1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)

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: 28/02/2017 Revision date: : Version: 1.0

DLM-7076

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

1.1. Product identifier

Product form : Mixtures

Product name : 1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)

Product code : DLM-7076

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

1.2.1. Relevant identified uses

Main use category : Professional use

Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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

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

Emergency telephone number

Emergency numbers:

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

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 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
T; R23
Xi; R36/38
Xn; R22
R67
Repr.Cat.3; R62
Repr.Cat.3; R63
R52
T; R48/23

Full text of R-phrases: see section 16

GHS-US classification

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 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) :

GHS06 GHS08

Signal word (CLP) : Danger

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

Hazard statements (CLP) : H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
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, kidneys, liver) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed)

Precautionary statements (CLP) : P260 - Do not breathe dust, fume, gas, mist, spray, vapors
P264 - Wash Both hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
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
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS06 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
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 (central nervous system, kidneys, liver) through prolonged or repeated exposure (Inhalation, oral, Dermal)
H402 - Harmful to aquatic life

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 dust, fume, gas, mist, spray, vapors
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors
P264 - Wash Both hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
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
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
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 Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
CHLOROFORM-D (D, 99.8%)	(CAS No) 865-49-6 (EC No) 212-742-4 (EC Index No) 602-006-00-4 (Unlabeled)	99	Carc.Cat.3; R40 T; R23 Xi; R36/38 Xn; R22 Repr.Cat.3; R62 Repr.Cat.3; R63 T; R48/23
ETHYLBENZENE UNLABELED	(CAS No) 100-41-4 (EC No) 202-849-4 (EC Index No) 601-023-00-4	1	F; R11 Carc.Cat.3; R40 Xn; R65 Xn; R48/20 R52/53 N; R51/53

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)	99	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 RE 1, H372
ETHYLBENZENE UNLABELED	(CAS No) 100-41-4 (EC No) 202-849-4 (EC Index No) 601-023-00-4	1	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412

Name	Product identifier	%	GHS-US classification
CHLOROFORM-D (D, 99.8%)	(CAS No) 865-49-6	99	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 RE 1, H372
ETHYLBENZENE UNLABELED	(CAS No) 100-41-4	1	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 3, H412

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 : 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, both acute and delayed

Symptoms/injuries : May cause drowsiness or dizziness.

Symptoms/injuries after inhalation : Toxic if inhaled. Respiratory tract irritation.

Symptoms/injuries after skin contact : Harmful in contact with skin. Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Harmful if swallowed.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

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.

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 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.

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 refrigerated (-5 C to 5 C). Protect from light.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)		
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/m³)	9.78 mg/m³ 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/m³)	9.78 mg/m³ 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/m³)	240 mg/m³ 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.
USA OSHA	Remark (OSHA)	The value in mg/m3 is approximate. Ceiling limit is to be determined from breathing-zone air samples. Value: PEL Control Parameters: 2 ppm / 9.78 mg/m3 Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
CHLOROFORM-D (D, 99.8%) (865-49-6)		
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/m³)	9.78 mg/m³ 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/m³)	9.78 mg/m³ 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/m³)	240 mg/m³ Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants.

CHLOROFORM-D (D, 99.8%) (865-49-6)		
USA OSHA	OSHA PEL (Ceiling) (ppm)	50 ppm Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants.
USA OSHA	Remark (OSHA)	The value in mg/m3 is approximate. Ceiling limit is to be determined from breathing-zone air samples. Value: PEL Control Parameters: 2 ppm / 9.78 mg/m3 Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
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)
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/m³)	435 mg/m³ 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/m³)	125 mg/m³ 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/m³)	435 mg/m³ Remarks: The value in mg/m3 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/m³)	545 mg/m³ Remarks: The value in mg/m3 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/m³)	22 mg/m³ 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 Paramenters: STEL Value: 30 ppm / 130 mg/m3 Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)

8.2. Exposure controls

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

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

Materials for protective clothing : Wear suitable protective clothing and gloves.

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Molecular mass	:	120.38 g/mol (Labeled)
Color	:	clear. Colorless.
Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	-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)	:	Not applicable
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

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

No additional information available

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Carbon oxides (CO, CO2). Hydrogen chloride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)	
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)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 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
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

Skin corrosion/irritation : LD50 dermal rabbit. Irritating to skin. 24 Hours

Serious eye damage/irritation : Eyes. rabbit. Result. Irritating to eyes. 24 Hours

No data available

Respiratory or skin sensitization : Did not cause sensitization

Germ cell mutagenicity : Based on animal experimentation, it is proved that product has shown mutagenic effects

Carcinogenicity : Carcinogenicity. rat. Oral

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)	
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).

