



Vinyl chloride (D₃, 98%) 50 µg/mL in methanol-OD

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 8/5/2014 Revision date: 3/22/2024 Supersedes: 6/9/2017 Version: 4.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Vinyl chloride (D₃, 98%) 50 µg/mL in methanol-OD
Product code : DLM-167-S-A

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Cambridge Isotope Laboratories, Inc.
50 Frontage Rd
01810
ANDOVER, MA, 01810
USA
T 1-800-322-1174
cilsales@isotope.com - www.isotope.com

1.4. Emergency telephone number

Emergency number : 1-703-741-5970
Chemtrec 1-800-424-9300 24 hours

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapor
Acute toxicity (oral) Category 3	H301	Toxic if swallowed
Acute toxicity (dermal) Category 3	H311	Toxic in contact with skin
Acute toxicity (inhalation) Category 3	H331	Toxic if inhaled
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Specific target organ toxicity (single exposure) Category 1	H370	Causes damage to organs (central nervous system, eyes, heart, kidneys, liver) (Dermal, Inhalation, oral)

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

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)

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Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, open flames, sparks
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical, lighting, ventilating equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe fume, mist, spray, vapors.
P261 - Avoid breathing fume, 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 eye protection, face protection, protective clothing, protective gloves.
P301+P310 - If swallowed: Immediately call a 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.
P307+P311 - If exposed: Call a poison center/doctor.
P311 - Call a doctor.
P312 - Call a doctor if you feel unwell.
P321 - Specific treatment (see Hazard pictograms (CLP) on this label).
P322 - Specific treatment (see Hazard pictograms (CLP) on this label)
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water spray 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 which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	GHS US classification
METHANOL-OD (D, 99%)	CAS-No.: 67-56-1	99.9938	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
VINYL CHLORIDE (D ₃ , 98%) + HYDROQUINONE	CAS-No.: 6745-35-3	0.0062	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Acute Tox. 3 (Oral), H301 Carc. 1B, H350

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

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
First-aid measures after eye contact	: Flush eye with water for 15 minutes. Get medical attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: Effects due to Ingestion may include: Headache. Dizziness. Drowsiness. metabolic acidosis. Coma. Seizures. Methyl alcohol may be fatal or cause blindness if swallowed. Stomach - Irregularities - Based on Human Evidence. 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	: Causes damage to organs (Eyes, heart, liver, kidneys, central nervous system) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: Toxic if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Dry powder. Dry sand.
Unsuitable extinguishing media	: Do not use water jet as an extinguisher, as this will spread the fire.

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5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor.
Hazardous decomposition products in case of fire : Carbon oxides (CO, CO₂).

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
Other information : Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For containment : Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations.
Methods for cleaning up : For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
Hygiene measures : Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage conditions : Store refrigerated (-5 °C to 5 °C). Protect from light.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	200 ppm Remarks: Headache. Nausea. Dizziness. Eye damage. Substances for which there is a Biological Exposure Index or Indices (see BEI section) Danger of cutaneous absorption. Basis: USA. ACGIH Threshold Limit Values (TLV)
ACGIH OEL STEL [ppm]	250 ppm Remarks: Headache. Nausea. Dizziness. Eye damage. Substances for which there is a Biological Exposure Index or Indices (see BEI section) Danger of cutaneous absorption. Basis: USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Biological occupational exposure limits Component: Methanol CAS-No.: 67-56-1 Parameters: Methanol Value: 15 mg/l Biological specimen: Urine Remarks: End of shift (As soon as possible after exposure ceases) Basis: ACGIH - Biological Exposure Indices (BEI)
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA [1]	260 mg/m ³ Remarks: The value in mg/m ³ is approximate. Skin notation. Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL TWA [2]	200 ppm Remarks: Skin notation. Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL STEL [1]	325 mg/m ³ Remarks: Skin notation. Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000; Skin. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
OSHA PEL STEL [2]	250 ppm Remarks: Skin notation. Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000; Skin. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
OSHA PEL C	260 mg/m ³ Remarks: Skin. Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
OSHA PEL C [ppm]	200 ppm Remarks: Skin. Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Remark (OSHA)	Component: Methanol CAS-No.: 67-56-1 Value: C Control parameters: 1,000 ppm Remarks: Skin. Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	260 mg/m ³ Remarks: Potential for dermal absorption. Basis: USA. NIOSH Recommended Exposure Limits.
NIOSH REL TWA [ppm]	200 ppm Remarks: Potential for dermal absorption. Basis: USA. NIOSH Recommended Exposure Limits.
NIOSH REL STEL	325 mg/m ³ Remarks: Potential for dermal absorption. Basis: USA. NIOSH Recommended Exposure Limits.
NIOSH REL STEL [ppm]	250 ppm Remarks: Potential for dermal absorption. Basis: USA. NIOSH Recommended Exposure Limits.
VINYL CHLORIDE (D₃, 98%) + HYDROQUINONE (6745-35-3)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	1 ppm USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Liver damage, Lung cancer, Confirmed human carcinogen. Potential Occupational Carcinogen See Appendix A. Substance listed; for more information see OSHA document 1910.1017

