ITEM: 4ZF44 - Grease Automotive
ORDER: 0120935201
LP NUMBER: UC60207336

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:
PRODUCT NAME: MOLYKOTE XHP 222 SPECIAL
PRODUCT CODE: 201A02551, 539550-00, 973670

COMPANY IDENTIFICATION:
SUPPLIER: Exxon Mobil CORPORATION
325 Gallows Rd.
Fairfax, VA 22037 USA

24 HOUR HEALTH EMERGENCY: 609-737-4411
TRANSPORTATION EMERGENCY PHONE: 609-424-9300
EXXONMOBIL TRANSPORTATION NO.: 285-834-1256
PRODUCT TECHNICAL ADDRESS: 800-462-4525, 800-947-9147


SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

REPORTABLE HAZARDOUS SUBSTANCE(S) OR COMPLEX SUBSTANCE(S):
NAME: PHOSPHORUSOXIDIC ACID, 0.0-0.01 CI-14-ALG2L 56649-42-3 < 2.5% EXPONS, ZINC OXIDE (211) (2269) *
ALL CONCENTRATIONS ARE PERCENT BY WEIGHT UNLESS MATERIAL IS A GAS. GAS CONCENTRATIONS ARE IN PERCENT BY VOLUME.

SECTION 3 HAZARDS IDENTIFICATION

THIS MATERIAL IS NOT CONSIDERED TO BE HAZARDOUS ACCORDING TO REGULATORY GUIDELINES (SEE SECTION 15).

POSSIBLE HEALTH EFFECTS:
LOW ORDER OF TOXICITY. RECEPTIVE EXPOSURE MAY RESULT IN EYE, SKIN, OR RESPIRATORY IRRITATION. HIGH-PRESSURE INJECTION UNDER SKIN MAY CAUSE SERIOUS DAMAGE.

NFPA HAZARD ID:
HEALTH: 0
FLAMMABILITY: 1
REACTIVITY: 0

NOX ID: 0
HEALTH: 0
FLAMMABILITY: 1
REACTIVITY: 0

NOTE: THIS MATERIAL SHOULD NOT BE USED FOR ANY OTHER PURPOSE THAN THE INTENDED USE IN SECTION 1. WITHOUT USE OF PROPER PROTECTIVE EQUIPMENT. MEDICAL STUDIES HAVE SHOWN THAT CHEMICAL EXPOSURE MAY CAUSE POTENTIAL HUMAN HEALTH HAZARDS WHICH MAY VARY FROM PERSON TO PERSON.

SECTION 4 FIRST AID MEASURES

ISOLATION: UNDER NORMAL CONDITIONS OF INTENTED USE, THIS MATERIAL IS NOT EXPECTED TO BE AN ILLNARIZING HAZARD.

SKIN CONTACT:

EYE CONTACT:
FLUSH THOROUGHLY WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ASSISTANCE.

INHALATION:
FIRST AID IS NOT USUALLY REQUIRED. SEEK MEDICAL ATTENTION IF DISCOMFORT OCCURS.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:
USE WATER FOAM, FOAM, DRY CHEMICAL OR CARBON DIOXIDE (CO2) TO EXTINGUSH FLAMES.

INAPPROPRIATE EXTINGUISHING MEDIA: STRAIGHT STREAMS OF WATER

FIREFIGHTING:

FIRE FIGHTING INSTRUCTIONS:
KEEPエリア, EXTREMELY FLAMMABLE. PREVENT REMOVAL FROM FIRE CONTROL OR DILUTION FROM EXTINGUISH STREAMS, SMOKE, OR DROWNING WATER SUPPLY. FIREFIGHTERS SHOULD USE STANDARD PREVENTIVE EQUIPMENT IN INCREASED SPACES. SELF-CONTAINED BREATHING APPARATUS (SCBA). USE WATER SPRAY TO COOL FIRE EXPOSED SURFACES AND TO PROTECT PERSONNEL.

Hazardous Combustion Products:
SMOKE, FUMES, 2-METHYL-3-ETHYLTHIOACETIC ACID, 2-METHYL-3-ETHYLTHIOACETIC ACID, 2-METHYL-3-ETHYLTHIOACETIC ACID, 2-METHYL-3-ETHYLTHIOACETIC ACID.
Flammability Properties:
FLASH POINT (METHOD): 130°C (264°F) (EST. FOR OIL, ASTM D-92 (CC)).
FLASH POINTS OF 91°C (195°F) (EST. FOR OIL, ASTM D-92 (CC)).

