



# 10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)

## Safety Data Sheet

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

Date of issue: 28/07/2014

Revision date: 25/01/2018

Supersedes: 26/06/2017

Version: 4.0

DLM-5001

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

### 1.1. Product identifier

Product form : Mixtures  
Product name : 10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)  
Product code : DLM-5001  
Other means of identification : Also applicable to:  
DLM-5001C 10% ETHYLBENZENE IN CHLOROFORM-D  
DLM-5001D 10% ETHYLBENZENE IN CHLOROFORM-D

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

#### 1.2.1. Relevant identified uses

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

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

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

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

### Emergency telephone number

Emergency numbers:

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Flam. Liq. 2	H225
Acute Tox. 4 (Oral)	H302
Acute Tox. 3 (Inhalation:vapour)	H331
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Carc. 2	H351
Repr. 2	H361
STOT SE 3	H336
STOT RE 1	H372

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

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

Carc.Cat.3; R40  
Repr.Cat.3; R62  
Repr.Cat.3; R63  
F; R11  
T; R23  
T; R48/23  
Xn; R22  
Xi; R36/38

Full text of R-phrases: see section 16

#### GHS-US classification

Flam. Liq. 2	H225
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Acute Tox. 4 (Oral)	H302
Acute Tox. 3 (Inhalation:vapour)	H331
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Carc. 2	H351
Repr. 2	H361
STOT SE 3	H336
STOT RE 1	H372
Aquatic Acute 3	H402

Full text of H statements : see section 16

### Adverse physicochemical, human health and environmental effects

Central nervous system, Blood, Liver, Cardiovascular system, Kidney. Suspected of causing cancer (if inhaled, if swallowed, in contact with skin). Suspected of damaging fertility, Suspected of damaging the unborn child. (if inhaled, if swallowed, in contact with skin). Causes damage to organs (central nervous system, blood, liver, cardiovascular system, kidneys) through prolonged or repeated exposure (if inhaled, if swallowed, in contact with skin). May cause drowsiness or dizziness. Toxic if inhaled. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.

## 2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazardous ingredients

: ETHYLBENZENE UNLABELED; CHLOROFORM-D (D, 99.8%)

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapor  
H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H331 - Toxic if inhaled  
H336 - May cause drowsiness or dizziness  
H351 - Suspected of causing cancer (in contact with skin, if inhaled, if swallowed)  
H361 - Suspected of damaging fertility. Suspected of damaging the unborn child. (in contact with skin, if inhaled, if swallowed)  
H372 - Causes damage to organs (central nervous system, blood, cardiovascular system, kidneys, liver) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed)

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground/bond container and receiving equipment.  
P241 - Use explosion-proof electrical, lighting, ventilating equipment  
P260 - Do not breathe 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.

### GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H225 - Highly flammable liquid and vapor  
H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H331 - Toxic if inhaled  
H336 - May cause drowsiness or dizziness  
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 (central nervous system, cardiovascular system, blood,

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### Precautionary statements (GHS-US)

kidneys, liver) through prolonged or repeated exposure (Dermal, Inhalation, oral)  
H402 - Harmful to aquatic life

- : P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P210 - Keep away from heat, hot surfaces, sparks, open flames. - No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground/Bond container and receiving equipment
- P241 - Use explosion-proof lighting, electrical, ventilating equipment
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
- P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
- P264 - Wash 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.
- P273 - Avoid release to the environment.
- P280 - Wear protective clothing, protective gloves.
- P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell
- 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
- P308+P313 - If exposed or concerned: Get medical advice/attention.
- P311 - Call a doctor, a POISON CENTER
- P312 - Call a doctor, a POISON CENTER if you feel unwell
- P314 - Get medical advice/attention if you feel unwell.
- P321 - Specific treatment (see Hazardous component(s) for labeling 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.
- P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO<sub>2</sub>), dry extinguishing powder 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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
CHLOROFORM-D (D, 99.8%)	(CAS-No.) 865-49-6 (EC-No.) 212-742-4 (EC Index-No.) 602-006-00-4 (Unlabeled)	93.97	Carc.Cat.3; R40 T; R23 Xi; R36/38 Xn; R22 Repr.Cat.3; R62 Repr.Cat.3; R63 T; R48/23 R67
ETHYLBENZENE UNLABELED	(CAS-No.) 100-41-4 (EC-No.) 202-849-4 (EC Index-No.) 601-023-00-4	6.03	F; R11 Carc.Cat.3; R40 Xn; R65 Xn; R48/20 N; R51/53

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
CHLOROFORM-D (D, 99.8%)	(CAS-No.) 865-49-6 (EC-No.) 212-742-4 (EC Index-No.) 602-006-00-4 (Unlabeled)	93.97	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Repr. 2, H361 STOT SE 3, H336 STOT RE 1, H372
ETHYLBENZENE UNLABELED	(CAS-No.) 100-41-4 (EC-No.) 202-849-4 (EC Index-No.) 601-023-00-4	6.03	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

Name	Product identifier	%	GHS-US classification
CHLOROFORM-D (D, 99.8%)	(CAS-No.) 865-49-6	93.97	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
ETHYLBENZENE UNLABELED	(CAS-No.) 100-41-4	6.03	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 R- and H- phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion	: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects	: Causes damage to organs (kidneys, liver, central nervous system) (oral, dermal, Inhalation).
Symptoms/effects after inhalation	: Toxic if inhaled. Respiratory tract irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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

Fire hazard	: Highly flammable liquid and vapor.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.

