2  
**SDS Number:** 778587  
**Intended Use:** Lubricating Grease  
**Uses Advised Against:** All others

**Manufacturer:**  
Phillips 66 Lubricants  
P.O. Box 4428  
Houston, TX 77210

**SDS Information:**  
Phone: 800-762-0942  
Email: SDS@P66.com  
URL: www.Phillips66.com

**Emergency Health and Safety Number:**  
Chemtrec: 800-424-9300 (24 Hours)

**Customer Service:**  
U.S.: 1-800-822-6457 or International:  
+1-83-2486-3363 *Technical Information:*  
1-877-445-9198

## Section 2: Hazards Identification

### Classified Hazards

H320 -- Eye damage/irritation -- Category 2B

### Other Hazards

None Known

### Label Elements

#### WARNING

Causes eye irritation.

Wash thoroughly after handling; IF IN 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 advice/attention

## Section 3: Composition / Information on Ingredients

Chemical Name	CASRN	Concentration <sup>1</sup>
Lubricant Base Oil (Petroleum)	VARIOUS	70-90
Molybdenum Disulfide	1317-33-5	3-7
Zinc dialkyl dithiophosphate	68649-42-3	1-2
Additives	Proprietary	10-30

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## Section 4: First Aid Measures

**Eye Contact:** For direct contact, remove contact lenses if present and easy to do. Immediately hold eyelids apart and flush the affected eye(s) with clean water for at least 15 minutes. Seek immediate medical attention.

**Skin Contact:** Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician. (see Note to Physician)

**Inhalation (Breathing):** First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

**Ingestion (Swallowing):** First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

**Most important symptoms and effects:**

**Acute:** None known or anticipated

**Delayed:** Dry skin and possible irritation with repeated or prolonged exposure.

**Notes to Physician:** When using high-pressure equipment, injection of product under the skin can occur. In this case, the casualty should be sent immediately to hospital. Do not wait for symptoms to develop. High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. These injuries often require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury. Early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

## Section 5: Fire-Fighting Measures

### NFPA 704 Hazard Class

Health: 1 Flammability: 1 Instability: 0



0 (Minimal)  
1 (Slight)  
2 (Moderate)  
3 (Serious)  
4 (Severe)

**Extinguishing Media:** Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

### Specific hazards arising from the chemical

**Unusual Fire & Explosion Hazards:** This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

**Hazardous Combustion Products:** Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

**Special protective actions for firefighters:** For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

## Section 6: Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

**Environmental Precautions:** Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

**Methods and material for containment and cleaning up:** Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

## Section 7: Handling and Storage

**Precautions for safe handling:** Keep away from flames and hot surfaces. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Spills will produce very slippery surfaces. High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

**Conditions for safe storage:** Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

## Section 8: Exposure Controls / Personal Protection

Chemical Name	ACGIH	OSHA	Other
Molybdenum Disulfide	TWA: 10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> TWA	---
Lubricant Base Oil (Petroleum)	TWA: 5mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> as Oil Mist, if Generated	TWA: 5mg/m <sup>3</sup> as Oil Mist, if Generated	---

**Note:** State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

**Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

**Eye/Face Protection:** The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z.87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

**Skin/Hand Protection:** The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile

**Respiratory Protection:** Respiratory protection is not normally required under intended conditions of use. Emergencies or conditions that could result in significant airborne exposures may require the use of NIOSH approved respiratory protection. An industrial hygienist or other appropriate health and safety professional should be consulted for specific guidance under these situations.

**Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.**

## Section 9: Physical and Chemical Properties

Data represent typical values and are not intended to be specifications. N/A = Not Applicable; N/D = Not Determined

<b>Appearance:</b> Moly Gray	<b>Flash Point:</b> > 300 °F / > 149 °C
<b>Physical Form:</b> Semi-Solid	<b>Test Method:</b> Cleveland Open Cup (COC), ASTM D92
<b>Odor:</b> Petroleum	<b>Initial Boiling Point/Range:</b> No data
<b>Odor Threshold:</b> No data	<b>Vapor Pressure:</b> <0.1 mm Hg
<b>pH:</b> Not applicable	<b>Partition Coefficient (n-octanol/water) (Kow):</b> No data
<b>Vapor Density (air=1):</b> > 5	<b>Melting/Freezing Point:</b> No data
<b>Upper Explosive Limits (vol % in air):</b> No data	<b>Auto-ignition Temperature:</b> No data
<b>Lower Explosive Limits (vol % in air):</b> No data	<b>Decomposition Temperature:</b> No data
<b>Evaporation Rate (nBuAc=1):</b> <1	<b>Specific Gravity (water=1):</b> 0.95 @ 60°F (15.6°C)
<b>Particle Size:</b> N/A	<b>Bulk Density:</b> 7.96 lbs/gal
<b>Percent Volatile:</b> No data	<b>Viscosity:</b> N/D
<b>Flammability (solid, gas):</b> N/A	<b>Solubility in Water:</b> Insoluble