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES:
IN THE EVENT OF A SPILL OR ACCIDENTAL RELEASE, NOTIFY RELEVANT AUTHORITIES IN ACCORDANCE WITH APPLICABLE REGULATIONS. IN ACCORDANCE WITH APPLICABLE REGULATIONS. REPORTING REQUIREMENTS OF THIS MATERIAL TO THE ENVIRONMENT WHICH EXCEED THE APPLICABLE REPORTABLE QUANTITIES OR OIL SPILLS WHICH COULD REACH ANY WATERNET. INCLDUING PROHIBITION OF RETAIL, THE NATIONAL RESPONSE CENTER CAN BE REACHED AT (800) 424-8802.

SPILL MANAGEMENT:
LAND SPILL:
SPILLAGE ON SPILLED MATERIAL WITH SHOVELS INTO A SUITABLE CONTAINER FOR RECYCLE OR DISPOSAL.
WATER SPILL:
STOP LEAKS IF YOU CAN DO IT WITHOUT RISK. CONFINING THE SPILL IMPROVEMENT WITH BOOM. WASH OTHER SPILLING. SPILL FROM SURFACE.
WATER SPILL AND LAND SPILL RECOMMENDATIONS ARE BASED ON THE MOST LIKELY WATER SPILL SCENARIO FOR THIS MATERIAL: HOWEVER, GEOGRAPHIC CONDITIONS, WIND, AND PRECIPITATION, (AND IN THE CASE OF A WATER SPILL) WAVE AND CURRENT DIRECTION AND SPEED MAY GREATLY INFLUENCE THE APPROPRIATE ACTION TO BE TAKEN. FOR THIS REASON, LOCAL ADVICE SHOULD BE CONSULTED. NOTE: LOCAL REGULATIONS MAY REQUIRE OR LIMIT ACTION TO BE TAKEN.

ENVIRONMENTAL PRECAUTIONS:
PREVENT ENTRY INTO WATERSHEDS, SWEARS, PASSAGES OR CONTAINED AREAS.

SECTION 7 HANDLING AND STORAGE

HANDLING:
PREVENT SMALL SPILLS AND LEAKAGE TO AVOID SLIP HAZARD.

STORAGE:
DO NOT STORE IN OPEN OR UNLABELLED CONTAINERS.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES:
NOTE: LIMITS/STANDARDS SHOW FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

ENGINEERING CONTROLS:
THE LEVEL OF PROTECTION AND TYPES OF CONTROLS NECESSARY WILL DEPEND UPON POTENTIAL EXPOSURE CONDITIONS.

CONTROL MEASURES TO CONSIDER:
NO SPECIFIC REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

PERSONAL PROTECTION:
PERSONAL PROTECTIVE EQUIPMENT SELECTIONS VARY BASED ON POTENTIAL EXPOSURE CONDITIONS SUCH AS APPLICATIONS, HANDLING PRACTICES, CONCENTRATION AND VENTILATION. INFORMATION ON SELECTION OF PROTECTIVE EQUIPMENT FOR USE WITH THIS MATERIAL AS PRODUCED BELOW, IS BASED UPON INTENDED, NORMAL USAGE.

RESPIRATORY PROTECTION:
IF ENGINEERING CONTROLS DO NOT MAINTAIN AIRBORNE CONTAMINANT CONCENTRATIONS AT A LEVEL WHICH IS ADEQUATE TO PROTECT WORKER HEALTH, AN APPROVED RESPIRATOR WILL BE REQUIRED. RESPIRATORS MAY BE APPROPRIATE. RESPIRATOR SELECTION, USE AND MAINTENANCE MUST BE IN ACCORDANCE WITH RESPIRATORY REQUIREMENTS. IF APPLICABLE, TYPES OF RESPIRATORS TO BE CONSIDERED FOR THIS MATERIAL INCLUDE: RESPIRATORY PROTECTION UTILIZATION OF RESPIRATORY PROTECTIVE EQUIPMENT IS RECOMMENDED. TO FIRE OR OTHER HAZARDS. RESPIRATORY PROTECTION UTILIZATION IS RECOMMENDED. TO FIRE OR OTHER HAZARDS.

HAND PROTECTION:
ANY SPECIFIC GLOVE INFORMATION PROVIDED IS BASED ON PUBLISHED LITERATURE AND GLOVE MANUFACTURER DATA. GLOVE SUITABILITY AND BREAKDOWN TIME WILL DIFFER DEPENDING ON THE SPECIFIC USE CONDITIONS. CONTACT THE GLOVE MANUFACTURER FOR SPECIFIC ADVICE ON GLOVE SELECTION AND BREAKDOWN TIMES FOR YOUR USE CONDITIONS.

REFERENCE:
MSDS C4266
SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES ARE GIVEN BELOW. CONSULT THE SUPPLIER IN SECTION 1 FOR ADDITIONAL DATA.

