



# SAFETY DATA SHEET

## DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC

**Product name:** MOLYKOTE® P-1042 Adhesive Grease Paste

**Issue Date:** 12/16/2020

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DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

### 1. IDENTIFICATION

**Product name:** MOLYKOTE® P-1042 Adhesive Grease Paste

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Lubricants and lubricant additives

#### COMPANY IDENTIFICATION

DDP SPECIALTY ELECTRONIC MATERIALS  
US 9, LLC  
974 Centre Road  
Wilmington DE 19805  
UNITED STATES

**Customer Information Number:**

833-338-7668  
SDSQuestion-NA@dupont.com

#### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 1-800-424-9300

**Local Emergency Contact:** 800-424-9300

### 2. HAZARDS IDENTIFICATION

#### Hazard classification

GHS classification in accordance with 29 CFR 1910.1200  
Not a hazardous substance or mixture.

#### Other hazards

No data available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature:** Inorganic and organic compounds, Mixture

This product is a mixture.

**Component**

**CASRN**

**Concentration**

Limestone	1317-65-3	>= 32.0 - <= 47.0 %
Distillates, petroleum, hydrotreated heavy paraffinic	64742-54-7	>= 13.0 - <= 23.0 %
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	<= 17.0 %
Paraffin/Hydrocarbon waxes	8002-74-2	>= 1.0 - <= 5.0 %
Lithium 12-hydroxyoctadecanoate	7620-77-1	>= 1.0 - <= 5.0 %
Solvent dewaxed heavy paraffinic distillates	64742-65-0	>= 2.0 - <= 4.0 %
Zinc stearate	557-05-1	>= 0.7 - <= 1.2 %

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## 4. FIRST AID MEASURES

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### Description of first aid measures

#### General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Skin contact:** Wash off with plenty of water.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:** If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

#### Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

#### Indication of any immediate medical attention and special treatment needed

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## 5. FIREFIGHTING MEASURES

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

**Unsuitable extinguishing media:** None known.

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** Oxides of phosphorus Carbon oxides Metal oxides Nitrogen oxides (NOx)

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health.

**Advice for firefighters**

**Fire Fighting Procedures:** 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 firefighters:** Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

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## **6. ACCIDENTAL RELEASE MEASURES**

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**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:** Wipe up or scrape up and contain for salvage or disposal. 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. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. See sections: 7, 8, 11, 12 and 13.

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## **7. HANDLING AND STORAGE**

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**Precautions for safe handling:** Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**Conditions for safe storage:** Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.  
Unsuitable materials for containers: None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Limestone	Dow IHG	TWA	1 mg/m3
Distillates, petroleum, hydrotreated heavy paraffinic	OSHA Z-1	TWA Mist	5 mg/m3
	ACGIH	TWA Inhalable particulate matter	5 mg/m3
	Further information: URT irr: Upper Respiratory Tract irritation; A4: Not classifiable as a human carcinogen		
	CAL PEL	PEL particulate	5 mg/m3
	Further information: (I): As sampled by method that does not collect vapor.		
	NIOSH REL	TWA Mist	5 mg/m3
	NIOSH REL	ST Mist	10 mg/m3
Distillates (petroleum), hydrotreated heavy naphthenic	OSHA Z-1	TWA Mist	5 mg/m3
	ACGIH	TWA Inhalable particulate matter	5 mg/m3
	Further information: URT irr: Upper Respiratory Tract irritation; A4: Not classifiable as a human carcinogen		
	CAL PEL	PEL particulate	5 mg/m3
	Further information: (I): As sampled by method that does not collect vapor.		
Paraffin/Hydrocarbon waxes	ACGIH	TWA	2 mg/m3
	Further information: URT irr: Upper Respiratory Tract irritation; nausea: Nausea		
	OSHA P0	TWA	2 mg/m3
	ACGIH	TWA Fumes	2 mg/m3
	Further information: URT irr: Upper Respiratory Tract irritation; nausea: Nausea		
	CAL PEL	PEL Fumes	2 mg/m3
Lithium 12-hydroxyoctadecanoate	ACGIH	TWA Inhalable particulate matter	10 mg/m3
	Further information: LRT irr: Lower Respiratory Tract irritation; J: Does not include stearates of toxic metals.; A4: Not classifiable as a human carcinogen; varies: varies		
	ACGIH	TWA Respirable particulate matter	3 mg/m3
	Further information: LRT irr: Lower Respiratory Tract irritation; J: Does not include stearates of toxic metals.; A4: Not classifiable as a human carcinogen; varies: varies		
Solvent dewaxed heavy paraffinic distillates	OSHA Z-1	TWA Mist	5 mg/m3
	ACGIH	TWA Inhalable particulate matter	5 mg/m3
	Further information: URT irr: Upper Respiratory Tract irritation; A4: Not classifiable as a human carcinogen		
	CAL PEL	PEL particulate	5 mg/m3
	Further information: (I): As sampled by method that does not collect vapor.		
	NIOSH REL	TWA Mist	5 mg/m3
	NIOSH REL	ST Mist	10 mg/m3
Zinc stearate	OSHA Z-1	TWA total dust	15 mg/m3

