



0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)

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

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Version: 2.1

DLM-74

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

1.1. Product identifier

Product form	: Mixtures
Product name	: 0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)
Product code	: DLM-74
Other means of identification	: Also applicable to: DLM-74A DLM-74B DLM-74C DLM-74D DLM-74E DLM-74F (3" FILL HEIGHT) DLM-74N

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

Full text of R-phrases: see section 16

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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

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Central nervous system, Blood, Liver, Cardiovascular system, Kidney.

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

GHS06

GHS07

Signal word (CLP) :

Danger

Hazardous ingredients :

CHLOROFORM-D "100%" (D, 99.96%)

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 (blood, cardiovascular system, 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, spray, vapors, mist.
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 POISON CENTER or doctor if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

GHS06

GHS07

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 or the unborn child (Dermal, Inhalation, oral)
H372 - Causes damage to organs (blood, cardiovascular system, central nervous system, kidneys, liver) through prolonged or repeated exposure (Inhalation, Dermal, oral)

Precautionary statements (GHS-US) :

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, open flames, sparks. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment

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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 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 poison center or doctor 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 poison center or 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 - Take off contaminated clothing and wash before reuse.
P370+P378 - In case of fire: Use Dry chemical, Alcohol resistant foam, Water spray, Carbon dioxide. 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 Dispose in a safe manner in accordance with local/national 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 "100%" (D, 99.96%)	(CAS-No.) 865-49-6 (EC-No.) 212-742-4 (Unlabeled) (EC Index-No.) 602-006-00-4 (Unlabeled)	99.9379	Carc.Cat.3; R40 Xn; R22 Xi; R36/38 T; R48/23 R52 Repr.Cat.3; R62 Repr.Cat.3; R63
ETHYLBENZENE UNLABELED	(CAS-No.) 100-41-4 (EC-No.) 202-849-4 (EC Index-No.) 601-023-00-4	0.0578	F; R11 Carc.Cat.3; R40 Xn; R65 Xn; R48/20 N; R51/53
TETRAMETHYLSILANE 99.9%	(CAS-No.) 75-76-3 (EC-No.) 200-899-1	0.0043	F+; R12

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
CHLOROFORM-D "100%" (D, 99.96%)	(CAS-No.) 865-49-6 (EC-No.) 212-742-4 (Unlabeled) (EC Index-No.) 602-006-00-4 (Unlabeled)	99.9379	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

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ETHYLBENZENE UNLABELED	(CAS-No.) 100-41-4 (EC-No.) 202-849-4 (EC Index-No.) 601-023-00-4	0.0578	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
TETRAMETHYLSILANE 99.9%	(CAS-No.) 75-76-3 (EC-No.) 200-899-1	0.0043	Flam. Liq. 1, H224

Name	Product identifier	%	GHS-US classification
CHLOROFORM-D "100%" (D, 99.96%)	(CAS-No.) 865-49-6	99.9379	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 Aquatic Acute 3, H402
ETHYLBENZENE UNLABELED	(CAS-No.) 100-41-4	0.0578	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
TETRAMETHYLSILANE 99.9%	(CAS-No.) 75-76-3	0.0043	Flam. Liq. 1, H224

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

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

Symptoms/effects after inhalation	: Toxic if inhaled.
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. 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 : 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.

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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/vapors/spray. 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

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Clean up any spills as soon as possible, using an absorbent material to collect it. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. 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 : This material and its container must be disposed of in a safe way, and as per local legislation.

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/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.

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

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a cool, dry and well-ventilated place. Opened containers must be carefully 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

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)		
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 ³)	9.78 mg/m ³ 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 ³)	9.78 mg/m ³ 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 ³)	240 mg/m ³ Basis: USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants.

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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/m ³ is approximate. Ceiling limit is to be determined from breathing-zone air samples. Value: PEL Control Parameters: 2 ppm / 9.78 mg/m ³ Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107)
CHLOROFORM-D "100%" (D, 99.96%) (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/m ³)	9.78 mg/m ³ 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 ³)	9.78 mg/m ³ 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 ³)	240 mg/m ³ 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/m ³ is approximate. Ceiling limit is to be determined from breathing-zone air samples. Value: PEL Control Parameters: 2 ppm / 9.78 mg/m ³ 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/m ³)	435 mg/m ³ 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 ³)	125 mg/m ³ 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 ³)	435 mg/m ³ Remarks: The value in mg/m ³ is approximate. Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000

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ETHYLBENZENE UNLABELED (100-41-4)		
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 ³)	545 mg/m ³ Remarks: The value in mg/m ³ 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 ³)	22 mg/m ³ 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 ³ 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 : Safety glasses. Gloves. Protective clothing. Respiratory protection of the dependent type.



