



DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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ES-5548

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixtures
Product name : DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL
Product code : ES-5548

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2	H225
Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Acute Tox. 3 (Inhalation)	H331
Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 1	H370

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11
T; R39/23/24/25
Xi; R36/37/38

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 2	H225
Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Acute Tox. 3 (Inhalation)	H331
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
STOT SE 1	H370

Full text of H statements : see section 16

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Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H370 - Causes damage to organs (central nervous system, eyes, heart, kidneys, liver) (in contact with skin, if inhaled, if swallowed)

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical equipment
P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H370 - Causes damage to organs (central nervous system, eyes, heart, kidneys, liver) (Dermal, Inhalation, oral)

Precautionary statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing.
P301+P310 - If swallowed: Immediately call a poison center or doctor
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P311 - Call a poison center or doctor
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)

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P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P361 - Take off immediately all contaminated clothing.
P362 - Take off contaminated clothing and wash before reuse.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use personal protective equipment as required. to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
100% METHANOL UNLABELED	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	99.998736	F; R11 T; R39/23/24/25 Xi; R36/38
O,O-DIMETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED	(CAS-No.) 37919-86-1	0.0013	Not classified
O,O-DIETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED	(CAS-No.) 53971-30-1	0.0013	Not classified
O,O-DIMETHYLPHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED 97%+ PURE	(CAS-No.) 28523-79-7 (EC-No.) EAR99	0.0013	R52/53
O,O-DIETHYL PHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED	(CAS-No.) 5871-17-0	0.0013	Xi; R36/37
O,O-DIMETHYLPHOSPHORODITHIOATE, POTASSIUM SALT UNLABELED	(CAS-No.) 16001-68-6	0.0013	Not classified
O,O-DIETHYLPHOSPHORODITHIOATE, POTASSIUM SALT UNLABELED	(CAS-No.) 3454-66-8	0.0013	Xn; R20/21/22

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
100% METHANOL UNLABELED	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	99.998736	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 1, H370
O,O-DIMETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED	(CAS-No.) 37919-86-1	0.0013	Not classified
O,O-DIETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED	(CAS-No.) 53971-30-1	0.0013	Not classified
O,O-DIMETHYLPHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED 97%+ PURE	(CAS-No.) 28523-79-7 (EC-No.) EAR99	0.0013	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
O,O-DIETHYL PHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED	(CAS-No.) 5871-17-0	0.0013	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
O,O-DIMETHYLPHOSPHORODITHIOATE, POTASSIUM SALT UNLABELED	(CAS-No.) 16001-68-6	0.0013	Not classified
O,O-DIETHYLPHOSPHORODITHIOATE, POTASSIUM SALT UNLABELED	(CAS-No.) 3454-66-8	0.0013	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332

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Name	Product identifier	%	GHS-US classification
100% METHANOL UNLABELED	(CAS-No.) 67-56-1	99.998736	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 1, H370

Full text of R- and H- phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
First-aid measures after inhalation	: When symptoms occur: go into open air and ventilate suspected area. If not breathing give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. and soap. Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Causes damage to organs.
Symptoms/effects after inhalation	: Toxic if inhaled.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapour.
Explosion hazard	: May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid breathing vapors, mist, gas. Avoid dust formation.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Clean up any spills as soon as possible, using an absorbent material to collect it. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.

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Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapor concentrations.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Store in a well-ventilated place. Keep container tightly closed.
Storage conditions : Store in freezer (-20°C). Protect from light.
Incompatible materials : Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

100% METHANOL UNLABELED (67-56-1)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	250 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Headache. Nausea. Dizziness. Eye damage. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Danger of cutaneous absorption.
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	260 mg/m ³ Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	325 mg/m ³ Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	250 ppm Basis: NIOSH Recommended Exposure Limits
USA NIOSH	Remark (NIOSH)	Potential for dermal absorption.
USA OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³ Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (STEL) (mg/m ³)	325 mg/m ³ Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (STEL) (ppm)	250 ppm Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (ppm)	1000 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	Remark (OSHA)	The value in mg/m ³ is approximate. Skin notation.

