



# 0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 8/1/2014 Revision date: 8/21/2023 Supersedes: 4/13/2017 Version: 3.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : 0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)  
Product code : DLM-5008

#### 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 (inhalation) Category 3	H331	Toxic if inhaled
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)
Reproductive toxicity Category 2	H361	Suspected of damaging fertility, Suspected of damaging the unborn child. (Dermal, Inhalation, oral)
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs 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) :



Signal word (GHS US) : Danger  
Hazard statements (GHS US) : H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation

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Precautionary statements (GHS US)	<p>H331 - Toxic if inhaled H351 - Suspected of causing cancer (Dermal, Inhalation, oral) H361 - Suspected of damaging fertility, Suspected of damaging the unborn child. (Dermal, Inhalation, oral) H372 - Causes damage to organs through prolonged or repeated exposure (Dermal, Inhalation, oral)</p> <p>: 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, gas, dust. P261 - Avoid breathing dust, fume, gas, mist, spray, vapors. P264 - Wash hands, forearms and face 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 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. P311 - Call a doctor. 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+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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.</p>
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### 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

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
CHLOROFORM-D (D, 99.8%)	CAS-No.: 67-66-3	99.94218	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 Repr. 2, H361 STOT SE 3, H336 STOT RE 1, H372

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Name	Product identifier	%	GHS US classification
ETHYLBENZENE UNLABELED	CAS-No.: 100-41-4	0.05782	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

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	: Evacuate danger area. If medical advice is needed, have product container or label at hand. 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. Move the affected person away from the contaminated area and into the fresh air. If not breathing, give artificial respiration. Get immediate medical advice/attention. Call a doctor.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get medical advice/attention. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Get medical advice/attention. 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	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention. 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. Vomiting. Gastrointestinal complaints. Alcohol ingestion increases toxic product effects. stomach.
Symptoms/effects	: Causes damage to organs (Eyes, Skin) through prolonged or repeated exposure (if inhaled, if swallowed, in contact with skin). Suspected of causing cancer (in contact with skin, if inhaled, if swallowed). Suspected of damaging fertility. Suspected of damaging the unborn child. (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: Toxic if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: 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. 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.

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### 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	: Wear self-contained breathing apparatus, rubber boots and thick rubber gloves. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Use personal protective equipment as required. Ensure adequate air ventilation. Evacuate unnecessary personnel. Do not breathe dust, fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.
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#### 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".
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### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

For containment	: Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel). Keep in suitable, closed containers for disposal.
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. 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.
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.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed	: Avoid all eye and skin contact and do not breathe vapor and mist. Keep away from sources of ignition - No smoking.
Precautions for safe handling	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust, fume, gas, spray, vapors, mist. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. 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

Technical measures	: Store tightly closed in a dry and cool place. Containers which are opened should be properly resealed and kept upright to prevent leakage.
Storage conditions	: Store at room temperature away from light and moisture.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA [ppm]	10 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Central Nervous system impairment. Liver damage. Embryo/fetal damage. Confirmed animal carcinogen with unknown relevance to humans.
<b>ETHYLBENZENE UNLABELED (100-41-4)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA [ppm]	20 ppm Remarks: Cochlear impair. Kidney damage (nephropathy). Upper Respiratory Tract irritation. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Confirmed animal carcinogen with unknown relevance to humans. Basis: USA. ACGIH Threshold Limit Values (TLV)
ACGIH OEL STEL [ppm]	125 ppm Remarks: Central Nervous System impairment. Upper Respiratory Tract irritation. Eye irritation. Adopted values or notations enclosed are those for which changes are proposed in the NIC. See Notice of Intended Changes (NIC). Substances for which there is a Biological Exposure Index or Indices (see BEI section). Confirmed animal carcinogen with unknown relevance to humans.
<b>USA - ACGIH - Biological Exposure Indices</b>	
BEI	0.7 g/g creatinine Parameters: Sum of mandelic acid and phenyl glyoxylic acid Biological specimen: Urine Remarks: End of shift at end of workweek Basis: ACGIH - Biological Exposure Indices (BEI); Parameters: Ethylbenzene Biological specimen: In end-exhaled air Remarks: Not critical Basis: ACGIH - Biological Exposure Indices (BEI); Parameters: Sum of mandelic acid and glyoxylic acid Value: 0.15 g/g creatinine Biological specimen: Urine Remarks: End of shift (As soon as possible after exposure ceases) Basis: ACGIH - Biological Exposure Indices (BEI)
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	435 mg/m <sup>3</sup> Remarks: The value in mg/m <sup>3</sup> is approximate. Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL TWA [2]	100 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL STEL [1]	545 mg/m <sup>3</sup> Remarks: The value in mg/m <sup>3</sup> is approximate. Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL STEL [2]	125 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL C	22 mg/m <sup>3</sup> Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
OSHA PEL C [ppm]	5 ppm Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Remark (OSHA)	Component: Ethylbenzene CAS-No.: 100-41-4 Parameters: STEL Value: 30 ppm / 130 mg/m <sup>3</sup> Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL TWA	435 mg/m <sup>3</sup> Basis: USA. NIOSH Recommended Exposure Limits
NIOSH REL TWA [ppm]	100 ppm Basis: USA. NIOSH Recommended Exposure Limits

