



# ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 1/12/2022 Revision date: 6/15/2023 Supersedes: 1/12/2022 Version: 2.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE  
Product code : DLM-271-S

#### 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](mailto:cilsales@isotope.com) - [www.isotope.com](http://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

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Acute toxicity (dermal) Category 4	H312	Harmful in contact with skin
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation
Carcinogenicity Category 2	H351	Suspected of causing cancer (Dermal, Inhalation, oral)
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs (liver, pancreas, blood, central nervous system, heart, kidneys) through prolonged or repeated exposure (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) :



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Signal word (GHS US)	: Warning
Hazard statements (GHS US)	: H302+H312 - Harmful if swallowed or in contact with skin H315 - Causes skin irritation H319 - Causes serious eye irritation H335 - May cause respiratory irritation H336 - May cause drowsiness or dizziness H351 - Suspected of causing cancer (Dermal, Inhalation, oral) H373 - May cause damage to organs (liver, pancreas, blood, central nervous system, heart, kidneys) through prolonged or repeated exposure (Dermal, Inhalation, oral)
Precautionary statements (GHS US)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. 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+P312 - If swallowed: Call a poison center or doctor if you feel unwell. P302+P352 - If on skin: Wash with plenty of water. 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. P308+P313 - If exposed or concerned: Get medical advice/attention. P312 - Call a poison center or doctor if you feel unwell. P314 - Get medical advice/attention if you feel unwell. P321 - 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. P362 - Take off contaminated clothing and wash before reuse. P362+P364 - Take off contaminated clothing and wash it before reuse. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. 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
METHYLENE CHLORIDE UNLABELED	CAS-No.: 75-09-2	99.924869	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 STOT SE 3, H336 STOT SE 3, H335 STOT RE 2, H373
ETHYLENE OXIDE (D4, 98%)	CAS-No.: 6552-57-4	0.075131	Flam. Gas 1, H220 Press. Gas (Comp.), H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 1A, H340 Carc. 1A, H350 STOT SE 3, H335 Aquatic Chronic 3, H412
HYDROQUINONE UNLABELED	CAS-No.: 123-31-9	0.000075	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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	: IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

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

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. Harmful if swallowed. Harmful in contact with skin.
Symptoms/effects	: May cause drowsiness or dizziness. Suspected of causing cancer (in contact with skin, if inhaled, if swallowed). May cause damage to organs (central nervous system, kidneys, liver) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.

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Symptoms/effects after skin contact	: Harmful in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. 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 : Use personal protective equipment as required. Ventilate spillage area. Do not breathe dust, fume, gas, mist, spray, vapors. Avoid contact with skin, eyes and clothing.

#### 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

Avoid release to the environment. 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	: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
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. Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.
Other information	: Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store refrigerated (-5 °C to 5 °C). Protect from light.
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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA [ppm]	50 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Central Nervous system impairment. Carboxyhemoglobinemia. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Confirmed animal carcinogen with unknown relevance to humans. Potential Occupational Carcinogen See Appendix A.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL STEL [1]	435 mg/m <sup>3</sup> Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
OSHA PEL STEL [2]	125 ppm Basis: OSHA Specially Regulated Chemicals/Carcinogens California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
OSHA PEL C	87 mg/m <sup>3</sup> Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
OSHA PEL C [ppm]	25 ppm Basis: OSHA Specially Regulated Chemicals/Carcinogens California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
Remark (OSHA)	Substance listed; for mor information see OSHA document 1910.1052. See Table Z-2. This section applies to all occupational exposures to methylene chloride (MC). Chemical Abstracts Service Registry Number 75-09-2, in general industry, construction and shipyard employment. Methylene chloride (MC) means an organic compound with chemical formula CH <sub>2</sub> Cl <sub>2</sub> . Its Chemical Abstracts Service Registry Number is 75-09-2. Its molecular weight is 8.9 g/mole. OSHA Specially regulated carcinogen.
<b>METHYLENE CHLORIDE UNLABELED (75-09-2)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA [ppm]	50 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Central Nervous system impairment. Carboxyhemoglobinemia. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Confirmed animal carcinogen with unknown relevance to humans. Potential Occupational Carcinogen See Appendix A.
<b>USA - ACGIH - Biological Exposure Indices</b>	
BEI	Component: Methylene chloride CAS-No.: 75-09-2 Parameters: Dichloromethane Value: 0.3000 mg/l Biological specimen: Urine Basis: ACGIH - Biological Exposure Indices (BEI) Remarks: End of shift (As soon as possible after exposure ceases)