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### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Use personal protective equipment as required. Eliminate all ignition sources if safe to do so. Ensure adequate air ventilation. Avoid inhalation of vapors. Avoid dust formation. Do not breathe gas. Do not breathe dust. Evacuate unnecessary personnel.

#### 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".
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

- Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

- For containment : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Clean up any spills as soon as possible, using an absorbent material to collect it. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.
- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. This material and its container must be disposed of in a safe way, and as per local legislation.
- 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 : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : No open flames. No smoking. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
- 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 : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.
- Storage conditions : Store at room temperature away from light and moisture.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Heat sources. Sources of ignition. Direct sunlight.

### 7.3. Specific end use(s)

- No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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

Italy - Portugal - USA ACGIH ACGIH TWA (ppm)

20.00000000 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)

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<b>ETHYLBENZENE UNLABELED (100-41-4)</b>		
Italy - Portugal - USA ACGIH	ACGIH 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.
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup> Basis: USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm Basis: USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	125 mg/m <sup>3</sup> Basis: USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	545 ppm Basis: USA. NIOSH Recommended Exposure Limits
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	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
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (STEL) (mg/m <sup>3</sup> )	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
USA OSHA	OSHA PEL (STEL) (ppm)	125 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	22 mg/m <sup>3</sup> Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	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>CHLOROFORM-D (D, 99.8%) (865-49-6)</b>		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	10.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Central Nervous system impairment. Liver damage. Embryo/fetal damage. Confirmed animal carcinogen with unknown relevance to humans.
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	9.78 mg/m <sup>3</sup> Basis: USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	2 ppm Basis: USA. NIOSH Recommended Exposure Limits
USA NIOSH	Remark (NIOSH)	Potential Occupational Carcinogen. See Appendix A.
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	9.78 mg/m <sup>3</sup> Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (TWA) (ppm)	2 ppm Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	240 mg/m <sup>3</sup> Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants.
USA OSHA	OSHA PEL (Ceiling) (ppm)	50 ppm Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants.

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### CHLOROFORM-D (D, 99.8%) (865-49-6)

USA OSHA

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)

### 8.2. Exposure controls

Appropriate engineering controls

: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

: Avoid all unnecessary exposure. 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 with side shields (or goggles) and a 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.

Environmental exposure controls

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

Other information

: Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

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

Physical state

: Liquid

Appearance

: Liquid

Molecular mass

: 120.38 g/mol (Labeled)

Color

: Colorless

Odor

: Characteristic

Odor threshold

: No data available

pH

: No data available

Relative evaporation rate (butyl acetate=1)

: 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

Auto-ignition temperature

: No data available

Decomposition temperature

: 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

Specific gravity / density

: 1.5 g/mL at 25 °C (77 °F) (Labeled)

Solubility

: No data available

Log Pow

: 1.97

Log Kow

: No data available

Viscosity, kinematic

: No data available

Viscosity, dynamic

: No data available

Explosive properties

: No data available

Oxidizing properties

: No data available

Explosion limits

: No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

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

#### 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.

#### 10.4. Conditions to avoid

Open flame. Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

May release flammable gases. fume. Carbon oxides (CO, CO<sub>2</sub>).

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Inhalation:vapour: Toxic if inhaled.

10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)	
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 CLP (oral)	908.000 mg/kg body weight
ATE CLP (gases)	500.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h

ETHYLBENZENE UNLABELED (100-41-4)	
LD50 oral rat	3500 mg/kg male and female
LD50 dermal rabbit	15433 mg/kg
ATE CLP (oral)	3500.000 mg/kg body weight
ATE CLP (dermal)	15433.000 mg/kg body weight
ATE CLP (vapors)	11.000 mg/l/4h

CHLOROFORM-D (D, 99.8%) (865-49-6)	
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 CLP (oral)	908.000 mg/kg body weight
ATE CLP (gases)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

Skin corrosion/irritation : LD50 dermal Rabbit. Irritating to skin. 24 Hours  
Serious eye damage/irritation : Eyes. Rabbit. Result: Irritating to eyes. 24 Hours  
Respiratory or skin sensitization : Did not cause sensitization  
Based on available data, the classification criteria are not met  
Germ cell mutagenicity : Based on animal experimentation, it is proved that product has shown mutagenic effects  
Based on available data, the classification criteria are not met  
Carcinogenicity : Carcinogenicity. Rat. Oral

10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)	
Carcinogenicity, oral, rat	Tumorigenic: Carcinogenic by RTECS criteria. Leukemia.