- 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

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

- Physical state : Liquid
- Appearance : Clear, colorless liquid
- Color : Colorless
- Odor : Characteristic
- Odor threshold : No data available
- pH : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : No data available
- Freezing point : -63 °C
- Boiling point : 60.5 - 61.5 °C
- Flash point : No data available
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : Extremely flammable liquid and vapour
- Vapor pressure : 213.3 hPa (160.0 mmHg) at 20.0 °C (68.0 °F)
- Relative vapor density at 20 °C : No data available
- Relative density : No data available
- Solubility : Very slightly soluble.
Water: Very slightly soluble in the following materials: cold water and hot water.
- Log Pow : 1.97

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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.

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)	
LD50 oral rat	908 mg/kg
LD50 dermal rabbit	> 20000 mg/kg
LC50 inhalation rat (mg/l)	47702 mg/m ³ 4 h
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 "100%" (D, 99.96%) (865-49-6)	
LD50 oral rat	908 mg/kg
LD50 dermal rabbit	> 20000 mg/kg
LC50 inhalation rat (mg/l)	47702 mg/m ³ 4 h
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
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

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)	
Additional information	: Tumorigenic: Carcinogenic by RTECS criteria. Leukemia.

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CHLOROFORM-D "100%" (D, 99.96%) (865-49-6)

Additional information	: 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 (blood, cardiovascular system, central nervous system, kidneys, liver) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
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/effects after inhalation	: Toxic if inhaled.
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 : Harmful to aquatic life.

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)

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) - 48 h
EC50 other aquatic organisms 1	500 mg/l No information available - 24 h
LC50 fish 2	121 mg/l <i>Danio rerio</i> (Zebra fish) - 96 h
EC50 Daphnia 2	51.6 mg/l <i>Daphnia magna</i> (water flea) - 11 d
ErC50 (algae)	500 mg/l - 24 h
NOEC (chronic)	122 mg/l <i>Oryzias latipes</i> - 10 d
NOEC chronic fish	24 mg/l <i>Oncorhynchus mykiss</i> (rainbow trout) - 96 h

CHLOROFORM-D "100%" (D, 99.96%) (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) - 48 h
EC50 other aquatic organisms 1	500 mg/l No information available - 24 h
LC50 fish 2	121 mg/l <i>Danio rerio</i> (Zebra fish) - 96 h
EC50 Daphnia 2	51.6 mg/l <i>Daphnia magna</i> (water flea) - 11 d
ErC50 (algae)	500 mg/l - 24 h
NOEC (chronic)	122 mg/l <i>Oryzias latipes</i> - 10 d
NOEC chronic fish	24 mg/l <i>Oncorhynchus mykiss</i> (rainbow trout) - 96 h

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

12.2. Persistence and degradability

ETHYLBENZENE UNLABELED (100-41-4)

Biodegradation	70 - 80 % - Readily biodegradable Aerobic - Exposure time 28 d
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12.3. Bioaccumulative potential

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)

BCF fish 1	-0.11 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 14 d
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0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V) DLM-74

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0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)	
Bioconcentration factor (BCF REACH)	6
Log Pow	1.97

CHLOROFORM-D "100%" (D, 99.96%) (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

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

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 : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%"

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DOT Packaging Bulk (49 CFR 173.xxx) : 241

14.3. Additional information

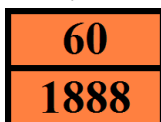
Other information : No supplementary information available.

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

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)

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
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

CHLOROFORM-D "100%" (D, 99.96%) (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

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%"

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CHLOROFORM-D "100%" (D, 99.96%) (865-49-6)	
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
TETRAMETHYLSILANE 99.9% (75-76-3)	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311/312 Hazard Classes	Fire hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)	
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

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%" (V/V)	
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
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 "100%" (D, 99.96%) (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	Yes	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	

TETRAMETHYLSILANE 99.9% (75-76-3)				
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)
Yes	Yes	Yes	Yes	

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%"

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TETRAMETHYLSILANE 99.9% (75-76-3)			
No	No	No	No
CHLOROFORM-D "100%" (D, 99.96%) (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			
TETRAMETHYLSILANE 99.9% (75-76-3)			
State or local regulations			
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:

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 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. 1	Flammable liquids Category 1
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
H224	Extremely flammable liquid and vapour
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
R12	Extremely flammable

0.1% ETHYLBENZENE + 0.01% TMS IN CHLOROFORM-D "100%"

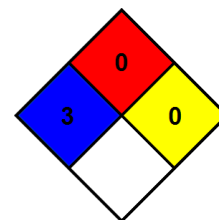
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R22	Harmful if swallowed
R23	Toxic by inhalation
R36/38	Irritating to eyes and skin
R40	Limited evidence of a carcinogenic effect
R48	Danger of serious damage to health by prolonged exposure
R48/20	Harmful: danger of serious damage to health by prolonged 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
R62	Possible risk of impaired fertility
R63	Possible risk of harm to the unborn child
R65	Harmful: may cause lung damage if swallowed
F	Highly flammable
F+	Extremely 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

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