SECTION 1. IDENTIFICATION

Product name : MOLYKOTE(R) EM-D110 GREASE
Product code : 000000000001953605

Manufacturer or supplier's details
Company name of supplier : Dow Corning Corporation
Address : South Saginaw Road
           Midland Michigan 48686
Telephone : (989) 496-6000
Emergency telephone : 24 Hour Emergency Telephone : (989) 496-5900
                    CHEMTREC : (800) 424-9300

Recommended use of the chemical and restrictions on use
Recommended use : Lubricants and lubricant additives

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Specific target organ systemic toxicity - repeated exposure (Oral) : Category 2 (Kidney)

GHS Label element
Hazard pictograms :

Signal Word : Warning
Hazard Statements : H373 May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.
Precautionary Statements :
Response: P314 Get medical advice/ attention if you feel unwell.
Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Inorganic and organic compounds in synthetic oil

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-Hydroxy lithium stearate</td>
<td>7620-77-1</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>Melamine cyanurate</td>
<td>37640-57-6</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

If inhaled : If inhaled, remove to fresh air. Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution. Get medical attention if symptoms occur.

In case of eye contact : Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : May cause damage to organs through prolonged or repeated exposure if swallowed.

Protection of first-aiders : No special precautions are necessary for first aid responders.

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray
| Alcohol-resistant foam |
| Dry chemical         |
| Carbon dioxide (CO2) |

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
| Metal oxides           |
| Nitrogen oxides (NOx) |
Fluorine compounds

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation: Use only with adequate ventilation.

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage: Keep in properly labeled containers. Store in accordance with the particular national regulations.
SAFETY DATA SHEET
MOLYKOTE(R) EM-D110 GREASE

Version: 1.1
Revision Date: 04/02/2015
MSDS Number: 744517-00002
Date of last issue: 11/12/2014
Date of first issue: 11/12/2014

Materials to avoid:
- Do not store with the following product types:
  - Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-Hydroxy lithium stearate</td>
<td>7620-77-1</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Hazardous components without workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melamine cyanurate</td>
<td>37640-57-6</td>
</tr>
</tbody>
</table>

Engineering measures:
- Ensure adequate ventilation, especially in confined areas.
- Minimize workplace exposure concentrations.
- Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m³ - total dust, 5 mg/m³ - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m³ - respirable particles, 10 mg/m³ - inhalable particles.

Personal protective equipment

Respiratory protection:
- General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection
- Remarks: Wash hands before breaks and at the end of workday.

Eye protection:
- Wear the following personal protective equipment:
  - Safety glasses

Skin and body protection:
- Skin should be washed after contact.

Hygiene measures:
- Ensure that eye flushing systems and safety showers are located close to the working place.
  - When using do not eat, drink or smoke.
Wash contaminated clothing before re-use. These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Grease</td>
</tr>
<tr>
<td>Color</td>
<td>white</td>
</tr>
<tr>
<td>Odor</td>
<td>none</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>Method</td>
<td>Seta closed cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not classified as a flammability hazard</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.85</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
</tbody>
</table>
Oxidizing properties: The substance or mixture is not classified as oxidizing.

Molecular weight: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents.

Conditions to avoid: None known.

Incompatible materials: Oxidizing agents

Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

Product:
Acute oral toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Ingredients:
12-Hydroxy lithium stearate:
Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Melamine cyanurate:
Acute oral toxicity: LD50 (Rat): 2,500 mg/kg
Acute dermal toxicity: LD50 (Rat): 5,520 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Ingredients:
12-Hydroxy lithium stearate:
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

**Melamine cyanurate:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

**Serious eye damage/eye irritation**
Not classified based on available information.

**Ingredients:**
**12-Hydroxy lithium stearate:**
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

**Melamine cyanurate:**
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

**Respiratory or skin sensitization**
Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

**Ingredients:**
**12-Hydroxy lithium stearate:**
Test Type: Local lymph node assay (LLNA)
Routes of exposure: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: negative

**Melamine cyanurate:**
Test Type: Maximization Test (GPMT)
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

**Germ cell mutagenicity**
Not classified based on available information.

**Ingredients:**
**Melamine cyanurate:**
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity
Not classified based on available information.