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<b>ETHYLBENZENE UNLABELED (100-41-4)</b>	
NIOSH REL STEL	125 mg/m <sup>3</sup> Basis: USA. NIOSH Recommended Exposure Limits
NIOSH REL STEL [ppm]	545 ppm Basis: USA. NIOSH Recommended Exposure Limits
<b>CHLOROFORM-D (D, 99.8%) (67-66-3)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA [ppm]	10 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Central Nervous system impairment. Liver damage. Embryo/fetal damage. Confirmed animal carcinogen with unknown relevance to humans.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	9.78 mg/m <sup>3</sup> Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL TWA [2]	2 ppm Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants - 1910-.1000
OSHA PEL C	240 mg/m <sup>3</sup> Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants.
OSHA PEL C [ppm]	50 ppm Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants.
Remark (OSHA)	The value in mg/m <sup>3</sup> is approximate. Ceiling limit is to be determined from breathing-zone air samples. Value: PEL Control Parameters: 2 ppm / 9.78 mg/m <sup>3</sup> Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL STEL	9.78 mg/m <sup>3</sup> Basis: USA. NIOSH Recommended Exposure Limits
NIOSH REL STEL [ppm]	2 ppm Basis: USA. NIOSH Recommended Exposure Limits
Remark (NIOSH)	Potential Occupational Carcinogen. See Appendix A.

### 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.
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.

#### 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

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### 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	: clear Colorless
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: -63 °C (-81 °F)
Freezing point	: No data available
Boiling point	: 60.5 – 61.5 °C (140.9 - 142.7 °F)
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor.
Vapor pressure	: 213.3 hPa (160 mmHg) at 20 °C (68 °F)
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Density	: 1.5 g/mL at 25 °C (77 °F) (Labeled)
Molecular mass	: 120.38 g/mol (Labeled)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: 1.97
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
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

Vapor is explosive with air above.

### 10.2. Chemical stability

Stable if stored under recommended conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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### 10.4. Conditions to avoid

Open flame. Direct sunlight.

### 10.5. Incompatible materials

Strong oxidizing agents. Magnesium. Lithium (Li). Strong bases. Sodium (Na).

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Toxic if inhaled.

#### 0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)

LD50 oral rat	908 mg/kg Remarks: Behavioral: Change in motor activity (specific assay). Behavioral: Ataxia. Lungs, Thorax, or Respiration: Respiratory stimulation.
LD50 dermal rabbit	> 20000 mg/kg
ATE US (oral)	908 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

#### ETHYLBENZENE UNLABELED (100-41-4)

LD50 oral rat	3500 mg/kg male and female
LD50 dermal rabbit	15433 mg/kg
ATE US (oral)	3500 mg/kg body weight
ATE US (dermal)	15433 mg/kg body weight
ATE US (vapors)	11 mg/l/4h

#### CHLOROFORM-D (D, 99.8%) (67-66-3)

LD50 oral rat	908 mg/kg Remarks: Behavioral: Change in motor activity (specific assay). Behavioral: Ataxia. Lungs, Thorax, or Respiration: Respiratory stimulation.
LD50 dermal rabbit	> 20000 mg/kg
ATE US (oral)	908 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

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 : Suspected of causing cancer (Dermal, Inhalation, oral).