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VINYL CHLORIDE (D3, 98%) + HYDROQUINONE (6745-35-3)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA [2]	1 ppm OSHA Specifically Regulated Chemicals/Carcinogens
OSHA PEL STEL [2]	5 ppm OSHA Specifically Regulated Chemicals/Carcinogens
Remark (OSHA)	1910.1017 This section applies to the manufacture, reaction, packaging, repackaging, storage, handling or use of vinyl chloride or polyvinyl chloride, but does not apply to the handling or use of fabricated products made of polyvinyl chloride. This section applies to the transportation of vinyl chloride or polyvinyl chloride except to the extent that the Department of Transportation may regulate the hazards covered by this section Polyvinyl chloride means polyvinyl chloride homopolymer or copolymer before such is converted to a fabricated product. Vinyl chloride means vinyl chloride monomer. OSHA specifically regulated carcinogen.
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	1 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Remark (IDLH)	Skin see Section 5210
METHANOL-OD (D, 99%) (67-56-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Methanol
ACGIH OEL TWA [ppm]	200 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
ACGIH OEL STEL [ppm]	250 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
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.
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
Regulatory reference	ACGIH 2022
USA - ACGIH - Biological Exposure Indices	
Local name	METHANOL
BEI	15 mg/l Urine Basis: ACGIH - Biological Exposure Indices (BEI)
Remark	End of shift (As soon as possible after exposure ceases)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Methyl alcohol
OSHA PEL TWA [1]	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)
OSHA PEL TWA [2]	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)
OSHA PEL STEL [1]	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)
OSHA PEL STEL [2]	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)
OSHA PEL C [ppm]	1000 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Remark (OSHA)	The value in mg/m ³ is approximate. Skin notation.

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METHANOL-OD (D, 99%) (67-56-1)	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	260 mg/m ³ Basis: NIOSH Recommended Exposure Limits
NIOSH REL TWA [ppm]	200 ppm Basis: NIOSH Recommended Exposure Limits
NIOSH REL STEL	325 mg/m ³ Basis: NIOSH Recommended Exposure Limits
NIOSH REL STEL [ppm]	250 ppm Basis: NIOSH Recommended Exposure Limits
Remark (NIOSH)	Potential for dermal absorption.

8.2. Appropriate engineering controls

- Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
- Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

8.3. Individual protection measures/Personal protective equipment

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 safety glasses. Safety glasses with side-shields conforming to EN166. Face shield

Skin and body protection:

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection:

When appropriate, use NIOSH/CEN approved respirator.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Liquid.
- Color : Colorless
- Odor : Pungent
- Odor threshold : No data available
- pH : No data available
- Melting point : -98 °C (-144 °F)

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Freezing point	: No data available
Boiling point	: 64.7 °C (148.5 °F)
Flash point	: 9.7 °C (49.5 °F) - closed cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 130.3 hPa (97.7 mmHg) at 20 °C (68 °F); 169.27 hPa (126.96 mmHg) at 25 °C (77 °F)
Vapor pressure at 50°C	: 546.6 hPa (410.0 mmHg) at 50 °C (122 °F)
Relative vapor density at 20°C	: 1.11
Relative density	: No data available
Density	: 0.791 g/ml at 25 °C (77 °F)
Molecular mass	: 33.05 g/mol (Labeled)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: -0.77
Auto-ignition temperature	: 455 °C (851 °F) at 1,013 hPa (760 mmHg)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: 6 – 36 % (V)
Explosive properties	: Not explosive.
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

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

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Avoid Heat, Flames and Sparks.

10.5. Incompatible materials

Acid chlorides. Acid anhydrides. Oxidizing agents. Alkali metals. Reducing agents. Acids.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Toxic if swallowed.
Acute toxicity (dermal)	: Toxic in contact with skin.
Acute toxicity (inhalation)	: Toxic if inhaled.