## Section 10: Stability and Reactivity

**Reactivity:** Stable under normal ambient and anticipated conditions of use.

**Chemical stability:** Stable under normal ambient and anticipated conditions of use.

**Possibility of hazardous reactions:** Hazardous reactions not anticipated.

**Conditions to avoid:** Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.

**Incompatible materials:** Avoid contact with strong oxidizing agents and strong reducing agents.

**Hazardous decomposition products:** Not anticipated under normal conditions of use.

## Section 11: Toxicological Information

### Information on Toxicological Effects of Substance/Mixture

<u>Acute Toxicity</u>	<u>Hazard</u>	<u>Additional Information</u>	<u>LC50/LD50 Data</u>
Inhalation	Unlikely to be harmful		>5 mg/L (mist, estimated); 12.5 % of mixture consists of ingredients of unknown toxicity
Dermal	Unlikely to be harmful		> 2 g/kg (estimated)
Oral	Unlikely to be harmful		> 5 g/kg (estimated)

**Aspiration Hazard:** Not expected to be an aspiration hazard.

**Skin Corrosion/Irritation:** Causes mild skin irritation. Repeated exposure may cause skin dryness or cracking.

**Serious Eye Damage/Irritation:** Causes eye irritation.

**Symptoms of Overexposure:** Inhalation of oil mists or vapors generated at elevated temperatures may cause respiratory irritation. Accidental ingestion can result in minor irritation of the digestive tract, nausea and diarrhea.

**Skin Sensitization:** No information available on the mixture, however none of the components have been classified for skin sensitization (or are below the concentration threshold for classification).

**Respiratory Sensitization:** No information available.

**Specific Target Organ Toxicity (Single Exposure):** No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

**Specific Target Organ Toxicity (Repeated Exposure):** No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

**Carcinogenicity:** No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).

**Germ Cell Mutagenicity:** No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

**Reproductive Toxicity:** No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

#### Information on Toxicological Effects of Components

##### Lubricant Base Oil (Petroleum)

*Carcinogenicity:* The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

### Section 12: Ecological Information

**Toxicity:** Experimental studies on the base oil component of lubricating greases show that acute aquatic toxicity values are greater than 1000 mg/L. These values are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions. However, there is insufficient information available on the toxicity of the thickening agents used in greases. They should be regarded as capable of causing long term adverse effects in the aquatic environment.

**Persistence and Degradability:** The base oil constituents of greases are expected to be inherently, but not readily biodegradable. Some of the thickening agents may be readily biodegradable.

**Bioaccumulative Potential:** Log Kow values measured for the hydrocarbon components of this material range from 4 to greater than 6, and therefore are regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration.

**Mobility in Soil:** Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. Components may behave differently in the aquatic environment with soaps dispersing and dissolving to some extent in water while the hydrocarbons will float on the surface due to their low water solubility. The hydrocarbon portion would be expected to show low mobility in soil and water. The major environmental fate would be expected to be biodegradation.

**Other Adverse Effects:** None anticipated.

### Section 13: Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle used oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

### Section 14: Transport Information

#### U.S. Department of Transportation (DOT)

**Shipping Description:** *Not regulated*

**Note:** *If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)*

**International Maritime Dangerous Goods (IMDG)**

**Shipping Description:** *Not regulated*

**Note:** *U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.*

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)**

**UN/ID #:** *Not regulated*

**Note:** *U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 24.*

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
<b>Packaging Instruction #:</b>	---	---	---
<b>Max. Net Qty. Per Package:</b>	---	---	---

**Section 15: Regulatory Information**

**CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):**

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

**CERCLA/SARA - Section 311/312 (Title III Hazard Categories)**

**Acute Health:** Yes  
**Chronic Health:** No  
**Fire Hazard:** No  
**Pressure Hazard:** No  
**Reactive Hazard:** No

**CERCLA/SARA - Section 313 and 40 CFR 372:**

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Chemical Name	Concentration <sup>1</sup>	de minimis
Zinc Compound(s)	1-2	1.0%

**EPA (CERCLA) Reportable Quantity (in pounds):**

This material does not contain any chemicals with CERCLA Reportable Quantities.

**California Proposition 65:**

Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the warning requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Chemical Name	Type of Toxicity
N-Methylpyrrolidone	Developmental Toxicant

**International Hazard Classification**

**Canada:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

**WHMIS Hazard Class:**

D2B

**National Chemical Inventories**

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA  
All components are either on the DSL, or are exempt from DSL listing requirements.

**U.S. Export Control Classification Number:** EAR99

**Section 16: Other Information**

Date of Issue:	Previous Issue Date:	SDS Number:	Status:
04-Feb-2013	24-Jun-2011	778587	FINAL

**Revised Sections or Basis for Revision:**

Format change; Toxicological (Section 11)

**Guide to Abbreviations:**

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

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