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<b>METHYLENE CHLORIDE UNLABELED (75-09-2)</b>	
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL STEL [1]	435 mg/m <sup>3</sup> Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
OSHA PEL STEL [2]	125 ppm Basis: OSHA Specifically Regulated Chemicals/Carcinogens California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
OSHA PEL C	87 mg/m <sup>3</sup> Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
OSHA PEL C [ppm]	25 ppm Basis: OSHA Specifically Regulated Chemicals/Carcinogens California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
Remark (OSHA)	Substance listed; for mor information see OSHA document 1910.1052. See Table Z-2. This section applies to all occupational exposures to methylene chloride (MC). Chemical Abstracts Service Registry Number 75-09-2, in general industry, construction and shipyard employment. Methylene chloride (MC) means an organic compound with chemical formula CH <sub>2</sub> Cl <sub>2</sub> . Its Chemical Abstracts Service Registry Number is 75-09-2. Its molecular weight is 8.9 g/mole. OSHA Specifically regulated carcinogen.

<b>HYDROQUINONE UNLABELED (123-31-9)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	1 mg/m <sup>3</sup> Eye irritation. Eye damage 2008 Adoption . Sensitizer.

<b>ETHYLENE OXIDE (D4, 98%) (6552-57-4)</b>	
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [2]	1 ppm Central Nervous System impairment. Cancer. Suspected human carcinogen.
OSHA PEL STEL [2]	5 ppm Central Nervous System impairment. Cancer. Suspected human carcinogen.
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL C	9 mg/m <sup>3</sup> Potential Occupational Carcinogen. 10 minute per day ceiling value.
NIOSH REL C [ppm]	5 ppm Potential Occupational Carcinogen. 10 minute per day ceiling value.

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

<b>Materials for protective clothing:</b>
Wear suitable protective clothing and gloves
<b>Hand protection:</b>
Wear suitable protective clothing and gloves
<b>Eye protection:</b>
Wear eye protection. Chemical goggles or face shield with safety glasses. Safety glasses

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### 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

### 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	: Sweet, penetrating, ether-like odor
Odor threshold	: No data available
pH	: No data available
Melting point	: -97 °C (-143 °F)
Freezing point	: No data available
Boiling point	: 39.8 – 40 °C (103.6 - 104 °F)
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: 0.71
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: 470.9 hPa (353.2 mmHg) at 20 °C (68 °F)
Relative vapor density at 20°C	: 2.93 - (Air = 1.0)
Relative density	: No data available
Density	: 1.325 g/ml at 25 °C (77 °F)
Molecular mass	: 84.93 g/mol
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: 1.25
Auto-ignition temperature	: 556.1 °C (1,033.0 °F); 622.0 °C (1,223.6 °F)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: 12 – 19 % (V)
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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### 10.2. Chemical stability

See storage and expiration date on CoA.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Heat. Sparks. Open flame. Direct sunlight. Protect from sunlight.

### 10.5. Incompatible materials

Alkali metals. Aluminum. Strong oxidizing agents. Bases. Magnesium. Strong acids. Strong bases. Vinyl.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>). Hydrogen chloride.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.  
Acute toxicity (dermal) : Harmful in contact with skin.  
Acute toxicity (inhalation) : Not classified

ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg (OECD Test Guideline 402)
LC50 Inhalation - Rat	52000 mg/m <sup>3</sup>
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (vapors)	52 mg/l/4h
ATE US (dust, mist)	52 mg/l/4h
METHYLENE CHLORIDE UNLABELED (75-09-2)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg (OECD Test Guideline 402)
LC50 Inhalation - Rat	52000 mg/m <sup>3</sup>
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (vapors)	52 mg/l/4h
ATE US (dust, mist)	52 mg/l/4h
HYDROQUINONE UNLABELED (123-31-9)	
LD50 oral rat	367.3 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
ATE US (oral)	367.3 mg/kg body weight