GENERAL INFORMATION:
- PHYSICAL STATE: SOLID
- FORM: SEMI-LIQUID
- COLOR: DARK GRAY
- ODOR: CHARACTERISTIC

ODOR THRESHOLD: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION:
- RELATIVE DENSITY (AT 15°C): 0.914
- FLASH POINT (METHOD): > 204°C (400°F) (EST. FOR OIL, ASTM D-92 (CCCI))
- FLAMMABLE LIMITS (APPROXIMATE VOLUME % IN AIR):
  - LEL: N/D
  - UEL: N/D
- AUTOIGNITION TEMPERATURE: N/D
- BOILING POINT/RANGE: > 316°C (650°F)
- VAPOR DENSITY (AIR=1): N/D
- VAPOR PRESSURE: < 0.013 KPA (0.1 MM Hg) AT 20°C
- EVAPORATION RATE (N-BUTYL ACETATE=1): N/D
- pH: N/A
- LOG POW (N-OCTANOL/WATER PARTITION COEFFICIENT): > 3.5

SOLUBILITY IN WATER: INSOLUBLE

VISCOSITY:
- 220 CST (220 MCG/SEC) AT 40°C
- > 16 CST (16 MCG/SEC) AT 100°C

OXIDIZING PROPERTIES: NOT APPLICABLE

OTHER INFORMATION:
- FROZEN POINT: N/D
- MELTING POINT: >260 DEG. C (500 DEG. F)
- MSMS EXTRACT (MINERAL OIL ONLY): TP-346 < 3 WT%

NOTE:
- MOST PHYSICAL PROPERTIES ABOVE ARE FOR THE OIL COMPONENT IN THE MATERIAL.

SECTION 10 STABILITY AND REACTIVITY

STABILITY: MATERIAL IS STABLE UNDER NORMAL CONDITIONS.

CONDITIONS TO AVOID: EXCESSIVE HEAT, HIGH ENERGY SOURCES OF IGNITION.

MATERIALS TO AVOID: STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:
- MATERIAL DOES NOT DECOMPoze AT AMBIENT TEMPERATURES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

ROUTE OF EXPOSURE:
- INHALATION
- TOXICITY: NO ELD POINT DATA.

INHALATION:
- MINIMALLY TOXIC, BASED ON ASSESSMENT OF THE COMPONENTS

TOXICITY: (SKIN): > 5000 MG/ML

SKIN:
- MINIMALLY TOXIC, BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.

SECTION 12 ECOLOGICAL INFORMATION

THE INFORMATION GIVEN IS BASED ON DATA AVAILABLE FOR THE MATERIAL, THE COMPONENTS OF THIS MATERIAL, AND SIMILAR MATERIALS.

ECOTOXICITY:
- MATERIAL - NOT EXPECTED TO BE HARMFUL TO AQUATIC ORGANISMS

MOBILITY:
- BASE OIL COMPONENT - LOW SOLUBILITY AND FLOATS AND IS EXPECTED TO MIGRATE FROM WATER TO THE LAND. EXPECTED TO PARTITION TO SEDIMENT AND FREE WATER PHASES

PERSISTENCE AND DEGRADABILITY:
- BASE OIL COMPONENT - EXPECTED TO BE INHERENTLY BIOSOLVABLE

BIODEGRADABILITY POTENTIAL:
- BASE OIL COMPONENT - HAS THE POTENTIAL TO BIOACUMULATE. HOWEVER METABOLISM OR PHYSICAL PROPERTIES MAY REDUCE THE BIOACUMULATION OR LIMIT BIOAVAILABILITY.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL RECOMMENDATIONS BASED ON MATERIAL AS SUPPLIED. DISPOSAL MUST BE IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND MATERIAL CHARACTERISTICS AT TIME OF DISPOSAL.

DISPOSAL RECOMMENDATIONS:
- PRODUCT IS SUITABLE FOR BURNING AS AN INDIRECTLY CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL, BY SUPERVISED INCINERATION AT HIGH TEMPERATURE TO PREVENT FORMATION OF UNDESIRABLE COMBUSTION PRODUCTS.

REGULATORY DISPOSAL INFORMATION:

CSA INFORMATION:
- THIS (NHE) PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE CSA AS A HAZARDOUS WASTE (4 CPR, PART 26, E), NOR IS IT FORMULATED TO CONTAIN MATERIALS WHICH ARE LISTED AS HAZARDOUS WASTE. IT DOES NOT POSSESS THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, COMBUSTIBILITY, OR HATIVITY AND IS NOT FORMULATED WITH CONTAMINANTS AS UNDERTAKEN BY THE TOXICITY CHARACTERISTIC LEARNING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

EMPTY CONTAINER WARNING:
- EMPTY CONTAINERS MAY CONTAIN RESIDUES AND CAN BE DANGEROUS. DO NOT REUSE OR REFILL AS CLEAN CONTAINERS. DO NOT RETURN PRODUCT TO JAR, BOTTLE OR TUB. DISPOSE OF THE CONTAINER IN AN APPROPRIATELY DESIGNATED DISPOSAL CONTAINER.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT):
- UNCOMMON FOR LAND TRANSPORTATION