	OSHA Z-1	TWA respirable fraction	5 mg/m3
	CAL PEL	PEL	10 mg/m3
	ACGIH	TWA Inhalable particulate matter	10 mg/m3
	Further information: LRT irr: Lower Respiratory Tract irritation; J: Does not include stearates of toxic metals.; A4: Not classifiable as a human carcinogen; varies: varies		
	ACGIH	TWA Respirable particulate matter	3 mg/m3
	Further information: LRT irr: Lower Respiratory Tract irritation; J: Does not include stearates of toxic metals.; A4: Not classifiable as a human carcinogen; varies: varies		

**Exposure controls**

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

**Individual protection measures**

**Eye/face protection:** Use safety glasses (with side shields).

**Skin protection**

**Hand protection:** Use gloves chemically resistant to this material. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance****Physical state**

paste

**Color**

beige

**Odor**

slight

**Odor Threshold**

No data available

**pH**

Not applicable

**Melting point/range**

No data available

**Freezing point**

No data available

**Boiling point (760 mmHg)**

Not applicable

**Flash point****closed cup** 174 °C ( 345 °F)

Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	Not classified as a flammability hazard
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.32
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available
Particle size	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**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:** 1-Butene.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### Acute toxicity

#### Acute oral toxicity

Product test data not available. Refer to component data.

**Acute dermal toxicity**

Product test data not available. Refer to component data.

**Acute inhalation toxicity**

Product test data not available. Refer to component data.

**Skin corrosion/irritation**

Product test data not available. Refer to component data.

**Serious eye damage/eye irritation**

Product test data not available. Refer to component data.

**Sensitization**

Product test data not available. Refer to component data.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Product test data not available. Refer to component data.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

**Carcinogenicity**

Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

**Teratogenicity**

Product test data not available. Refer to component data.

**Reproductive toxicity**

Product test data not available. Refer to component data.

**Mutagenicity**

Product test data not available. Refer to component data.

**Aspiration Hazard**

Product test data not available. Refer to component data.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Limestone**

**Acute oral toxicity**

LD50, Rat, > 6,000 mg/kg

**Acute dermal toxicity**

LD50, Rat, > 2,000 mg/kg No deaths occurred at this concentration.

**Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 3 mg/l The LC50 value is greater than the Maximum Attainable Concentration. No deaths occurred at this concentration.

**Skin corrosion/irritation**

Essentially nonirritating to skin.  
May cause drying and flaking of the skin.

**Serious eye damage/eye irritation**

May cause slight temporary eye irritation.  
Dust may irritate eyes.

**Sensitization**

Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:  
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Teratogenicity**

Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**

In animal studies, did not interfere with fertility. In animal studies, did not interfere with reproduction.

**Mutagenicity**

In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Distillates, petroleum, hydrotreated heavy paraffinic**

**Acute oral toxicity**

Typical for this family of materials. Rat, > 5,000 mg/kg

**Acute dermal toxicity**

Typical for this family of materials. Rabbit, > 2,000 mg/kg

**Acute inhalation toxicity**

For this family of materials: LC50, Rat, 4 Hour, vapour, 2.18 mg/l

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.  
Prolonged contact may cause moderate skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause slight eye irritation.  
Corneal injury is unlikely.

**Sensitization**

For this family of materials, sensitization studies done in guinea pigs have been negative.

For respiratory sensitization:  
No relevant data found.



**Teratogenicity**

Typical for this family of materials. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

**Reproductive toxicity**

Typical for this family of materials. Limited data in laboratory animals suggest that the material does not affect reproduction.

**Mutagenicity**

Typical for this family of materials. In vitro genetic toxicity studies were predominantly negative. For this family of materials: Animal genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Distillates (petroleum), hydrotreated heavy naphthenic****Acute oral toxicity**

LD50, Rat, > 5,000 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, > 2,000 mg/kg

**Acute inhalation toxicity**

Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.

LC50, Rat, 3 Hour, dust/mist, > 3.11 mg/l No deaths occurred at this concentration.

**Skin corrosion/irritation**

Prolonged contact is essentially nonirritating to skin.

Repeated contact may cause moderate skin irritation with local redness.

**Serious eye damage/eye irritation**

Essentially nonirritating to eyes.

**Sensitization**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant information found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Teratogenicity**

Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**

In animal studies, did not interfere with reproduction.