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ETHYLENE OXIDE (D4, 98%) (6552-57-4)	
LC50 Inhalation - Rat [ppm]	800 ppm/4h Remarks: Lungs, Thorax, or Respiration: Other changes. Liver: Other changes. Kidney, Ureter, Bladder: Other changes.
ATE US (gases)	800 ppmV/4h
Skin corrosion/irritation	: Causes skin irritation.
HYDROQUINONE UNLABELED (123-31-9)	
pH	3.7 at 70 g/l
ETHYLENE OXIDE (D4, 98%) (6552-57-4)	
pH	7 at 20 °C (68 °F)
Serious eye damage/irritation	: Causes serious eye irritation.
HYDROQUINONE UNLABELED (123-31-9)	
pH	3.7 at 70 g/l
ETHYLENE OXIDE (D4, 98%) (6552-57-4)	
pH	7 at 20 °C (68 °F)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer (Dermal, Inhalation, oral).
METHYLENE CHLORIDE UNLABELED (75-09-2)	
IARC group	2A - Probably carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
In OSHA Hazard Communication Carcinogen list	Yes
HYDROQUINONE UNLABELED (123-31-9)	
IARC group	3 - Not classifiable
ETHYLENE OXIDE (D4, 98%) (6552-57-4)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	Known Human Carcinogens
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation. May cause drowsiness or dizziness.
METHYLENE CHLORIDE UNLABELED (75-09-2)	
STOT-single exposure	May cause drowsiness or dizziness. May cause respiratory irritation.
ETHYLENE OXIDE (D4, 98%) (6552-57-4)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs (liver, pancreas, blood, central nervous system, heart, kidneys) through prolonged or repeated exposure (Dermal, Inhalation, oral).
METHYLENE CHLORIDE UNLABELED (75-09-2)	
STOT-repeated exposure	May cause damage to organs (blood, central nervous system, liver, respiratory system) through prolonged or repeated exposure (Dermal, Inhalation, oral).
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

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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. Harmful if swallowed. Harmful in contact with skin.
Symptoms/effects	: May cause drowsiness or dizziness. Suspected of causing cancer (in contact with skin, if inhaled, if swallowed). May cause damage to organs (central nervous system, kidneys, liver) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Harmful in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Harmful 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.

ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE	
LC50 - Fish [1]	193 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 - Crustacea [1]	1682 mg/l Daphnia magna (Water flea) - 48 h
NOEC (chronic)	130 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h
METHYLENE CHLORIDE UNLABELED (75-09-2)	
LC50 - Fish [1]	193 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 - Crustacea [1]	1682 mg/l Daphnia magna (Water flea) - 48 h
NOEC (chronic)	130 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h
HYDROQUINONE UNLABELED (123-31-9)	
LC50 - Fish [1]	0.04 – 0.1 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 - Crustacea [1]	0.13 mg/l Daphnia magna (Water flea) - 48 h
ErC50 algae	0.335 mg/l Pseudokirchneriella subcapitata (green algae) - 72 h
ETHYLENE OXIDE (D4, 98%) (6552-57-4)	
LC50 - Fish [1]	84 mg/l Pimephales promelas (fathead minnow) - 96 h

### 12.2. Persistence and degradability

ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE	
Biodegradation	< 26 % - Not readily biodegradable. (OECD Test Guideline 301C)
METHYLENE CHLORIDE UNLABELED (75-09-2)	
Biodegradation	< 26 % - Not readily biodegradable. (OECD Test Guideline 301C)
HYDROQUINONE UNLABELED (123-31-9)	
Persistence and degradability	Biotic/Aerobic. Biodegradability: Result - Readily biodegradable.

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### 12.3. Bioaccumulative potential

#### ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

Partition coefficient n-octanol/water (Log Pow)	1.25
Bioaccumulative potential	Does not accumulate in organisms.

#### METHYLENE CHLORIDE UNLABELED (75-09-2)

Partition coefficient n-octanol/water (Log Pow)	1.25
Bioaccumulative potential	Does not accumulate in organisms.

#### HYDROQUINONE UNLABELED (123-31-9)

BCF - Fish [1]	0.05 mg/l <i>Leuciscus idus</i> (Golden orfe) - 3d
Bioconcentration factor (BCF REACH)	40
Partition coefficient n-octanol/water (Log Pow)	0.59

#### ETHYLENE OXIDE (D4, 98%) (6552-57-4)

Partition coefficient n-octanol/water (Log Pow)	0.3
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### 12.4. Mobility in soil

#### HYDROQUINONE UNLABELED (123-31-9)

Ecology - soil	Not available.
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### 12.5. Other adverse effects

No additional information available

## 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	: UN1593
UN-No. (TDG)	: UN1593
UN-No. (IMDG)	: 1593
UN-No. (IATA)	: 1593

### 14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Dichloromethane
Proper Shipping Name (TDG)	: DICHLOROMETHANE

# ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

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Proper Shipping Name (IMDG) : DICHLOROMETHANE  
Proper Shipping Name (IATA) : Dichloromethane