Specific target organ toxicity – single exposure : Not classified

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

Specific target organ toxicity – repeated exposure : Causes damage to organs (central nervous system, kidneys, liver) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).

No data available

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Vomiting. Gastrointestinal complaints. Alcohol ingestion increases toxic product effects. stomach.

IARC group : 2B

Symptoms/injuries after inhalation : Toxic if inhaled. Respiratory tract irritation.

Symptoms/injuries after skin contact : Harmful in contact with skin. Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries 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.

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)	
LC50 fish 1	162 mg/l Leuciscus idus (Golden orfe) - 48 h

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)	
LC50 other aquatic organisms 1	97 mg/l Other fish - 96 h
EC50 Daphnia 1	79 mg/l Daphnia magna (Water flea) - 24 h
EC50 other aquatic organisms 1	51.6 mg/l Immobilization EC50 - Daphnia magna (Water flea) - 48 h
LC50 fish 2	121 mg/l Danio rerio (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 Oryzias latipes (Japanese rice fish) - 10 d
NOEC chronic fish	24 mg/l Oncorhynchus mykiss (Rainbow trout) - 96 h
NOEC chronic algae	120 mg/l Daphnia magna (Water flea) - 11 d
CHLOROFORM-D (D, 99.8%) (865-49-6)	
LC50 fish 1	162 mg/l Leuciscus idus (Golden orfe) - 48 h
LC50 other aquatic organisms 1	97 mg/l Other fish - 96 h
EC50 Daphnia 1	79 mg/l Daphnia magna (Water flea) - 24 h
EC50 other aquatic organisms 1	51.6 mg/l Immobilization EC50 - Daphnia magna (Water flea) - 48 h
LC50 fish 2	121 mg/l Danio rerio (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 Oryzias latipes (Japanese rice fish) - 10 d
NOEC chronic fish	24 mg/l Oncorhynchus mykiss (Rainbow trout) - 96 h
NOEC chronic algae	120 mg/l Daphnia magna (Water flea) - 11 d
ETHYLBENZENE UNLABELED (100-41-4)	
LC50 fish 1	5.1 mg/l flow-through test LC50 - Menidia menida (Atlantic silverside) - 96 h
EC50 Daphnia 1	1.8 - 2.4 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h
NOEC chronic fish	0.96 mg/l Reproduction Test NOEC - Ceriodaphnia dubia (water flea) - 7d
NOEC chronic algae	4.9 mg/l static test EC50 - Skeletonema costatum (marine diatom) - 72 h

12.2. Persistence and degradability

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)	
Persistence and degradability	Not available.
CHLOROFORM-D (D, 99.8%) (865-49-6)	
Persistence and degradability	Not available.
ETHYLBENZENE UNLABELED (100-41-4)	
Biodegradation	70 - 80 % - Readily biodegradable Aerobic - Exposure time 28 d

12.3. Bioaccumulative potential

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)	
BCF fish 1	-0.11 mg/l Lepomis macrochirus (Bluegill) - 14 d
Bioconcentration factor (BCF REACH)	6
Log Pow	1.97
Bioaccumulative potential	Not available.
CHLOROFORM-D (D, 99.8%) (865-49-6)	
BCF fish 1	-0.11 mg/l Lepomis macrochirus (Bluegill) - 14 d
Bioconcentration factor (BCF REACH)	6
Log Pow	1.97
Bioaccumulative potential	Not available.
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.

12.4. Mobility in soil

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)	
Ecology - soil	Not available.
CHLOROFORM-D (D, 99.8%) (865-49-6)	
Ecology - soil	Not 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.

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

DOT RQ : 10 lbs

Marine pollutant : No

14.3. Additional information

Emergency Response Guide (ERG) Number : 151

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : III

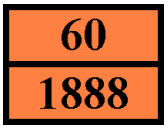
Class (ADR) : 6.1 - Toxic substances

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 (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
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

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)	
Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
CHLOROFORM-D (D, 99.8%) (865-49-6)	
Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
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 reporing requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard

15.2. International regulations

CANADA

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)
Listed on the Canadian DSL (Domestic Substances List)
CHLOROFORM-D (D, 99.8%) (865-49-6)
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

1% ETHYLBENZENE (W/W) IN CHLOROFORM-D (D, 99.8%)**()**	
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

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)				
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)
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)
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

SECTION 16: Other information

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:

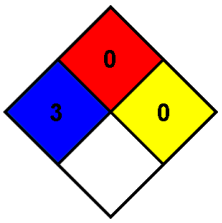
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3

Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
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
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
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
H412	Harmful 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
R52	Harmful to aquatic organisms
R52/53	Harmful 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 dire 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.



HMIS III Rating

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

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

CIL Multi-Solvent Mixture SDS

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