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0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)	
Additional data	Carcinogenicity, oral, rat: Tumorigenic: Carcinogenic by RTECS criteria. Leukemia.
IARC group	2B - Possibly carcinogenic to humans
ETHYLBENZENE UNLABELED (100-41-4)	
IARC group	2B - Possibly carcinogenic to humans
CHLOROFORM-D (D, 99.8%) (67-66-3)	
Carcinogenicity, oral, rat	Tumorigenic: Carcinogenic by RTECS criteria. Leukemia.
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
Reproductive toxicity	: Suspected of damaging fertility, Suspected of damaging the unborn child. (Dermal, Inhalation, oral).
STOT-single exposure	: Not classified
ETHYLBENZENE UNLABELED (100-41-4)	
NOAEL (oral,rat)	75 mg/kg body weight male and female - OECD Test Guideline 407
CHLOROFORM-D (D, 99.8%) (67-66-3)	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure (Dermal, Inhalation, oral).
ETHYLBENZENE UNLABELED (100-41-4)	
STOT-repeated exposure	May cause damage to organs (central nervous system, blood) through prolonged or repeated exposure (Dermal, Inhalation, oral).
CHLOROFORM-D (D, 99.8%) (67-66-3)	
STOT-repeated exposure	Causes damage to organs (central nervous system, kidneys, liver) through prolonged or repeated exposure (Inhalation, oral, Dermal).
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
ETHYLBENZENE UNLABELED (100-41-4)	
Viscosity, kinematic	0.773 mm <sup>2</sup> /s at 20 °C (68 °F)
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. Vomiting. Gastrointestinal complaints. Alcohol ingestion increases toxic product effects. stomach.
Symptoms/effects	: Causes damage to organs (Eyes, Skin) through prolonged or repeated exposure (if inhaled, if swallowed, in contact with skin). Suspected of causing cancer (in contact with skin, if inhaled, if swallowed). Suspected of damaging fertility. Suspected of damaging the unborn child. (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: Toxic if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: 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.

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LC50 - Fish [1]	162 mg/l <i>Leuciscus idus</i> (Golden orfe) - 48 h
LC50 - Other aquatic organisms [1]	97 mg/l Other fish - 96 h
EC50 - Crustacea [1]	79 mg/l <i>Daphnia magna</i> (Water flea) - 24 h
EC50 - Other aquatic organisms [1]	51.6 mg/l Immobilization EC50 - <i>Daphnia magna</i> (Water flea) - 48 h
LC50 - Fish [2]	121 mg/l <i>Danio rerio</i> (Zebra fish) - 96 h
ErC50 algae	500 mg/l 24 h
LOEC (acute)	Inhalation - Rat - male - 500 ppm - 6 h
NOEC (chronic)	122 mg/l <i>Oryzias latipes</i> (Japanese rice fish) - 10 d
NOEC chronic fish	24 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout) - 96 h
NOEC chronic algae	120 mg/l <i>Daphnia magna</i> (Water flea) - 11 d

ETHYLBENZENE UNLABELED (100-41-4)	
LC50 - Fish [1]	5.1 mg/l flow-through test LC50 - <i>Menidia menida</i> (Atlantic silverside) - 96 h
EC50 - Crustacea [1]	1.8 – 2.4 mg/l static test EC50 - <i>Daphnia magna</i> (Water flea) - 48 h
NOEC chronic fish	0.96 mg/l Reproduction Test NOEC - <i>Ceriodaphnia dubia</i> (water flea) - 7d
NOEC chronic algae	4.9 mg/l static test EC50 - <i>Skeletonema costatum</i> (marine diatom) - 72 h

CHLOROFORM-D (D, 99.8%) (67-66-3)	
LC50 - Fish [1]	162 mg/l <i>Leuciscus idus</i> (Golden orfe) - 48 h
LC50 - Other aquatic organisms [1]	97 mg/l Other fish - 96 h
EC50 - Crustacea [1]	79 mg/l <i>Daphnia magna</i> (Water flea) - 24 h
EC50 - Other aquatic organisms [1]	51.6 mg/l Immobilization EC50 - <i>Daphnia magna</i> (Water flea) - 48 h
LC50 - Fish [2]	121 mg/l <i>Danio rerio</i> (Zebra fish) - 96 h
ErC50 algae	500 mg/l 24 h
LOEC (acute)	Inhalation - Rat - male - 500 ppm - 6 h
NOEC (chronic)	122 mg/l <i>Oryzias latipes</i> (Japanese rice fish) - 10 d
NOEC chronic fish	24 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout) - 96 h
NOEC chronic algae	120 mg/l <i>Daphnia magna</i> (Water flea) - 11 d

