

**MOLYKOTE(R) DX PASTE**

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

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**SECTION 1. IDENTIFICATION**

Product name : MOLYKOTE(R) DX PASTE

Product code : 000000000001288563

**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**

Skin irritation : Category 2

Eye irritation : Category 2A

**GHS label elements**

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H312 Causes skin irritation.  
H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.

**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
 Date of first issue: 12/01/2014

P362 + P364 Take off contaminated clothing and wash it before reuse.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture  
 Chemical nature : Inorganic and organic compounds  
 Mixture

**Hazardous ingredients**

Chemical name	CAS-No.	Concentration (% w/w)
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	>= 30 - < 50
Distillates (petroleum), solvent refined heavy naphthenic	64741-96-4	>= 10 - < 20
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	>= 5 - < 10
12-Hydroxy lithium stearate	7620-77-1	>= 1 - < 5
N-Tallow Alkyltrimethylenediamine Oleate	61791-53-5	>= 1 - < 5
Zinc oxide	1314-13-2	>= 1 - < 5
Calcium stearate	1592-23-0	>= 1 - < 5

**SECTION 4. FIRST AID MEASURES**

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
 When symptoms persist or in all cases of doubt seek medical advice.

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

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
 Get medical attention.  
 Wash clothing before reuse.  
 Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
 If easy to do, remove contact lens, if worn.  
 Get medical attention.

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

**MOLYKOTE(R) DX PASTE**

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

---

Most important symptoms and effects, both acute and delayed : Causes skin irritation.  
Causes serious eye irritation.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

Notes to physician : Treat symptomatically and supportively.

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**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

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  
Oxides of phosphorus  
Nitrogen oxides (NO<sub>x</sub>)  
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 : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
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 contain-

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## MOLYKOTE(R) DX PASTE

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

ment 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 : Do not get on skin or clothing.  
Do not swallow.  
Do not get in eyes.  
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.
- 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

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	TWA (Mist)	5 mg/m <sup>3</sup>	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m <sup>3</sup>	ACGIH
		TWA (Mist)	5 mg/m <sup>3</sup>	NIOSH REL
Distillates (petroleum), solvent refined heavy naphthenic	64741-96-4	ST (Mist)	10 mg/m <sup>3</sup>	NIOSH REL
		TWA (Mist)	5 mg/m <sup>3</sup>	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m <sup>3</sup>	ACGIH
Distillates (petroleum), solvent-	64742-65-0	TWA (Mist)	5 mg/m <sup>3</sup>	NIOSH REL
		ST (Mist)	10 mg/m <sup>3</sup>	NIOSH REL
		TWA (Mist)	5 mg/m <sup>3</sup>	OSHA Z-1

## MOLYKOTE(R) DX PASTE

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
 Date of first issue: 12/01/2014

dewaxed heavy paraffinic				
		TWA (Inhalable fraction)	5 mg/m3	ACGIH
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
12-Hydroxy lithium stearate	7620-77-1	TWA	10 mg/m3	ACGIH
Zinc oxide	1314-13-2	TWA (Respirable fraction)	2 mg/m3	ACGIH
		STEL (Respirable fraction)	10 mg/m3	ACGIH
		TWA (Dust)	5 mg/m3	NIOSH REL
		TWA (Fumes)	5 mg/m3	NIOSH REL
		ST (Fumes)	10 mg/m3	NIOSH REL
		C (Dust)	15 mg/m3	NIOSH REL
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (Fumes)	5 mg/m3	OSHA Z-1
Calcium stearate	1592-23-0	TWA	10 mg/m3	ACGIH

**Hazardous components without workplace control parameters**

Ingredients	CAS-No.
N-Tallow Alkyltrimethylenediamine Oleate	61791-53-5

**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

**MOLYKOTE(R) DX PASTE**

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

---

circumstance where air purifying respirators may not provide adequate protection.