SEA (ITDG):
- UNCOMMON FOR SEA TRANSPORTATION ACCORDING TO IFC-288

AIR (ICAO):
- NOT REGULATED FOR AIR TRANSPORT

SECTION 15 REGULATORY INFORMATION

CSA HAZARDOUS MATERIAL CLASSIFICATION:
- THIS MATERIAL IS NOT CLASSIFIED AS HAZARDOUS IN ACCORDANCE WITH CSA 29 CPR 1910.1200

FEDERAL REGULATORY INFORMATION:
- NCI HAZARDOUS CHEMICAL LISTING: ACES, DESC, DISC, DESC, FICS, TUSA
- SPECIFIC CASES:
  - INVENTORY STATUS
  - RESTRICTIONS APPLY
**MDL**

**RESTRICTIONS APPLY**

**EPCRA** THIS MATERIAL CONTAINS NO EXTREMELY HAZARDOUS SUBSTANCES.

SARA (211/132) REPORTABLE HAZARD CATEGORIES: NON.

SARA (311) TOXIC RELEASE INVENTORY:

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS NUMBER</th>
<th>TYPICAL VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOSPHOROTHIOIC ACID, 0,0-DI Cl-14-ALKY ESTERS, ZINC SALTS (2:1)</td>
<td>68669-42-3</td>
<td>&lt;2.5%</td>
</tr>
<tr>
<td>PHOSPHOROTHIOIC ACID, 0,0-DI Cl-14-ALKY ESTERS, ZINC SALTS (2:1)</td>
<td>68669-42-3</td>
<td>&lt;2.5%</td>
</tr>
</tbody>
</table>

THE FOLLOWING INGREDIENTS ARE CITED ON THE LISTS BELOW:

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS NUMBER</th>
<th>LIST CITATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAPTHIONIC ACIDS, ZINC SALTS</td>
<td>12001-86-3</td>
<td>15</td>
</tr>
<tr>
<td>PHOSPHOROTHIOIC ACID, 0,0-DI Cl-14-ALKY ESTERS, ZINC SALTS (2:1)</td>
<td>68669-42-3</td>
<td>13, 15, 17</td>
</tr>
<tr>
<td>ZINC NEDERGRANATE</td>
<td>27293-29-8</td>
<td>15</td>
</tr>
</tbody>
</table>

**REGULATORY LISTS SEARCHED:**

1 = ACGIH A1
2 = ACGIH A2
3 = ACGIH A3
4 = ACGIH Z
5 = TOCA 1
6 = TOCA 2
7 = TOCA 3
8 = TOCA 6
9 = TOCA 12B
10 = CA Pass CABC
11 = GA P45 REPRO
12 = GA REPRO
13 = IL REPRO
14 = LA REPRO
15 = MI REPRO
16 = MI REPRO
17 = NJ REPRO
18 = PA REPRO
19 = RI REPRO

**CODE KEY:**

CANCER-CARCINOGEN
REPRO-REPRODUCTIVE

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**SECTION 15 OTHER INFORMATION**

N/D = NOT DETERMINED
N/A = NOT APPLICABLE

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

**REVISION CHANGES:**

SECTION 04: NOTIFICATION PROCEDURES - HEADER WAS MODIFIED.
SECTION 01: PRODUCT CODE WAS MODIFIED.
SECTION 13: EMPTY CONTAINER WARNING WAS MODIFIED.
SECTION 08: HAND PROTECTION WAS MODIFIED.
SECTION 11: ORAL LETHALITY TEST DATA WAS MODIFIED.
SECTION 12: INHALATION LETHALITY TEST DATA WAS MODIFIED.
SECTION 05: RAGHUVIR SETHI GENERATION PRODUCTS WAS MODIFIED.
SECTION 25: LIST CITATIONS TABLE WAS MODIFIED.
SECTION 15: LIST CITATION TABLE - HEADER WAS MODIFIED.
SECTION 16: SARA (311) TOXIC RELEASE INVENTORY - TABLE WAS MODIFIED.
SECTION 15: NATIONAL CHEMICAL INVENTORY LISTING WAS MODIFIED.
SECTION 16: ORDER TO MECS WAS MODIFIED.
SECTION 15: SPECIAL CANS TABLE WAS MODIFIED.
SECTION 04: NOTIFICATION PROCEDURES WAS MODIFIED.
SECTION 01: COMPANY CONTACT METHODS SORTED BY PRIORITY WAS MODIFIED.
SECTION 15: TSCA CLASS 2 STATEMENT WAS DELETED.

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PPE: A

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