### 12.2. Persistence and degradability

ETHYLBENZENE UNLABELED (100-41-4)	
Biodegradation	70 – 80 % - Readily biodegradable Aerobic - Exposure time 28 d

### 12.3. Bioaccumulative potential

0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)	
BCF - Fish [1]	-0.11 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 14 d
Bioconcentration factor (BCF REACH)	6
Partition coefficient n-octanol/water (Log Pow)	1.97

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ETHYLBENZENE UNLABELED (100-41-4)	
Partition coefficient n-octanol/water (Log Pow)	3.6 at 20 °C (68 °F)
Bioaccumulative potential	Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
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BCF - Fish [1]	-0.11 mg/l Lepomis macrochirus (Bluegill) - 14 d
Bioconcentration factor (BCF REACH)	6
Partition coefficient n-octanol/water (Log Pow)	1.97

### 12.4. Mobility in soil

ETHYLBENZENE UNLABELED (100-41-4)	
Ecology - soil	Not available.

### 12.5. Other adverse effects

Other adverse effects : Avoid release to the environment. Disposal must be done according to official regulations.

## 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 : UN1888  
UN-No. (TDG) : UN1888  
UN-No. (IMDG) : 1888  
UN-No. (IATA) : 1888

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Chloroform  
Proper Shipping Name (TDG) : CHLOROFORM  
Proper Shipping Name (IMDG) : CHLOROFORM  
Proper Shipping Name (IATA) : Chloroform

### 14.3. Transport hazard class(es)

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

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### 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) : UN1888

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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). 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.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"

### TDG

UN-No. (TDG)	: UN1888
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	: 151

### IMDG

Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
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
Stowage and handling (IMDG)	: SW2
Segregation (IMDG)	: SGG10
Flash point (IMDG)	: '
Properties and observations (IMDG)	: Colourless, volatile liquid. Boiling point: 61°C. Non-flammable. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation. Anaesthetic.
MFAG-No	: 151

### IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y680
PCA limited quantity max net quantity (IATA)	: 2L
PCA packing instructions (IATA)	: 680
PCA max net quantity (IATA)	: 60L

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CAO packing instructions (IATA) : 680  
CAO max net quantity (IATA) : 220L  
ERG code (IATA) : 6A

### 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

#### 0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)

Subject to reporting requirements of United States SARA Section 313  
Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	10 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb
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
ETHYLBENZENE UNLABELED	100-41-4	Present	Active	
CHLOROFORM-D (D, 99.8%)	67-66-3	Present	Active	

#### ETHYLBENZENE UNLABELED (100-41-4)

Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	1000 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 Delayed (chronic) health hazard

#### CHLOROFORM-D (D, 99.8%) (67-66-3)

Subject to reporting requirements of United States SARA Section 313  
Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	10 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	10 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

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### 15.2. International regulations

#### CANADA

##### 0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)

Listed on the Canadian DSL (Domestic Substances List)

##### ETHYLBENZENE UNLABELED (100-41-4)

Listed on the Canadian DSL (Domestic Substances List)

##### CHLOROFORM-D (D, 99.8%) (67-66-3)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

##### 0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)

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)

##### ETHYLBENZENE UNLABELED (100-41-4)

Listed on IARC (International Agency for Research on Cancer)

##### CHLOROFORM-D (D, 99.8%) (67-66-3)

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)

### 15.3. US State regulations

##### 0.1% (V/V) ETHYLBENZENE IN CHLOROFORM-D (545 PP TUBE)

U.S. - California - Proposition 65 - Carcinogens List	Yes
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
No significant risk level (NSRL)	20 µg/day (oral) ; 40 µg/day (inhalation)
State or local regulations	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

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ETHYLBENZENE UNLABELED (100-41-4)					
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	54	

CHLOROFORM-D (D, 99.8%) (67-66-3)					
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	Yes	Yes	Yes	20 µg/day (oral) ; 40 µg/day (inhalation)	

Component	State or local regulations
ETHYLBENZENE UNLABELED(100-41-4)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
CHLOROFORM-D (D, 99.8%)(67-66-3)	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

## SECTION 16: Other information

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Revision date

: 08/21/2023

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	
H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure



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Full text of H-phrases	
H401	Toxic to aquatic life
H411	Toxic 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.