- Hand protection  
Material : Impervious gloves
- Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Eye protection : Wear the following personal protective equipment:  
Safety goggles
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- 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**

- Appearance : paste
- Color : white
- Odor : slight
- Odor Threshold : No data available
- pH : Not applicable
- Melting point/freezing point : No data available
- Initial boiling point and boiling range : Not applicable
- Flash point : > 200 °C  
Method: closed cup
- Evaporation rate : Not applicable

**MOLYKOTE(R) DX PASTE**

Version 1.3	Revision Date: 10/13/2015	SDS Number: 862373-00004	Date of last issue: 03/31/2015 Date of first issue: 12/01/2014
----------------	------------------------------	-----------------------------	---

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Flammability (solid, gas)	: Not classified as a flammability hazard
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: Not applicable
Relative vapor density	: No data available
Relative density	: 1.14
Solubility(ies) Water solubility	: No data available
Partition coefficient: n- octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity Viscosity, dynamic	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: No data available

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reac- tions	: Can react with strong oxidizing agents.
Conditions to avoid	: None known.
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: No hazardous decomposition products are known.

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**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Skin contact  
Ingestion  
Eye contact

**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

---

**Acute toxicity**

Not classified based on available information.

**Ingredients:****Distillates (petroleum), hydrotreated heavy naphthenic:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Based on data from similar materials
- Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy naphthenic:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Based on data from similar materials
- Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Based on data from similar materials
- Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials



**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

---

**12-Hydroxy lithium stearate:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

**N-Tallow Alkyltrimethylenediamine Oleate:**

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

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

**Zinc oxide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.7 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity

**Calcium stearate:**

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

**Skin corrosion/irritation**

Causes skin irritation.

**Ingredients:****Distillates (petroleum), hydrotreated heavy naphthenic:**

Species: Rabbit  
Result: No skin irritation  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy naphthenic:**

Species: Rabbit  
Result: No skin irritation  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Species: Rabbit  
Result: No skin irritation  
Remarks: Based on data from similar materials

**12-Hydroxy lithium stearate:**

Species: Rabbit  
Result: No skin irritation  
Remarks: Based on data from similar materials

**N-Tallow Alkyltrimethylenediamine Oleate:**

Result: Corrosive after 3 minutes to 1 hour of exposure

**Zinc oxide:**

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

**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

---

**Calcium stearate:**

Result: No skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Ingredients:****Distillates (petroleum), hydrotreated heavy naphthenic:**

Species: Rabbit

Result: No eye irritation

Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy naphthenic:**

Species: Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

Remarks: Based on data from similar materials

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Species: Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

Remarks: Based on data from similar materials

**12-Hydroxy lithium stearate:**

Species: Rabbit

Result: No eye irritation

Remarks: Based on data from similar materials

**N-Tallow Alkyltrimethylenediamine Oleate:**

Result: Irreversible effects on the eye

**Zinc oxide:**

Species: Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

**Calcium stearate:**

Result: No eye irritation

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

**Ingredients:****Distillates (petroleum), hydrotreated heavy naphthenic:**

Test Type: Buehler Test

Routes of exposure: Skin contact

Species: Guinea pig

Result: negative

Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy naphthenic:**

**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

---

Test Type: Buehler Test  
Routes of exposure: Skin contact  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: negative  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Test Type: Buehler Test  
Routes of exposure: Skin contact  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: negative  
Remarks: Based on data from similar materials

**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

**Zinc oxide:**

Test Type: Maximization Test  
Routes of exposure: Skin contact  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: negative

**Calcium stearate:**

Routes of exposure: Skin contact  
Species: Humans  
Result: negative

**Germ cell mutagenicity**

Not classified based on available information.

**Ingredients:****Distillates (petroleum), hydrotreated heavy naphthenic:**

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  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy naphthenic:**

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

**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

---

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

**Zinc oxide:**

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: Rat  
Application Route: Inhalation  
Method: OECD Test Guideline 474  
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Ingredients:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Species: Mouse  
Application Route: Skin contact  
Exposure time: 78 weeks  
Method: OECD Test Guideline 451  
Result: negative

**Distillates (petroleum), solvent refined heavy naphthenic:**

Species: Mouse  
Application Route: Skin contact  
Exposure time: 78 weeks  
Method: OECD Test Guideline 451  
Result: negative  
Remarks: Based on data from similar materials

**MOLYKOTE(R) DX PASTE**

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Species: Mouse  
 Application Route: Skin contact  
 Exposure time: 78 weeks  
 Method: OECD Test Guideline 451  
 Result: negative

<b>IARC</b>	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.
<b>OSHA</b>	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.
<b>NTP</b>	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:****Distillates (petroleum), hydrotreated heavy naphthenic:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test  
 Species: Rat  
 Application Route: Ingestion  
 Result: negative  
 Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development  
 Species: Rat  
 Application Route: Skin contact  
 Result: negative  
 Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy naphthenic:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test  
 Species: Rat  
 Application Route: Ingestion  
 Result: negative  
 Remarks: Based on data from similar materials

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

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test

**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

---

Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

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

**Zinc oxide:**  
Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 416  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Hamster  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**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.

