

# SAFETY DATA SHEET

## DDP SPECIALTY ELECTRONIC MATERIALS

US 9, LLC

# Product name: MOLYKOTE<sup>®</sup> HTP Paste

**Issue Date:** 10/18/2018 **Print Date:** 04/30/2020

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® HTP 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, MixtureThis product is a mixture.CASRN

Concentration

Solvent dewaxed heavy paraffinic distillates	64742-65-0	>= 16.0 - <= 21.0 %
Distillates, petroleum, solvent-dewaxed light paraffinic	64742-56-9	>= 16.0 - <= 21.0 %
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	>= 1.8 - <= 2.1 %
Zinc stearate	557-05-1	>= 1.8 - <= 2.0 %

# 4. FIRST AID MEASURES

#### 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. 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. Suitable emergency eye wash facility should be available in work area.

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.

# **5. FIREFIGHTING MEASURES**

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

Unsuitable extinguishing media: None known.

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

Hazardous combustion products: Metal oxides Nitrogen oxides (NOx) Sulphur oxides Carbon oxides

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

## Advice for firefighters

**Fire Fighting Procedures:** Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.

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

# 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** 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. 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.

# 7. HANDLING AND STORAGE

**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/Notation
Solvent dewaxed heavy paraffinic distillates	OSHA Z-1	TWA Mist	5 mg/m3
	ACGIH	TWA Inhalable fraction	5 mg/m3
Distillates, petroleum, solvent-dewaxed light paraffinic	OSHA Z-1	TWA Mist	5 mg/m3
	ACGIH	TWA Inhalable fraction	5 mg/m3
Distillates (petroleum), hydrotreated heavy naphthenic	OSHA Z-1	TWA Mist	5 mg/m3
	ACGIH	TWA Inhalable fraction	5 mg/m3
Zinc stearate	OSHA Z-1	TWA total dust	15 mg/m3
	OSHA Z-1	TWA respirable fraction	5 mg/m3
	ACGIH	TWA Inhalable fraction	10 mg/m3
	ACGIH	TWA Inhalable fraction	10 mg/m3
	ACGIH	TWA Respirable fraction	3 mg/m3
	ACGIH	TWA Respirable fraction	3 mg/m3

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

# 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. Local exhaust ventilation may be necessary for some operations.

#### Individual protection measures

Eye/face protection: Use chemical goggles.

#### Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). 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. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

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	Explosive properties	Not explosive
	Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight No data available	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.

# **10. STABILITY AND REACTIVITY**

**Reactivity:** Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

**Possibility of hazardous reactions:** Can react with strong oxidizing agents. When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapours. Safe handling conditions may be maintained by keeping vapour concentrations within the occupational exposure limit for formaldehyde.

Conditions to avoid: None known.

Incompatible materials: Oxidizing agents

#### Hazardous decomposition products

No hazardous decomposition products are known.

# 11. TOXICOLOGICAL INFORMATION

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

#### Acute toxicity

#### Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s): LD50, Rat, > 5,000 mg/kg Estimated.

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s): LD50, Rabbit, > 2,000 mg/kg Estimated.

#### Acute inhalation toxicity

Brief exposure (minutes) is not likely to cause adverse effects. As product: The LC50 has not been determined.

## Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

## Serious eye damage/eye irritation

May cause slight eye irritation. Corneal injury is unlikely.

## Sensitization

For skin sensitization: Contains component(s) which did not cause allergic skin sensitization 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)

Contains component(s) which have been reported to cause effects on the following organs in animals: Liver.

Lung.

## Carcinogenicity

No relevant data found.

#### Teratogenicity

No relevant data found.

#### **Reproductive toxicity**

No relevant data found.

#### Mutagenicity

Contains a component(s) which were negative in in vitro genetic toxicity studies.

