



# SAFETY DATA SHEET

## DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC

**Product name: MOLYKOTE® Metal Protector Plus**

**Issue Date: 03/14/2024**

**Print Date: 03/20/2024**

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.

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## 1. IDENTIFICATION

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**Product name:** MOLYKOTE® Metal Protector Plus

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

**Identified uses:** Corrosion inhibitors

### 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

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## 2. HAZARDS IDENTIFICATION

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### Hazard classification

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids - Category 3

Skin sensitisation - Category 1

Specific target organ toxicity - repeated exposure - Category 1

Aspiration hazard - Category 1

### Label elements

**Hazard pictograms**



Signal word: **DANGER!**

**Hazards**

Flammable liquid and vapour.  
May be fatal if swallowed and enters airways.  
May cause an allergic skin reaction.  
Causes damage to organs (Central nervous system) through prolonged or repeated exposure.

**Precautionary statements**

**Prevention**

Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe the mist or vapours.  
Do not breathe spray.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves/ eye protection/ face protection.

**Response**

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
Get medical advice/ attention if you feel unwell.  
Do NOT induce vomiting.  
If skin irritation or rash occurs: Get medical advice/ attention.  
Wash contaminated clothing before reuse.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage**

Store in a well-ventilated place. Keep cool.  
Store locked up.

**Disposal**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

Static-accumulating flammable liquid.

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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**Chemical nature:** Organic compound in solvent  
This product is a mixture.

<b>Component</b>	<b>CASRN</b>	<b>Concentration</b>
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Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	64742-49-0	>= 25.0 - <= 50.0 %
Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	>= 20.0 - <= 37.0 %
Calcium salts of petroleum sulfonate	68783-96-0	>= 5.0 - <= 8.0 %
Distillates (petroleum), hydrotreated light	64742-47-8	>= 3.0 - <= 5.0 %

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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:** Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

**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:** No emergency medical treatment necessary.

#### 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:** High volume water jet Do not use direct water stream.

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

**Hazardous combustion products:** Carbon oxides Sulphur oxides Metal oxides

**Unusual Fire and Explosion Hazards:** Flash back possible over considerable distance. Exposure to combustion products may be a hazard to health. Vapours may form explosive mixtures with air.

#### **Advice for firefighters**

**Fire Fighting Procedures:** Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Do not use a solid water stream as it may scatter and spread fire.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

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

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## **6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions, protective equipment and emergency procedures:** Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

**Environmental precautions:** Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). 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:** Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. 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. 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:** Do not get on skin or clothing. Do not breathe vapours or spray mist. Do not swallow. Avoid contact with eyes. Keep container tightly closed. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice.

Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. Ensure all equipment is electrically grounded before beginning transfer operations. This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it is necessary to provide an inert gas purge before

beginning transfer operations. Restrict flow velocity in order to reduce the accumulation of static electricity. Ground and bond container and receiving equipment.

**Advice on general occupational hygiene**

Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating. Ensure that eye flushing systems and safety showers are located close to the working place.

**Conditions for safe storage:** Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Do not store with the following product types: Strong oxidizing agents. Organic peroxides. Flammable solids. Pyrophoric liquids. Pyrophoric solids. Self-heating substances and mixtures. Substances and mixtures, which in contact with water, emit flammable gases. Explosives. Gases. Unsuitable materials for containers: None known.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	OSHA Z-1	TWA	2,000 mg/m3 500 ppm
	Further information: (b): The value in mg/m3 is approximate.		
Naphtha (petroleum), hydrodesulfurized heavy	OSHA Z-1	TWA	2,000 mg/m3 500 ppm
	OSHA P0	TWA	1,600 mg/m3 400 ppm
Distillates (petroleum), hydrotreated light	OSHA Z-1	TWA	2,000 mg/m3 500 ppm
	Further information: (b): The value in mg/m3 is approximate.		
	ACGIH	TWA	200 mg/m3 , total hydrocarbon vapor
	Further information: A3: Confirmed animal carcinogen with unknown relevance to humans; Skin: Danger of cutaneous absorption		
	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

**Exposure controls**

**Engineering measures:** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

**Hygiene measures:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating. Ensure that eye flushing systems and safety showers are located close to the working place.

**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**

<b>Physical state</b>	liquid
<b>Color</b>	Straw-coloured
<b>Odor</b>	solvent-like
<b>Odor Threshold</b>	No data available
<b>pH</b>	No data available
<b>Melting point/range</b>	No data available
<b>Freezing point</b>	No data available
<b>Boiling point (760 mmHg)</b>	> 35 °C (> 95 °F)
<b>Flash point</b>	<b>closed cup</b> 24 °C (75 °F)
<b>Evaporation Rate (Butyl Acetate = 1)</b>	No data available
<b>Flammability (solid, gas)</b>	Not applicable
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Relative Vapor Density (air = 1)</b>	No data available
<b>Relative Density (water = 1)</b>	0.87
<b>Water solubility</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Kinematic Viscosity</b>	16 mm <sup>2</sup> /s at 25 °C (77 °F)

**Explosive properties** Not explosive

**Oxidizing properties** The substance or mixture is not classified as oxidizing.

**Molecular weight** No data available

**Particle size** Not applicable

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. Vapours may form explosive mixture with air. Flammable liquid and vapour.