**Mutagenicity**

In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Paraffin/Hydrocarbon waxes**

**Acute oral toxicity**

LD50, Rat, male and female, > 5,000 mg/kg OECD Test Guideline 401 No deaths occurred at this concentration.

**Acute dermal toxicity**

LD50, Rat, male and female, > 2,000 mg/kg OECD 402 or equivalent No deaths occurred at this concentration.

**Acute inhalation toxicity**

The LC50 has not been determined.

**Skin corrosion/irritation**

Brief contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

Essentially nonirritating to eyes.

**Sensitization**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Available data are inadequate to determine single exposure specific target organ toxicity.

**Teratogenicity**

For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**

For similar material(s): In animal studies, did not interfere with reproduction.

**Mutagenicity**

In vitro genetic toxicity studies were negative. For similar material(s): Animal genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Lithium 12-hydroxyoctadecanoate**

**Acute oral toxicity**

LD50, Rat, female, > 2,000 mg/kg OECD Test Guideline 420 No deaths occurred at this concentration.

**Acute dermal toxicity**

LD50, Rat, male and female, > 2,000 mg/kg OECD Test Guideline 402 No deaths occurred at this concentration.

**Acute inhalation toxicity**

The LC50 has not been determined.

**Skin corrosion/irritation**

Brief contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

May cause slight eye irritation.

**Sensitization**

Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Teratogenicity**

Did not cause birth defects in laboratory animals.

**Reproductive toxicity**

In animal studies, did not interfere with reproduction.

**Mutagenicity**

In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Solvent dewaxed heavy paraffinic distillates**

**Acute oral toxicity**

Typical for this family of materials. LD50, Rat, > 5,000 mg/kg

**Acute dermal toxicity**

Typical for this family of materials. LD50, Rabbit, > 2,000 mg/kg

**Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, dust/mist, > 5 mg/l No deaths occurred at this concentration.

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.

Prolonged contact may cause moderate skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause slight eye irritation.

Corneal injury is unlikely.

**Sensitization**

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Teratogenicity**

Typical for this family of materials. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

**Reproductive toxicity**

Typical for this family of materials. Limited data in laboratory animals suggest that the material does not affect reproduction.

**Mutagenicity**

Typical for this family of materials. In vitro genetic toxicity studies were predominantly negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Zinc stearate****Acute oral toxicity**

LD50, Rat, > 10,000 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, > 2,000 mg/kg

**Acute inhalation toxicity**

LC50, Rat, 1 Hour, dust/mist, > 200 mg/l

**Skin corrosion/irritation**

Prolonged exposure not likely to cause significant skin irritation.

**Serious eye damage/eye irritation**

Essentially nonirritating to eyes.

Corneal injury is unlikely.

**Sensitization**

Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

No relevant data found.

**Mutagenicity**

In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Toxicity****Limestone****Acute toxicity to fish**

Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).  
LC50, Gambusia affinis (Mosquito fish), static test, 96 Hour, > 56,000 mg/l

**Distillates, petroleum, hydrotreated heavy paraffinic****Acute toxicity to fish**

Typical for this family of materials.  
Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
For this family of materials:  
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

For this family of materials:  
EC50, Daphnia magna (Water flea), semi-static test, 48 Hour, > 100 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 10 mg/l

**Distillates (petroleum), hydrotreated heavy naphthenic****Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, > 1,000 mg/l, OECD Test  
Guideline 203 or Equivalent  
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 5,000 mg/l, OECD Test Guideline 203  
or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l, OECD Test Guideline  
202 or Equivalent  
EC50, scud Gammarus sp., 96 Hour, > 10,000 mg/l, Method Not Specified.

**Acute toxicity to algae/aquatic plants**

EbC50, alga Scenedesmus sp., static test, 96 Hour, Biomass, > 1,000 mg/l, OECD Test  
Guideline 201 or Equivalent

**Chronic toxicity to fish**

NOEC, Pimephales promelas (fathead minnow), 7 d, growth, > 5,000 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, > 1,000 mg/l

**Paraffin/Hydrocarbon waxes**

**Acute toxicity to fish**

Based on information for component(s):

Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

**Acute toxicity to aquatic invertebrates**

EL50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

For similar material(s):

NOELR, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, > 100 mg/l, OECD Test Guideline 201

**Lithium 12-hydroxyoctadecanoate**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

EC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, > 160 mg/l, OECD Test Guideline 201

**Solvent dewaxed heavy paraffinic distillates**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LL50, Pimephales promelas (fathead minnow), static test, 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

EL50, Daphnia magna (Water flea), static test, 48 Hour, > 10,000 mg/l

**Acute toxicity to algae/aquatic plants**

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, > 100 mg/l

**Toxicity to bacteria**

Based on data from similar materials

NOEC, 10 min, > 1.93 mg/l, DIN 38 412 Part 8

**Chronic toxicity to aquatic invertebrates**

Based on data from similar materials

NOEC, Daphnia magna (Water flea), 21 d, 10 mg/l

**Zinc stearate**

**Acute toxicity to fish**

For similar material(s):