#### **Aspiration Hazard**

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

# COMPONENTS INFLUENCING TOXICOLOGY:

#### Solvent dewaxed heavy paraffinic distillates

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

#### Distillates, petroleum, solvent-dewaxed light paraffinic

#### Acute inhalation toxicity

Based on data from similar materials LC50, Rat, 4 Hour, dust/mist, > 5.53 mg/l OECD Test Guideline 403

# Distillates (petroleum), hydrotreated heavy naphthenic

# Acute inhalation toxicity

LC50, Rat, 4 Hour, dust/mist, > 5.53 mg/l OECD Test Guideline 403

#### Zinc stearate

#### Acute inhalation toxicity

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

# 12. ECOLOGICAL INFORMATION

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

#### Toxicity

#### 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

#### Distillates, petroleum, solvent-dewaxed light paraffinic

#### 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 LC50, Pimephales promelas (fathead minnow), 96 Hour, > 100 mg/l, OECD Test Guideline 203

#### Acute toxicity to aquatic invertebrates

Based on data from similar materials EC50, Daphnia magna (Water flea), 48 Hour, > 10,000 mg/l, OECD Test Guideline 202

# Acute toxicity to algae/aquatic plants

Based on data from similar materials EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

#### 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

#### 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). LL50, Pimephales promelas (fathead minnow), 96 Hour, > 100 mg/l, OECD Test Guideline 203

#### Acute toxicity to aquatic invertebrates

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

#### Acute toxicity to algae/aquatic plants

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201 NOELR, Pseudokirchneriella subcapitata (green algae), 72 Hour, 100 mg/l, OECD Test Guideline 201

#### Toxicity to bacteria

NOEC, 10 min, >= 1.93 mg/l

#### Chronic toxicity to aquatic invertebrates

NOELR, 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

#### 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

#### Distillates, petroleum, solvent-dewaxed light paraffinic

Biodegradability: 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: 2 - 4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

#### 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.
10-day Window: Fail
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

#### 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**

#### 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.

## Distillates, petroleum, solvent-dewaxed light paraffinic

**Bioaccumulation:** No relevant data found.

# Distillates (petroleum), hydrotreated heavy naphthenic

Bioaccumulation: No relevant data found.

#### 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

- Solvent dewaxed heavy paraffinic distillates No relevant data found.
- Distillates, petroleum, solvent-dewaxed light paraffinic No relevant data found.
- Distillates (petroleum), hydrotreated heavy naphthenic No relevant data found.

#### Zinc stearate

Expected to be relatively immobile in soil (Koc > 5000). **Partition coefficient (Koc):** > 5000 Estimated.

# 13. DISPOSAL CONSIDERATIONS

**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 Section10 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.

# **14. TRANSPORT INFORMATION**

Transport in bulk

**IBC or IGC Code** 

according to Annex I or II of MARPOL 73/78 and the

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport Consult IMO regulations before transporting ocean bulk

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.

# **15. REGULATORY INFORMATION**

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 sulfide	1314-98-3
Zinc stearate	557-05-1
Zinc oxide	1314-13-2
Fatty Acids, C16-18, Zinc Salts	91051-01-3

# 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
Zinc sulfide	1314-98-3
Distillates, petroleum, solvent-dewaxed light paraffinic	64742-56-9
Solvent dewaxed heavy paraffinic distillates	64742-65-0
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
Zinc stearate	557-05-1
Petroleum Distillates, Hydrotreated, Heavy Paraffinic	64742-54-7

#### California Prop. 65

WARNING: This product can expose you to chemicals including Solvent dewaxed heavy paraffinic distillates, Distillates (petroleum), hydrotreated heavy naphthenic, Petroleum Distillates, Hydrotreated, Heavy Paraffinic, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

# 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
H	MIS		
	Health	Flammability	Physical Hazard
	0/	1	0

## Revision

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## Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air
	Contaminants
TWA	8-hour, time-weighted average

## Full text of other abbreviations

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 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 - Verv Persistent and Very Bioaccumulative

# Information Source and References

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