**Zinc oxide:**

Routes of exposure: inhalation (dust/mist/fume)

Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

**Repeated dose toxicity****Ingredients:****Distillates (petroleum), hydrotreated heavy naphthenic:**

Species: Rat

NOAEL: > 0.98 mg/l

Application Route: inhalation (dust/mist/fume)

Exposure time: 28 Days

Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy naphthenic:**

Species: Rabbit

**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

---

NOAEL: 1,000 mg/kg  
Application Route: Skin contact  
Exposure time: 4 Weeks  
Method: OECD Test Guideline 410  
Remarks: Based on data from similar materials

Species: Rat  
NOAEL: > 980 mg/m<sup>3</sup>  
Application Route: inhalation (dust/mist/fume)  
Exposure time: 4 Weeks  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Species: Rabbit  
NOAEL: 1,000 mg/kg  
Application Route: Skin contact  
Exposure time: 4 Weeks  
Method: OECD Test Guideline 410  
Remarks: Based on data from similar materials

Species: Rat  
NOAEL: > 980 mg/m<sup>3</sup>  
Application Route: inhalation (dust/mist/fume)  
Exposure time: 4 Weeks  
Remarks: Based on data from similar materials

**12-Hydroxy lithium stearate:**

Species: Rat  
NOAEL: > 88 mg/kg  
Application Route: Ingestion  
Exposure time: 90 Days

**Zinc oxide:**

Species: Rat  
NOAEL: 1.5 mg/m<sup>3</sup>  
Application Route: inhalation (dust/mist/fume)  
Exposure time: 3 Months  
Method: OECD Test Guideline 413

**Calcium stearate:**

Species: Rat  
NOAEL: 2,500 mg/kg  
Application Route: Ingestion  
Exposure time: 13 Weeks  
Remarks: Based on data from similar materials

**Aspiration toxicity**

Not classified based on available information.

**Ingredients:****Distillates (petroleum), hydrotreated heavy naphthenic:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

## MOLYKOTE(R) DX PASTE

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

## SECTION 12. ECOLOGICAL INFORMATION

## Ecotoxicity

Ingredients:**Distillates (petroleum), hydrotreated heavy naphthenic:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 48 h  
Remarks: Based on data from similar materials
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l  
Exposure time: 21 d  
Remarks: Based on data from similar materials
- Toxicity to bacteria : NOEC: > 1.93 mg/l  
Exposure time: 10 min  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy naphthenic:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials



**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

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Toxicity to bacteria : NOEC: > 1.93 mg/l  
Exposure time: 10 min  
Method: DIN 38 412 Part 8  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

Toxicity to bacteria : NOEC: > 1.93 mg/l  
Exposure time: 10 min  
Method: DIN 38 412 Part 8  
Remarks: Based on data from similar materials

**12-Hydroxy lithium stearate:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : NOELR (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

**N-Tallow Alkyltrimethylenediamine Oleate:**

Toxicity to fish : LC50: > 0.1 - 1 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.001 - 0.01 mg/l  
Exposure time: 48 h  
Remarks: Based on data from similar materials

**MOLYKOTE(R) DX PASTE**

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

- Toxicity to algae : EC50: > 0.01 - 0.1 mg/l  
Exposure time: 72 h  
Remarks: Based on data from similar materials
- M-Factor (Acute aquatic toxicity) : 100
- Zinc oxide:**
- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 330 - 780 µg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.9 - 16.2 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 136 µg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- NOEC (Selenastrum capricornutum (green algae)): 24 µg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 199 µg/l  
Exposure time: 30 d  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 37 µg/l  
Exposure time: 21 d  
Remarks: Based on data from similar materials
- M-Factor (Chronic aquatic toxicity) : 1
- Toxicity to bacteria : EC50: 5.2 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on data from similar materials
- Calcium stearate:**
- Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 130 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials
- Toxicity to fish (Chronic toxicity) : NOEC (Leuciscus idus (Golden orfe)): 2.2 mg/l

**Persistence and degradability****Ingredients:**

**MOLYKOTE(R) DX PASTE**

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
Date of first issue: 12/01/2014

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**Distillates (petroleum), hydrotreated heavy naphthenic:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 2 - 4 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**Distillates (petroleum), solvent refined heavy naphthenic:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 2 - 4 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 2 - 8 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**12-Hydroxy lithium stearate:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 78 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

**N-Tallow Alkyltrimethylenediamine Oleate:**

Biodegradability : Result: rapidly degradable  
Remarks: Based on data from similar materials

**Calcium stearate:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 91 - 93 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

**Bioaccumulative potential****Ingredients:****Zinc oxide:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 177

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**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.