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

### **Persistence and degradability**

#### **Limestone**

**Biodegradability:** Biodegradation is not applicable.

#### **Distillates, petroleum, hydrotreated heavy paraffinic**

**Biodegradability:** For this family of materials: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

**Biodegradation:** 1.5 - 29 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

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

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

10-day Window: Fail

**Biodegradation:** 6 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

10-day Window: Fail

**Biodegradation:** 22 - 51 %

**Exposure time:** 21 - 28 d

#### **Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitization:** OH radicals

#### **Paraffin/Hydrocarbon waxes**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 80 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

#### **Lithium 12-hydroxyoctadecanoate**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 78 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301C

#### **Solvent dewaxed heavy paraffinic distillates**

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

**Biodegradation:** 2 %  
**Exposure time:** 28 d  
**Method:** OECD Test Guideline 301B

**Zinc stearate**

**Biodegradability:** For similar material(s): Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.  
10-day Window: Not applicable  
**Biodegradation:** 33 %  
**Exposure time:** 14 d  
**Method:** OECD Test Guideline 301C or Equivalent

**Theoretical Oxygen Demand:** 2.64 mg/mg

**Chemical Oxygen Demand:** 2.12 mg/mg Dichromate

**Bioaccumulative potential****Limestone**

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

**Distillates, petroleum, hydrotreated heavy paraffinic**

**Bioaccumulation:** For this family of materials: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).

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

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).  
**Partition coefficient: n-octanol/water(log Pow):** 3.9 - 6 Estimated.

**Paraffin/Hydrocarbon waxes**

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).  
**Partition coefficient: n-octanol/water(log Pow):** > 6 Calculated.

**Lithium 12-hydroxyoctadecanoate**

**Bioaccumulation:** No relevant data found.

**Solvent dewaxed heavy paraffinic distillates**

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).  
**Partition coefficient: n-octanol/water(log Pow):** 3.9 - 6 Estimated.

**Zinc stearate**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).  
**Partition coefficient: n-octanol/water(log Pow):** 0.27 Measured  
**Bioconcentration factor (BCF):** 3 Fish Estimated.

**Mobility in soil****Limestone**

No relevant data found.



**Distillates, petroleum, hydrotreated heavy paraffinic**

No relevant data found.

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

No data available.

**Paraffin/Hydrocarbon waxes**

No relevant data found.

**Lithium 12-hydroxyoctadecanoate**

No relevant data found.

**Solvent dewaxed heavy paraffinic distillates**

No relevant data found.

**Zinc stearate**

Expected to be relatively immobile in soil (Koc &gt; 5000).

**Partition coefficient (Koc):** > 5000 Estimated.

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**13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15

**Treatment and disposal methods of used packaging:** Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

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**14. TRANSPORT INFORMATION**

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**DOT**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):**

**Transport in bulk  
according to Annex I or II  
of MARPOL 73/78 and the**

Not regulated for transport  
Consult IMO regulations before transporting ocean bulk

**IBC or IGC Code****Classification for AIR transport (IATA/ICAO):**

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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**15. REGULATORY INFORMATION**

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**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

No SARA Hazards

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

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

**Components****CASRN**

Zinc stearate

557-05-1

**Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103**

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

**Pennsylvania Right To Know**

The following chemicals are listed because of the additional requirements of Pennsylvania law:

**Components****CASRN**

Limestone

1317-65-3

Distillates, petroleum, hydrotreated heavy paraffinic

64742-54-7

Distillates (petroleum), hydrotreated heavy naphthenic

64742-52-5

Polybutene No aspiration hazard

9003-29-6

Hydroxylapatite

1306-06-5

Paraffin/Hydrocarbon waxes

8002-74-2

Lithium 12-hydroxyoctadecanoate

7620-77-1

Solvent dewaxed heavy paraffinic distillates

64742-65-0

Beeswax

8012-89-3

Zinc stearate

557-05-1

**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.

**United States TSCA Inventory (TSCA)**

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

## 16. OTHER INFORMATION

### Hazard Rating System

#### NFPA

Health	Flammability	Instability
0	1	0

#### HMIS

Health	Flammability	Physical Hazard
0/	1	0

### Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
CAL PEL	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Dow IHG	Dow Industrial Hygiene Guideline
NIOSH REL	USA. NIOSH Recommended Exposure Limits
OSHA P0	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
PEL	Permissible exposure limit
ST	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
TWA	8-hour time weighted average

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; AIIC - Australian Inventory of Industrial Chemicals; 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 Observed (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

### **Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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