**Conditions to avoid:** Heat, flames and sparks.

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products**  
No hazardous decomposition products are known.

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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)**

Product test data not available. Refer to component data.

**Carcinogenicity**

Product test data not available. Refer to component data.

**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:**

**Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics**

**Acute oral toxicity**

Based on data from similar materials LD50, Rat, > 5,000 mg/kg

**Acute dermal toxicity**

Based on data from similar materials LD50, Rabbit, > 3,160 mg/kg

**Acute inhalation toxicity**

Based on data from similar materials LC50, Rat, 4 Hour, vapour, > 4,951 mg/m3

**Skin corrosion/irritation**

Mild skin irritation

Repeated exposure may cause skin dryness or cracking.

**Serious eye damage/eye irritation**

Based on data from similar materials

**Sensitization**

Based on data from similar materials

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

May cause drowsiness or dizziness.

**Aspiration Hazard**

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.

**Naphtha (petroleum), hydrodesulfurized heavy**

**Acute oral toxicity**



Based on data from similar materials LD50, Rat, male and female, > 5,000 mg/kg

**Acute dermal toxicity**

Based on data from similar materials LD50, Rat, male and female, > 4,000 mg/kg No deaths occurred at this concentration.

**Acute inhalation toxicity**

Based on data from similar materials LC50, Rat, 4 Hour, vapour, > 13.1 mg/l

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.  
Prolonged or repeated skin contact can cause the following:  
May cause drying and flaking of the skin.

**Serious eye damage/eye irritation**

May cause slight temporary eye irritation.  
Corneal injury is unlikely.

**Sensitization**

For skin sensitization:  
For similar material(s):  
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)**

May cause drowsiness or dizziness.

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

For similar material(s):  
In humans, effects have been reported on the following organs:  
Central nervous system.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

For similar material(s): Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

**Reproductive toxicity**

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

**Mutagenicity**

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

**Aspiration Hazard**

May be fatal if swallowed and enters airways.

**Calcium salts of petroleum sulfonate**

**Acute oral toxicity**

For similar material(s): LD50, Rat, > 5,000 mg/kg OECD Test Guideline 401

**Acute dermal toxicity**

For similar material(s): LD50, Rabbit, > 5,000 mg/kg OECD Test Guideline 402

**Acute inhalation toxicity**

For similar material(s): LC50, Rat, 4 Hour, dust/mist, > 1.9 mg/l

**Skin corrosion/irritation**

Brief contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

Essentially nonirritating to eyes.

**Sensitization**

For similar material(s):

Has caused allergic skin reactions when tested in guinea pigs.

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.

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

For similar material(s):

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

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

**Mutagenicity**

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

**Aspiration Hazard**

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

**Distillates (petroleum), hydrotreated light**

**Acute oral toxicity**

LD50, Rat, > 5,000 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, > 3,160 mg/kg

**Acute inhalation toxicity**

Prolonged exposure is not expected to cause adverse effects.

Based on data from similar materials LC50, Rat, 4 Hour, dust/mist, > 5.3 mg/l

**Skin corrosion/irritation**

Prolonged exposure not likely to cause significant skin irritation.

Prolonged or repeated exposure may cause defatting of the skin leading to drying or flaking of skin.

**Serious eye damage/eye irritation**

May cause slight eye irritation.

Corneal injury is unlikely.

**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)**

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

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

Repeated contact may cause severe skin irritation with local redness and discomfort.

**Carcinogenicity**

No relevant data found.

**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. Animal genetic toxicity studies were negative.

**Aspiration Hazard**

May be fatal if swallowed and enters airways.

**Carcinogenicity**

**Component**

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics

Naphtha (petroleum), hydrodesulfurized heavy

Distillates (petroleum), hydrotreated light

**List**

IARC

IARC

ACGIH

**Classification**

Group 2B: Possibly carcinogenic to humans

Group 2B: Possibly carcinogenic to humans

A3: Confirmed animal carcinogen with unknown relevance to humans.

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## 12. ECOLOGICAL INFORMATION

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

## Toxicity

### Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics

#### **Acute toxicity to fish**

Based on data from similar materials

LL50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 10 - 30 mg/l, OECD Test Guideline 203, Test substance: Water Accommodated Fraction

#### **Acute toxicity to aquatic invertebrates**

Based on data from similar materials

EL50, Daphnia magna (Water flea), 48 Hour, > 22 - 46 mg/l, OECD Test Guideline 202, Test substance: Water Accommodated Fraction

#### **Acute toxicity to algae/aquatic plants**

Based on data from similar materials

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 1,000 mg/l, OECD Test Guideline 201, Test substance: Water Accommodated Fraction

Based on data from similar materials

NOELR, Pseudokirchneriella subcapitata (green algae), 72 Hour, 1 mg/l, OECD Test Guideline 201, Test substance: Water Accommodated Fraction

### Naphtha (petroleum), hydrodesulfurized heavy

#### **Acute toxicity to fish**

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).