8.2. Exposure controls

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.
Hand protection : Wear suitable protective clothing and gloves.
Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses.
Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.
Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.
Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

Physical state : Liquid
Color : Colorless.
Odor : No data available
Odor threshold : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Highly flammable liquid and vapor
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : No data available
Solubility : No data available
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosion limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

See storage and expiration date on CoA.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Open flame. Direct sunlight.

10.5. Incompatible materials

No additional information available

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10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation: Toxic if inhaled.

DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL	
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (gases)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

O,O-DIETHYLPHOSPHORODITHIOATE, POTASSIUM SALT UNLABELED (3454-66-8)	
ATE CLP (oral)	500.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (dust, mist)	1.500 mg/l/4h

100% METHANOL UNLABELED (67-56-1)	
LD50 oral rat	1187 - 2769 mg/kg
LD50 dermal rabbit	17100 mg/kg
LC50 inhalation rat (mg/l)	128.2 mg/l/4h ; 87.6 mg/l - 6 h
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	128.200 mg/l/4h
LDLO, oral, human	143 mg/kg Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Causes damage to organs (central nervous system, eyes, heart, kidneys, liver) (in contact with skin, if inhaled, if swallowed).
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: Toxic if inhaled.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

O,O-DIMETHYLPHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED 97%+ PURE (28523-79-7)	
LC50 fish 1	100 mg/l Lepomis macrochirus - 96 h
EC50 Daphnia 1	42.5 mg/l Daphnia magna (Water flea) - 24 h

O,O-DIETHYL PHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED (5871-17-0)	
LC50 fish 1	100 mg/l - 96 h, Lepomis macrochirus -

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O,O-DIETHYL PHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED (5871-17-0)	
EC50 Daphnia 1	42.5 mg/l - 24 h, Daphnia magna (Water flea) -
100% METHANOL UNLABELED (67-56-1)	
LC50 fish 1	15400 mg/l mortality LC50 - Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	> 10000 mg/l Daphnia magna (Water flea) - 48 h
EC50 Daphnia 2	22000 mg/l Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 96 h
NOEC (acute)	7900 mg/l Oryzias latipes - 200 h

12.2. Persistence and degradability

O,O-DIMETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED (37919-86-1)	
Persistence and degradability	Not available.
O,O-DIETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED (53971-30-1)	
Persistence and degradability	Not available.
O,O-DIETHYL PHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED (5871-17-0)	
Persistence and degradability	Not available.
O,O-DIMETHYLPHOSPHORODITHIOATE, POTASSIUM SALT UNLABELED (16001-68-6)	
Persistence and degradability	Not available.
100% METHANOL UNLABELED (67-56-1)	
Biochemical oxygen demand (BOD)	600 - 1200 mg/g
Chemical oxygen demand (COD)	1420 mg/g
ThOD	1500 mg/g
Biodegradation	72 % - rapidly biodegradable aerobic - Exposure time 5 d

12.3. Bioaccumulative potential

O,O-DIMETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED (37919-86-1)	
Bioaccumulative potential	Not available.
O,O-DIETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED (53971-30-1)	
Bioaccumulative potential	Not available.
O,O-DIETHYL PHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED (5871-17-0)	
Bioaccumulative potential	Not available.
O,O-DIMETHYLPHOSPHORODITHIOATE, POTASSIUM SALT UNLABELED (16001-68-6)	
Bioaccumulative potential	Not available.
100% METHANOL UNLABELED (67-56-1)	
BCF fish 1	5 mg/l Cyprinus carpio (Carp) - 72 d at 20 °C
Bioconcentration factor (BCF REACH)	1
Log Pow	-0.77