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Vinyl chloride (D ₃ , 98%) 50 µg/mL in methanol-OD	
LD50 oral rat	1187 – 2769 mg/kg
LD50 dermal rabbit	17100 mg/kg
LC50 Inhalation - Rat	87.6 mg/l - 6 h
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h
Additional data	LDLO Oral - Human - 143 mg/kg Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

VINYL CHLORIDE (D3, 98%) + HYDROQUINONE (6745-35-3)	
LD50 oral rat	500 mg/kg
ATE US (oral)	100 mg/kg body weight

METHANOL-OD (D, 99%) (67-56-1)	
LD50 oral rat	100 mg/kg Source: National Institute of Environmental Research NCIS
LD50 oral	1400 mg/kg
LD50 dermal rabbit	300 mg/kg Source: ECHA
LC50 Inhalation - Rat	128.2 mg/l/4h ; 87.6 mg/l - 6 h
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	128.2 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.

METHANOL-OD (D, 99%) (67-56-1)	
pH	12.1 Source: Gestis

Serious eye damage/irritation : Causes serious eye irritation.

METHANOL-OD (D, 99%) (67-56-1)	
pH	12.1 Source: Gestis

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Vinyl chloride (D ₃ , 98%) 50 µg/mL in methanol-OD	
National Toxicology Program (NTP) Status	No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible, or confirmed human carcinogen by IARC.

VINYL CHLORIDE (D3, 98%) + HYDROQUINONE (6745-35-3)	
IARC group	1 - Carcinogenic to humans

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VINYL CHLORIDE (D ₃ , 98%) + HYDROQUINONE (6745-35-3)	
National Toxicology Program (NTP) Status	Known Human Carcinogens
METHANOL-OD (D, 99%) (67-56-1)	
National Toxicology Program (NTP) Status	No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible, or confirmed human carcinogen by IARC.

Reproductive toxicity : Not classified
STOT-single exposure : Causes damage to organs (central nervous system, eyes, heart, kidneys, liver) (Dermal, Inhalation, oral).

METHANOL-OD (D, 99%) (67-56-1)	
STOT-single exposure	Causes damage to organs (eyes, kidneys, liver, heart, central nervous system) (Dermal, Inhalation, oral).

STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available

METHANOL-OD (D, 99%) (67-56-1)	
Viscosity, kinematic	0.688 mm ² /s

Potential Adverse human health effects and symptoms : Effects due to Ingestion may include: Headache. Dizziness. Drowsiness. metabolic acidosis. Coma. Seizures. Methyl alcohol may be fatal or cause blindness if swallowed. Stomach - Irregularities - Based on Human Evidence. 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 : Causes damage to organs (Eyes, heart, liver, kidneys, central nervous system) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).

Symptoms/effects after inhalation : Toxic if inhaled. May cause respiratory tract irritation.

Symptoms/effects after skin contact : Toxic in contact with skin. Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : Toxic if swallowed.

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.

Vinyl chloride (D ₃ , 98%) 50 µg/mL in methanol-OD	
LC50 - Fish [1]	15400 mg/l mortality LC50 - Lepomis macrochirus (Bluegill) - 96 h
EC50 - Crustacea [1]	> 10000 mg/l Daphnia magna (Water flea) - 48 h
ErC50 algae	22000 mg/l Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 96 h
NOEC (chronic)	7900 mg/l Oryzias latipes - 200 h

METHANOL-OD (D, 99%) (67-56-1)	
LC50 - Fish [1]	15400 mg/l Source: ECHA
EC50 - Crustacea [1]	1340 mg/l
EC50 - Crustacea [2]	22000 mg/l Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 96 h
EC50 96h - Algae [1]	22000 mg/l Source: ECHA
NOEC (acute)	7900 mg/l Oryzias latipes - 200 h

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12.2. Persistence and degradability

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Persistence and degradability	aerobic - Exposure time - 5 d.
Biochemical oxygen demand (BOD)	600 - 1,120 mg/g
Chemical oxygen demand (COD)	1,420 mg/g
ThOD	1,500 mg/g
Biodegradation	72 % - rapidly biodegradable

METHANOL-OD (D, 99%) (67-56-1)