CHLOROFORM-D (D, 99.8%) (865-49-6)	
Carcinogenicity, oral, rat	Tumorigenic: Carcinogenic by RTECS criteria. Leukemia.

Reproductive toxicity : Suspected of damaging fertility. Suspected of damaging the unborn child. (in contact with skin, if inhaled, if swallowed).  
Based on available data, the classification criteria are not met  
Specific target organ toxicity – single exposure : May cause drowsiness or dizziness.  
Based on available data, the classification criteria are not met

ETHYLBENZENE UNLABELED (100-41-4)	
NOAEL (oral,rat)	75 mg/kg body weight male and female - OECD Test Guideline 407



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

Specific target organ toxicity – repeated exposure	: Causes damage to organs (central nervous system, blood, cardiovascular system, kidneys, liver) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Harmful if swallowed. 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.
IARC group	: 2B
Symptoms/effects after inhalation	: Toxic if inhaled. Respiratory tract irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life.

10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)	
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 Daphnia 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 Daphnia 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%) (865-49-6)	
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 Daphnia 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

10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)	
Persistence and degradability	Not established.

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

### 12.3. Bioaccumulative potential

10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)	
BCF fish 1	-0.11 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 14 d
Bioconcentration factor (BCF REACH)	6
Log Pow	1.97
Bioaccumulative potential	Not established.

ETHYLBENZENE UNLABELED (100-41-4)	
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.

# 10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)

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CHLOROFORM-D (D, 99.8%) (865-49-6)	
BCF fish 1	-0.11 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 14 d
Bioconcentration factor (BCF REACH)	6
Log Pow	1.97

### 12.4. Mobility in soil

10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)	
Ecology - soil	No data available.

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

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : Avoid release to the environment. Disposal must be done according to official regulations. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Dispose of as unused product.

## SECTION 14: Transport information

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

### 14.1. UN number

UN-No.(DOT) : 1888  
DOT NA no. UN1888

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Chloroform  
Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132  
Hazard labels (DOT) : 6.1 - Poison



Packing group (DOT) : III - Minor Danger

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

### 14.3. Additional information

Other information : No supplementary information available.

# 10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)

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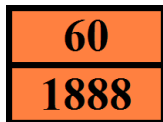
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### Overland transport

Packing group (ADR) : III  
Class (ADR) : 6.1 - Toxic substances  
Hazard identification number (Kemler No.) : 60  
Classification code (ADR) : T1  
Hazard labels (ADR) : 6.1 - Toxic substances



Orange plates :



Tunnel restriction code (ADR) : E  
Limited quantities (ADR) : 5l  
EAC : 2Z  
Excepted quantities (ADR) : E1

### Transport by sea

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"  
MFAG-No : 151

### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 60 L  
(49 CFR 173.27)  
DOT Quantity Limitations Cargo aircraft only (49 : 220 L  
CFR 175.75)  
Civil Aeronautics Law : Toxic and infectious substances/Toxic substances

### 14.4. Environmental hazards

Other information : No supplementary information available.

### 14.5. Special precautions for user

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

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Listed on the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313
ETHYLBENZENE UNLABELED (100-41-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory 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%) (865-49-6)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Subject to reporting requirements of United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

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### CHLOROFORM-D (D, 99.8%) (865-49-6)

SARA Section 313 - Emission Reporting

Subject to reporting requirements of United States SARA Section 313

### 15.2. International regulations

#### CANADA

#### 10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)

Listed on the Canadian DSL (Domestic Substances List)

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

Listed on the Canadian DSL (Domestic Substances List)

#### 15.2.1. National regulations

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

Listed on IARC (International Agency for Research on Cancer)

### 15.3. US State regulations

#### 10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)()

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

#### 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)
Yes	No	No	No	

#### CHLOROFORM-D (D, 99.8%) (865-49-6)

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)
Yes	No	Yes	Yes	

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

##### State or local regulations

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities  
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances  
U.S. - Pennsylvania - RTK (Right to Know) List

#### CHLOROFORM-D (D, 99.8%) (865-49-6)

##### 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

## SECTION 16: Other information

- Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- 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 R-, H- and EUH-phrases:

# 10% ETHYLBENZENE IN CHLOROFORM-D (545PPT-8)

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Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
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
H411	Toxic to aquatic life with long lasting effects
R11	Highly flammable
R22	Harmful if swallowed
R23	Toxic by inhalation
R36/38	Irritating to eyes and skin
R40	Limited evidence of a carcinogenic effect
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R62	Possible risk of impaired fertility
R63	Possible risk of harm to the unborn child
R65	Harmful: may cause lung damage if swallowed
R67	Vapors may cause drowsiness and dizziness
F	Highly flammable
N	Dangerous for the environment
T	Toxic
Xi	Irritant
Xn	Harmful

NFPA health hazard

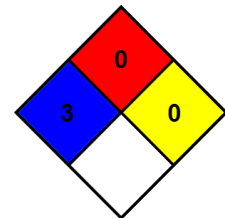
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



### Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

CIL Mixture SDS

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