Ingredients:
Melamine cyanurate:
Species: Mouse
Application Route: Ingestion
Exposure time: 103 weeks
Result: negative
Remarks: Based on data from similar materials

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

Reproductive toxicity
Not classified based on available information.

Ingredients:
Melamine cyanurate:
Effects on fetal development: Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Ingredients:
12-Hydroxy lithium stearate:
Routes of exposure: Ingestion
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Melamine cyanurate:
Routes of exposure: Ingestion
Target Organs: Kidney
Assessment: Shown to produce significant health effects in animals at concentrations of >10 to
100 mg/kg bw.

**Repeated dose toxicity**

**Ingredients:**

**12-Hydroxy lithium stearate:**
Species: Rat  
NOAEL: > 88 mg/kg  
Application Route: Ingestion  
Exposure time: 90 d

**Melamine cyanurate:**
Species: Rat  
NOAEL: 20 mg/kg  
Application Route: Ingestion  
Exposure time: 7 d

**Aspiration toxicity**
Not classified based on available information.

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ingredients:**

**Melamine cyanurate:**
- Toxicity to fish: LC50 (Danio rerio (zebra fish)): > 10,000 mg/l  
  Exposure time: 96 h  
  Method: OECD Test Guideline 203

- Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l  
  Exposure time: 48 h  
  Remarks: Based on data from similar materials

- Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (green algae)): 325 mg/l  
  Exposure time: 96 h  
  Remarks: Based on data from similar materials

- Toxicity to fish (Chronic toxicity): NOEC (Oncorhynchus mykiss (rainbow trout)): 1,500 mg/l  
  Exposure time: 28 d  
  Remarks: Based on data from similar materials

- Toxicity to bacteria: EC50: > 10,000 mg/l  
  Exposure time: 3 h  
  Method: OECD Test Guideline 209

**Persistence and degradability**

**Ingredients:**

**12-Hydroxy lithium stearate:**
Biodegradability: Result: Readily biodegradable.
Biodegradation: 78%
Exposure time: 28 d
Method: OECD Test Guideline 301C

Melamine cyanurate:
Biodegradability: Result: Not readily biodegradable.
Biodegradation: 3%
Exposure time: 28 d
Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

Bioaccumulative potential

Ingredients:
Melamine cyanurate:
Bioaccumulation: Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): < 3.8
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water: log Pow: -2.28

Mobility in soil
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Resource Conservation and Recovery Act (RCRA): This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded in its purchased form.
Waste from residues: Dispose of in accordance with local regulations.
Contaminated packaging: Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable for product as supplied.

**Domestic regulation**

**49 CFR**
Not regulated as a dangerous good

### SECTION 15. REGULATORY INFORMATION

**EPCRA - Emergency Planning and Community Right-to-Know**

**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**
: Chronic Health Hazard

**SARA 302**
: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**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.

**US State Regulations**

**Pennsylvania Right To Know**

- Ethylene propylene copolymer 9010-79-1 70 - 90 %
- 12-Hydroxy lithium stearate 7620-77-1 5 - 10 %
- Polytetrafluoroethylene 9002-84-0 1 - 5 %

**New Jersey Right To Know**

- Ethylene propylene copolymer 9010-79-1 70 - 90 %
- 12-Hydroxy lithium stearate 7620-77-1 5 - 10 %
- Melamine cyanurate 37640-57-6 1 - 5 %
- Polytetrafluoroethylene 9002-84-0 1 - 5 %

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

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

**KECI**
: All ingredients listed, exempt or notified.

**REACH**
: All ingredients (pre-)registered or exempt.

**TSCA**
: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical
Substances.

AICS: All ingredients listed or exempt.

IECSC: All ingredients listed or exempt.

ENCS/ISHL: All components are listed on ENCS/ISHL or exempted from inventory listing.

PICCS: All ingredients listed or exempt.

DSL: All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).

NZIoC: All ingredients listed or exempt.

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)

SECTION 16. OTHER INFORMATION

Further information

NFPA:

Flammability

1

Health

0

Special hazard.

HMIS III:

HEALTH

0*

FLAMMABILITY

1

PHYSICAL HAZARD

0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

Full text of other abbreviations

ACGIH: USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA: 8-hour, time-weighted average


Revision Date: 04/02/2015
Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

US / Z8