**MOLYKOTE(R) DX PASTE**

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

**SECTION 14. TRANSPORT INFORMATION****International Regulation****UNRTDG**

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(N-Tallow Alkyltrimethylenediamine Oleate, Zinc oxide)

Class : 9

Packing group : III

Labels : 9

**IATA-DGR**

UN/ID No. : UN 3077

Proper shipping name : Environmentally hazardous substance, solid, n.o.s.  
(N-Tallow Alkyltrimethylenediamine Oleate, Zinc oxide)

Class : 9

Packing group : III

Labels : Miscellaneous

Packing instruction (cargo aircraft) : 956

Packing instruction (passenger aircraft) : 956

**IMDG-Code**

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(N-Tallow Alkyltrimethylenediamine Oleate, Zinc oxide)

Class : 9

Packing group : III

Labels : 9

EmS Code : F-A, S-F

Marine pollutant : yes

**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**

UN/ID/NA number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

## MOLYKOTE(R) DX PASTE

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

Class	: (N-Tallow Alkyltrimethylenediamine Oleate, Zinc oxide)
Packing group	: 9
Labels	: III
ERG Code	: CLASS 9
Marine pollutant	: 171
Remarks	: yes (N-Tallow Alkyltrimethylenediamine Oleate, Zinc oxide)
	: Above applies only to containers over 119 gallons or 450 liters., Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

## 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** : Acute Health Hazard

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

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Zinc oxide	1314-13-2	1.9 %
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## US State Regulations

## Pennsylvania Right To Know

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	30 - 50 %
Tricalcium Phosphate, Hydrated	1306-06-5	30 - 50 %
Distillates (petroleum), solvent refined heavy naphthenic	64741-96-4	10 - 20 %
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	5 - 10 %
12-Hydroxy lithium stearate	7620-77-1	1 - 5 %
Polytetrafluoroethylene	9002-84-0	1 - 5 %
Zinc oxide	1314-13-2	1 - 5 %

## New Jersey Right To Know

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	30 - 50 %
Tricalcium Phosphate, Hydrated	1306-06-5	30 - 50 %

**MOLYKOTE(R) DX PASTE**

Version 1.3	Revision Date: 10/13/2015	SDS Number: 862373-00004	Date of last issue: 03/31/2015 Date of first issue: 12/01/2014
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Distillates (petroleum), solvent refined heavy naphthenic	64741-96-4	10 - 20 %
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	5 - 10 %
12-Hydroxy lithium stearate	7620-77-1	1 - 5 %
Zinc oxide	1314-13-2	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:**

NZIoC : All ingredients listed or exempt.

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

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

IECSC : All ingredients listed or exempt.

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

PICCS : Consult your local Dow Corning office.

KECI : One or more ingredients are not listed or exempt.

AICS : Consult your local Dow Corning office.

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).

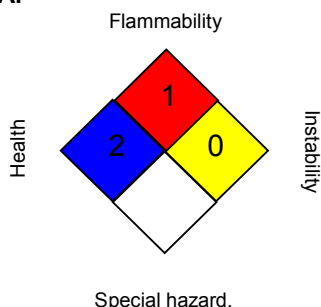
## MOLYKOTE(R) DX PASTE

Version 1.3      Revision Date: 10/13/2015      SDS Number: 862373-00004      Date of last issue: 03/31/2015  
 Date of first issue: 12/01/2014

## SECTION 16. OTHER INFORMATION

## Further information

## NFPA:



## HMIS III:

HEALTH	3
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)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
NIOSH REL / C	: Ceiling value not be exceeded at any time.
OSHA Z-1 / TWA	: 8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Ob-

**MOLYKOTE(R) DX PASTE**

Version	Revision Date:	SDS Number:	Date of last issue: 03/31/2015
1.3	10/13/2015	862373-00004	Date of first issue: 12/01/2014

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served (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 10/13/2015

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