### 14.3. Transport hazard class(es)

#### DOT

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



#### TDG

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



#### IMDG

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



#### IATA

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



### 14.4. Packing group

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

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### DOT

UN-No.(DOT) : UN1593

# ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

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DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). 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, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).  
IP8 - Ammonia solutions may be transported in rigid or composite plastic IBCs (31H1, 31H2 and 31HZ1) that have successfully passed, without leakage or permanent deformation, the hydrostatic test specified in 178.814 of this subchapter at a test pressure that is not less than 1.5 times the vapor pressure of the contents at 55 C (131 F).  
N36 - Aluminum or aluminum alloy construction materials are permitted only for halogenated hydrocarbons that will not react with aluminum.  
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) : 153  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203  
DOT Packaging Bulk (49 CFR 173.xxx) : 241  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L  
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

### TDG

UN-No. (TDG) : UN1593  
Explosive Limit and Limited Quantity Index : 5 L  
Excepted quantities (TDG) : E1  
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 60 L  
Emergency Response Guide (ERG) Number : 160

### IMDG

Limited quantities (IMDG) : 5 L  
Excepted quantities (IMDG) : E1  
Packing instructions (IMDG) : P001, LP01  
IBC packing instructions (IMDG) : IBC03  
IBC special provisions (IMDG) : B8  
Tank instructions (IMDG) : T7  
Tank special provisions (IMDG) : TP2  
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE  
EmS-No. (Spillage) : S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES  
Stowage category (IMDG) : A  
Segregation (IMDG) : SGG10  
Flash point (IMDG) : '  
Properties and observations (IMDG) : Colourless, volatile liquid with heavy vapours. Boiling point: 40°C. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.  
MFAG-No : 160

### IATA

PCA Excepted quantities (IATA) : E1

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PCA Limited quantities (IATA)	: Y642
PCA limited quantity max net quantity (IATA)	: 2L
PCA packing instructions (IATA)	: 655
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 663
CAO max net quantity (IATA)	: 220L
ERG code (IATA)	: 6L

### 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

ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE	
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	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
METHYLENE CHLORIDE UNLABELED	75-09-2	Present	Active	R
HYDROQUINONE UNLABELED	123-31-9	Present	Active	
ETHYLENE OXIDE (D4, 98%)	6552-57-4	Not present	-	

METHYLENE CHLORIDE UNLABELED (75-09-2)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

HYDROQUINONE UNLABELED (123-31-9)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	100 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb 500lb if the substance is solid in powder form with particle size less than 100 microns, or is in solution or molten form
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

# ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

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### ETHYLENE OXIDE (D4, 98%) (6552-57-4)

Subject to reporting requirements of United States SARA Section 313

SARA Section 311/312 Hazard Classes

Fire hazard  
Sudden release of pressure hazard  
Immediate (acute) health hazard  
Delayed (chronic) health hazard

## 15.2. International regulations

### CANADA

#### ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

Listed on the Canadian DSL (Domestic Substances List)

#### METHYLENE CHLORIDE UNLABELED (75-09-2)

Listed on the Canadian DSL (Domestic Substances List)

#### HYDROQUINONE UNLABELED (123-31-9)

Listed on the Canadian DSL (Domestic Substances List)

#### ETHYLENE OXIDE (D4, 98%) (6552-57-4)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

No additional information available

### National regulations

#### ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

#### METHYLENE CHLORIDE UNLABELED (75-09-2)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### HYDROQUINONE UNLABELED (123-31-9)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

## 15.3. US State regulations

#### ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No

# ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

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U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	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

METHYLENE CHLORIDE UNLABELED (75-09-2)					
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	50 µg/day ; 200 µg/day (inhalation)	

Component	State or local regulations
METHYLENE CHLORIDE UNLABELED(75-09-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
HYDROQUINONE UNLABELED(123-31-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
ETHYLENE OXIDE (D4, 98%)(6552-57-4)	U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Massachusetts - Right To Know List

## SECTION 16: Other information

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

Revision date : 06/15/2023

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
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation



# ETHYLENE OXIDE (STABILIZED W/ 0.1% HYDROQUINONE) (D4, 98%) 1000 UG/ML IN METHYLENE CHLORIDE

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Full text of H-phrases	
H331	Toxic if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H341	Suspected of causing genetic defects
H350	May cause cancer
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

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.