12.4. Mobility in soil

O,O-DIMETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED (37919-86-1)	
Ecology - soil	Not available.
O,O-DIETHYLPHOSPHORIC ACID, POTASSIUM SALT UNLABELED (53971-30-1)	
Ecology - soil	Not available.
O,O-DIETHYL PHOSPHOROTHIOATE, POTASSIUM SALT UNLABELED (5871-17-0)	
Ecology - soil	Not available.
O,O-DIMETHYLPHOSPHORODITHIOATE, POTASSIUM SALT UNLABELED (16001-68-6)	
Ecology - soil	Not available.
100% METHANOL UNLABELED (67-56-1)	
Ecology - soil	Not degradable in the soil.

12.5. Results of PBT and vPvB assessment

100% METHANOL UNLABELED (67-56-1)	
PBT: not relevant – no registration required	

12.6. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
- Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

- UN-No.(DOT) : 1230
- DOT NA no. UN1230

14.2. UN proper shipping name

- Proper Shipping Name (DOT) : Methanol
- Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- Hazard labels (DOT) : 3 - Flammable liquid
6.1 - Poison



- DOT Symbols : + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group, I - Proper shipping name appropriate for international and domestic transportation
- Packing group (DOT) : II - Medium Danger
- DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 150
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
- DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

- Emergency Response Guide (ERG) Number : 131
- Other information : No supplementary information available.

Overland transport

- Packing group (ADR) : II
- Class (ADR) : 3 - Flammable liquid
- Hazard identification number (Kemler No.) : 336
- Classification code (ADR) : FT1
- Hazard labels (ADR) : 3 - Flammable liquids
6.1 - Toxic substances



DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL

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Orange plates

:

336

1230

Tunnel restriction code (ADR)

: D/E

Limited quantities (ADR)

11

Excepted quantities (ADR)

: E2

Transport by sea

DOT Vessel Stowage Location

: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other

: 40 - Stow "clear of living quarters"

MFAG-No

: 131

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)

: 1 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)

: 60 L

Civil Aeronautics Law

: Flammable liquids

14.4. Environmental hazards

Other information

: No supplementary information available.

14.5. Special precautions for user

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL

SARA Section 302 Threshold Planning Quantity (TPQ)

Not subject to reporting requirements of the United States SARA Section 302

SARA Section 311/312 Hazard Classes

Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

SARA Section 313 - Emission Reporting

Subject to reporting requirements of United States SARA Section 313

100% METHANOL UNLABELED (67-56-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

CERCLA RQ

5000 lb

SARA Section 302 Threshold Planning Quantity (TPQ)

Not subject to reporting requirements of the United States SARA Section 302.

SARA Section 311/312 Hazard Classes

Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

SARA Section 313 - Emission Reporting

Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA

DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL

Listed on the Canadian DSL (Domestic Substances List)

100% METHANOL UNLABELED (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL

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15.2.1. National regulations

No additional information available

15.3. US State regulations

DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL()				
U.S. - California - Proposition 65 - Carcinogens List		No		
U.S. - California - Proposition 65 - Developmental Toxicity		No		
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		No		
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		No		
100% METHANOL UNLABELED (67-56-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	No	
100% METHANOL UNLABELED (67-56-1)				
State or local regulations				
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities				
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations				
U.S. - Massachusetts - Right To Know List				
U.S. - Pennsylvania - RTK (Right to Know) List				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances				

SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H370	Causes damage to organs
R11	Highly flammable
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R36/37	Irritating to eyes and respiratory system
R36/37/38	Irritating to eyes, respiratory system and skin
R36/38	Irritating to eyes and skin
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

DIALKYL PHOSPHATE AND PHOSPHOROTHIOATE NATIVE UNLABELED 10 UG/ML IN METHANOL

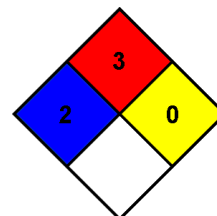
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F	Highly flammable
T	Toxic
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 0 Minimal Hazard

CIL Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product