Not rapidly degradable	
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

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BCF - Fish [1]	Cyprinus carpio (Carp) - 72 d at 20 °C - 5 mg/l
Bioconcentration factor (BCF REACH)	1
Partition coefficient n-octanol/water (Log Pow)	-0.77

METHANOL-OD (D, 99%) (67-56-1)

BCF - Fish [1]	5 mg/l Cyprinus carpio (Carp) - 72 d at 20 °C
Bioconcentration factor (BCF REACH)	1
Partition coefficient n-octanol/water (Log Pow)	-0.77 Source: HSDB, ChemIDplus

12.4. Mobility in soil

Vinyl chloride (D₃, 98%) 50 µg/mL in methanol-OD

Ecology - soil	Will not absorb on soil.
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METHANOL-OD (D, 99%) (67-56-1)

Mobility in soil	2.75 Source: HSDB
Ecology - soil	Not degradable in the soil.

12.5. Other adverse effects

Other adverse effects : Avoid release to the environment. Disposal must be done according to official regulations.
Other information : Stability in water: at 19 °C - (83 - 91%) - 72 h. Remarks: Hydrolyses on contact with water. Hydrolyses readily.

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SECTION 13: Disposal considerations

13.1. Disposal 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 DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No	: UN1230
UN-No. (TDG)	: UN1230
UN-No. (IMDG)	: 1230
UN-No. (IATA)	: 1230

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Methanol
Proper Shipping Name (TDG)	: METHANOL
Proper Shipping Name (IMDG)	: METHANOL
Proper Shipping Name (IATA)	: Methanol

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT)	: 3 (6.1)
Hazard labels (DOT)	: 3, 6.1



TDG

Transport hazard class(es) (TDG)	: 3 (6.1)
Hazard labels (TDG)	: 3, 6.1



IMDG

Transport hazard class(es) (IMDG)	: 3 (6.1)
Hazard labels (IMDG)	: 3, 6.1



IATA

Transport hazard class(es) (IATA)	: 3 (6.1)
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Hazard labels (IATA) : 3, 6.1



14.4. Packing group

Packing group (DOT) : II
Packing group (TDG) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1230
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
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
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"

TDG

UN-No. (TDG) : UN1230
TDG Special Provisions : 43 - Despite section 2.1 of Part 2 (Classification), these dangerous goods are assigned to this classification based on human experience.
Explosive Limit and Limited Quantity Index : 1 L
Excepted quantities (TDG) : E2
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 1 L
Emergency Response Guide (ERG) Number : 131

IMDG

Special provision (IMDG) : 279
Limited quantities (IMDG) : 1 L

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Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	: S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW2
Flash point (IMDG)	: 12°C c.c.
Properties and observations (IMDG)	: Colourless, volatile liquid. Flashpoint: 12°C c.c. Explosive limits: 6% to 36.5% Miscible with water.Toxic if swallowed; may cause blindness. Avoid skin contact.
MFAG-No	: 131

IATA

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 352
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
Special provision (IATA)	: A113
ERG code (IATA)	: 3L

14.7. 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

Vinyl chloride (D₃, 98%) 50 µg/mL in methanol-OD

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

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
VINYL CHLORIDE (D3, 98%) + HYDROQUINONE	6745-35-3	Not present	-	
METHANOL-OD (D, 99%)	67-56-1	Present	Active	

VINYL CHLORIDE (D3, 98%) + HYDROQUINONE (6745-35-3)

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 Sudden release of pressure hazard Delayed (chronic) health hazard

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METHANOL-OD (D, 99%) (67-56-1)	
CERCLA RQ	5000 lb
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

15.2. International regulations

CANADA

VINYL CHLORIDE (D3, 98%) + HYDROQUINONE (6745-35-3)
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

METHANOL-OD (D, 99%) (67-56-1)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

Vinyl chloride (D ₃ , 98%) 50 µg/mL in methanol-OD	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Yes

VINYL CHLORIDE (D3, 98%) + HYDROQUINONE (6745-35-3)					
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)	Maximum allowable dose level (MADL)
Yes	No	No	No		

METHANOL-OD (D, 99%) (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)	Maximum allowable dose level (MADL)
No	Yes	No	No		47000 µg/day (inhalation); 23,000 µg/day (oral)

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Component	State or local regulations
METHANOL-OD (D, 99%) (67-56-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date

: 03/22/2024

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of H-phrases	
H220	Extremely flammable gas
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H301	Toxic if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H350	May cause cancer
H370	Causes damage to organs

Safety Data Sheet (SDS), USA

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.