Based on data from similar materials

LL50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 10 - 30 mg/l, OECD Test Guideline 203

#### **Acute toxicity to aquatic invertebrates**

Based on data from similar materials

EL50, Daphnia magna (Water flea), 48 Hour, 10 - 22 mg/l, OECD Test Guideline 202

#### **Acute toxicity to algae/aquatic plants**

Based on data from similar materials

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 4.6 - 10 mg/l, OECD Test Guideline 201

Based on data from similar materials

NOELR, Pseudokirchneriella subcapitata (green algae), 72 Hour, 0.22 mg/l, OECD Test Guideline 201

#### **Chronic toxicity to aquatic invertebrates**

Based on data from similar materials

NOELR, Daphnia magna (Water flea), 21 d, 0.097 mg/l

### Calcium salts of petroleum sulfonate

#### **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).

Based on data from similar materials

LL50, Cyprinodon variegatus (sheepshead minnow), 96 Hour, > 10,000 mg/l, OECD Test Guideline 203

#### **Acute toxicity to aquatic invertebrates**

Based on data from similar materials  
EL50, Daphnia magna (Water flea), 48 Hour, > 1,000 mg/l

**Acute toxicity to algae/aquatic plants**

Based on data from similar materials  
NOELR, Pseudokirchneriella subcapitata (green algae), 96 Hour, 1,000 mg/l

**Toxicity to bacteria**

Based on data from similar materials  
EC50, 3 Hour, > 10,000 mg/l, OECD Test Guideline 209

**Distillates (petroleum), hydrotreated light**

**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, Danio rerio (zebra fish), 96 Hour, > 250 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

EL50, Acartia tonsa, 48 Hour, > 3,193 mg/l

**Acute toxicity to algae/aquatic plants**

EL50, Skeletonema costatum (marine diatom), 72 Hour, > 3,200 mg/l  
NOELR, Skeletonema costatum (marine diatom), 72 Hour, 993 mg/l

**Chronic toxicity to aquatic invertebrates**

NOELR, Ceriodaphnia dubia (water flea), 8 d, > 70 mg/l

**Persistence and degradability**

**Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics**

**Biodegradability:** Based on data from similar materials

**Biodegradation:** 89 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F

**Naphtha (petroleum), hydrodesulfurized heavy**

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

Based on data from similar materials 10-day Window: Pass

**Biodegradation:** 74.7 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F

**Calcium salts of petroleum sulfonate**

**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.

**Biodegradation:** 8.6 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301D

**Distillates (petroleum), hydrotreated light**

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

10-day Window: Pass

**Biodegradation:** 82 %

**Exposure time:** 24 d

**Method:** OECD Test Guideline 301F

#### Bioaccumulative potential

##### Naphtha (petroleum), hydrodesulfurized heavy

**Bioaccumulation:** Based on data from similar materials

**Partition coefficient: n-octanol/water(log Pow):** > 4

##### Calcium salts of petroleum sulfonate

**Bioaccumulation:** No relevant data found.

##### Distillates (petroleum), hydrotreated light

**Bioaccumulation:** No relevant data found.

#### Mobility in soil

##### Naphtha (petroleum), hydrodesulfurized heavy

No relevant data found.

##### Calcium salts of petroleum sulfonate

No relevant data found.

##### Distillates (petroleum), hydrotreated light

No relevant data found.

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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**

<b>Proper shipping name</b>	Coating solution
<b>UN number</b>	UN 1139
<b>Class</b>	3
<b>Packing group</b>	III
<b>Marine pollutant</b>	Naphtha (petroleum), hydrodesulfurized heavy, (Z)-N-9-Octadecenylpropane-1,3-diamine

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

<b>Proper shipping name</b>	COATING SOLUTION
<b>UN number</b>	UN 1139
<b>Class</b>	3
<b>Packing group</b>	III
<b>Marine pollutant</b>	Naphtha (petroleum), hydrodesulfurized heavy, (Z)-N-9-Octadecenylpropane-1,3-diamine
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

<b>Proper shipping name</b>	Coating solution
<b>UN number</b>	UN 1139
<b>Class</b>	3
<b>Packing group</b>	III

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**

Flammable (gases, aerosols, liquids, or solids)  
Hazard not otherwise classified (physical hazards)  
Respiratory or skin sensitisation  
Specific target organ toxicity (single or repeated exposure)  
Aspiration hazard

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

**United States TSCA Inventory (TSCA)**

All components of this product are in compliance with the Active 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
2	3	0

**HMIS**

Health	Flammability	Physical Hazard
3*	3	0

\* = Chronic Effects (See Hazards Identification)

**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)
NIOSH REL	USA. NIOSH Recommended Exposure Limits
OSHA P0	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
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**

AllC - 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; TECL - Thailand Existing Chemicals 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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