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SAFETY DATA SHEET		Revision Date: 05/22/2017
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Valvoline™ Full Synthetic Moly Fortified Gray Grease ™ Trademark, Valvoline or its subsidiaries, registered in various countries VV985		Version: 1.2

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Valvoline™ Full Synthetic Moly Fortified Gray Grease
 ™ Trademark, Valvoline or its subsidiaries, registered in various countries


Details of the supplier of the safety data sheet Valvoline LLC 100 Valvoline Way Lexington, KY 40509 United States of America (USA) 1-800-TEAMVAL	Emergency telephone number 1-800-VALVOLINE (1-800-825-8654) Regulatory Information Number 1-800-TEAMVAL Product Information 1-800-TEAMVAL
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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Eye irritation : Category 2A

GHS label elements

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : Causes serious eye irritation.

Precautionary Statements : **Prevention:**
 Wash skin thoroughly after handling.
 Wear eye protection/ face protection.
Response:
 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.

Other hazards

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None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts	68457-79-4	Skin Irrit. 2; H315 Eye Dam. 1; H318	2.50
MOLYBDENUM DISULFIDE	1317-33-5	Not a hazardous substance or mixture.	2.50

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : If breathed in, move person into fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : If on skin, rinse well with water.
First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
- If swallowed : Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Causes serious eye irritation.



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Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 Water spray
 Foam
 Carbon dioxide (CO2)
 Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide
 Oxides of phosphorus

Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
 Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions : Prevent product from entering drains.
 Prevent further leakage or spillage if safe to do so.
 If the product contaminates rivers and lakes or drains inform respective authorities.

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Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
 Keep in suitable, closed containers for disposal.

Other information : Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not breathe vapours/dust.
 Do not smoke.
 Container hazardous when empty.
 Avoid contact with skin and eyes.
 Smoking, eating and drinking should be prohibited in the application area.
 For personal protection see section 8.
 Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
MOLYBDENUM DISULFIDE	1317-33-5	TWA	15 mg/m3 total dust (Molybdenum)	OSHA Z-1
		TWA	10 mg/m3 Inhalable fraction (Molybdenum)	ACGIH
		TWA	3 mg/m3 Respirable fraction (Molybdenum)	ACGIH
		TWA	10 mg/m3 Total dust (Molybdenum)	OSHA P0
		PEL	10 mg/m3	CAL PEL



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			Total dust (Molybdenum)	
		PEL	3 mg/m3 respirable dust fraction (Molybdenum)	CAL PEL

Hazardous components without workplace control parameters

Components	CAS-No.
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Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection : Wear as appropriate:
 Impervious clothing
 Safety shoes
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.
 Discard gloves that show tears, pinholes, or signs of wear.
 Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
 When using do not eat or drink.
 When using do not smoke.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: paste
Physical state	: liquid
Colour	: dark grey
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: 500 °F / 260 °C
Boiling point/boiling range	: 700 °F / 371 °C
Flash point	: 419 °F / 215 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.919 g/cm ³ (20 °C)
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available

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Auto-ignition temperature : > 315 °C
Thermal decomposition : No data available
Viscosity
Viscosity, dynamic : No data available
Viscosity, kinematic : > 20.5 mm²/s (40 °C)
Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.
Chemical stability : Stable under recommended storage conditions.
Possibility of hazardous reactions : Product will not undergo hazardous polymerization.
Conditions to avoid : None known.
None known.
Incompatible materials : Strong oxidizing agents
Hazardous decomposition products : carbon dioxide and carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : LD50 (Rat): 93,458 mg/kg
Method: Acute toxicity estimate
Acute dermal toxicity : LD50 (Rabbit): 2,599 mg/kg
Method: Acute toxicity estimate

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Components:

Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts:

Acute oral toxicity : LD50 (Rat): > 2,000 - 5,000 mg/kg
Remarks: Information given is based on data obtained from
similar substances.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Information given is based on data obtained from
similar substances.

MOLYBDENUM DISULFIDE:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2.82 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: No adverse effect has been observed in acute
inhalation toxicity tests.

Skin corrosion/irritation

Not classified based on available information.

Product:

Result: No skin irritation

Remarks: May cause skin irritation in susceptible persons.

Components:

Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts:

Result: Irritating to skin.

MOLYBDENUM DISULFIDE:

Result: No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin., Causes
serious eye irritation.**Components:**

Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts:

Result: Corrosive

MOLYBDENUM DISULFIDE:

Result: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

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Respiratory sensitisation: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

Carcinogenicity:

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : Acute aquatic toxicity Category 3; Harmful to aquatic life.

Chronic aquatic toxicity : Chronic aquatic toxicity Category 3; Harmful to aquatic life with long lasting effects.

Components:

Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts:

Toxicity to fish : LC50 (Fish): > 1 - 10 mg/l

Exposure time: 96 h

Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other : EC50 (Aquatic invertebrates): > 10 - 100 mg/l

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aquatic invertebrates

Exposure time: 48 h

Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae

: EC50 (Green algae): > 10 - 100 mg/l

Exposure time: 72 h

Remarks: Information given is based on data obtained from similar substances.

Persistence and degradability**Components:**

Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts:

Biodegradability

: Biodegradation: 1.5 %

Exposure time: 28 d

Method: OECD Test Guideline 301B

No data available

Bioaccumulative potential**Components:**

No data available

Mobility in soil**Components:**

No data available

Other adverse effects

No data available

Product:Additional ecological
information

: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life with long lasting effects.

Components:**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

General advice

: The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging

: Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.



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SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TDG_ROAD_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_INWT_C

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO


Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MX_DG

Not dangerous goods

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*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	no
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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory

DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

AICS : Not in compliance with the inventory

ENCS : Not in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

KECI : Not in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

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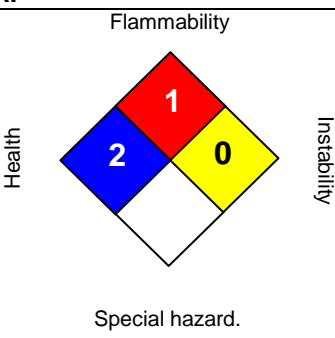
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SECTION 16. OTHER INFORMATION

Further information

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<p>NFPA:</p>  <p style="text-align: center;">Special hazard.</p>	<p>HMIS III:</p> <table border="1" style="width: 100%;"> <tr> <td style="background-color: blue; color: white;">HEALTH</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="background-color: red; color: white;">FLAMMABILITY</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: yellow; color: black;">PHYSICAL HAZARD</td> <td style="text-align: center;">0</td> </tr> </table> <p>0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	HEALTH	2	FLAMMABILITY	1	PHYSICAL HAZARD	0
HEALTH	2						
FLAMMABILITY	1						
PHYSICAL HAZARD	0						

NFPA Flammable and Combustible Liquids Classification
 Combustible Liquid Class IIIB


Full text of H-Statements

- H315 Causes skin irritation.
- H318 Causes serious eye damage.

Sources of key data used to compile the Safety Data Sheet
 Valvoline internal data including own and sponsored test reports
 The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Valvoline's Environmental Health and Safety Department (1-800-VALVOLINE).

- List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
- ACGIH : American Conference of Industrial Hygienists
 - BEI : Biological Exposure Index
 - CAS : Chemical Abstracts Service (Division of the American Chemical Society).
 - CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

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FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System