



(+/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA-HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL

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: 28/05/2015

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Supersedes: 23/07/2018

Version: 1.2

CLM-7246-S

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

1.1. Product identifier

Product form : Mixtures
Product name : (+/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL
Product code : CLM-7246-S

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]

Flam. Liq. 2 H225
Acute Tox. 3 (Oral) H301
Acute Tox. 3 (Dermal) H311
Acute Tox. 3 (Inhalation) H331
Skin Irrit. 2 H315
Eye Irrit. 2 H319
STOT SE 1 H370

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

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

F; R11
T; R23/24/25
Xi; R36/38

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 2 H225
Acute Tox. 3 (Oral) H301
Acute Tox. 3 (Dermal) H311
Acute Tox. 3 (Inhalation) H331
Skin Irrit. 2 H315
Eye Irrit. 2A H319
STOT SE 1 H370

Full text of H statements : see section 16

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Adverse physicochemical, human health and environmental effects

Eyes, Kidney, Liver, Heart, Central nervous system.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H370 - Causes damage to organs (brain, eyes, heart, kidneys, liver) (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 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.
P307+P311 - IF exposed: Call a POISON CENTER or doctor/physician.

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H370 - Causes damage to organs (brain, eyes, heart, kidneys, liver) (Dermal, Inhalation, oral)

Precautionary statements (GHS-US)

: 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
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 eye protection, face protection, protective clothing, protective gloves.
P301+P310 - If swallowed: Immediately call a poison center or doctor
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
P311 - Call a poison center or doctor
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)

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P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P361 - Take off immediately all contaminated clothing.
P362 - Take off contaminated clothing and wash before reuse.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water spray 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 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
100% METHANOL UNLABELED	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	99.987359	F; R11 T; R39/23/24/25 Xi; R36/38
(+/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA-HYDROTETROL (RING-13C6, 99%)	(CAS-No.) 61490-66-2 (Unlabeled)	0.0126	Carc.Cat.1; R45 Carc.Cat.1; R49 Muta.Cat.1; R46 Repr.Cat.1; R60 Repr.Cat.1; R61 R42 N; R50/53

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
100% METHANOL UNLABELED	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	99.987359	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 1, H370
(+/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA-HYDROTETROL (RING-13C6, 99%)	(CAS-No.) 61490-66-2 (Unlabeled)	0.0126	Resp. Sens. 1, H334 Muta. 1B, H340 Carc. 1B, H350 Repr. 1B, H360 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Name	Product identifier	%	GHS-US classification
100% METHANOL UNLABELED	(CAS-No.) 67-56-1	99.987359	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 1, H370

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 : Call a POISON CENTER or doctor/physician.
First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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.

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First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Rinse mouth. Obtain emergency medical attention. Immediately call a poison center or doctor/physician.

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

Symptoms/effects	: Causes damage to organs (brain, Eyes, heart, kidneys, liver) (Inhalation, dermal, oral).
Symptoms/effects after inhalation	: May be harmful if inhaled. Causes respiratory tract irritation.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed. 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	: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
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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	: Vapors may form explosive mixture with air.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray to cool unopened containers.
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.
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6.1.1. For non-emergency personnel

Emergency procedures	: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
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6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For containment	: Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations.
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6.4. Reference to other sections

No additional information available

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.
Hygiene measures	: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately 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 in freezer (-20°C). Protect from light.
Incompatible materials	: Heat sources.

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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

(±)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.00000000 ppm Headache. Eye damage. Danger of cutaneous absorption.
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	250 ppm Headache Eye damage. Danger of cutaneous absorption.
(±)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) (61490-66-2 (Unlabeled))		
USA OSHA	OSHA PEL (TWA) (mg/m³)	0.2 mg/m³ Limits for air contaminants.
100% METHANOL UNLABELED (67-56-1)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	250 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Headache. Nausea. Dizziness. Eye damage. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Danger of cutaneous absorption.
USA NIOSH	NIOSH REL (TWA) (mg/m³)	260 mg/m³ Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (mg/m³)	325 mg/m³ Basis: NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	250 ppm Basis: NIOSH Recommended Exposure Limits
USA NIOSH	Remark (NIOSH)	Potential for dermal absorption.
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³ Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (STEL) (mg/m³)	325 mg/m³ Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (STEL) (ppm)	250 ppm Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (ppm)	1000 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	Remark (OSHA)	The value in mg/m3 is approximate. Skin notation.

8.2. Exposure controls

Personal protective equipment

: Safety glasses. Gloves. Protective clothing. Respiratory protection of the dependent type.



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.

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Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

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	: 32.04 g/mol
Color	: Colorless
Odor	: Pungent
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: -98 °C (-144 °F)
Freezing point	: No data available
Boiling point	: 64.7 °C (148.5 °F)
Flash point	: 9.7 °C (49.5 °F) - closed cup
Auto-ignition temperature	: 455 °C (851 °F) at 1,013 hPa (760 mmHg)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Vapor pressure	: 546.6 hPa (410.0 mmHg) at 50.0 °C (122.0 °F)
Relative vapor density at 20 °C	: 1.11
Relative density	: No data available
Specific gravity / density	: 0.791 g/ml at 25 °C (77 °F)
Solubility	: Water: Completely miscible
Log Pow	: -0.77
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	: 6 - 36 % (V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors may form explosive mixture with air.

10.2. Chemical stability

See storage and expiration date on CoA.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Open flame. Direct sunlight.

10.5. Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals. Reducing agents, Acids.

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation: Toxic if inhaled.

(+/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL

LD50 oral rat	1187 - 2769 mg/kg
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LD50 dermal rabbit	17100 mg/kg
LC50 inhalation rat (mg/l)	128.2 mg/l/4h ; 87.6 mg/l - 6 h
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	128.200 mg/l/4h
LDLO, oral, human	143 mg/kg Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

100% METHANOL UNLABELED (67-56-1)	
LD50 oral rat	1187 - 2769 mg/kg
LD50 dermal rabbit	17100 mg/kg
LC50 inhalation rat (mg/l)	128.2 mg/l/4h ; 87.6 mg/l - 6 h
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	128.200 mg/l/4h
LDLO, oral, human	143 mg/kg Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Skin corrosion/irritation	: Skin - Rabbit - Result: No skin irritation
Serious eye damage/irritation	: Eyes - Rabbit - Result: No eye irritation
Respiratory or skin sensitization	: Maximisation Test - Guinea pig - Did not cause sensitization - (OECD 406 method)
Germ cell mutagenicity	: AMES test : S. typhimurium. Result: negative. fibroblast. Result: Negative. Mutation in mammalian somatic cells. Mutagenicity (in vivo mammalian bone-marrow cystogenetic test, chromosomal analysis) - Mouse - male and female Result: negative. Mouse - male and female. Result: Negative
Carcinogenicity	: Not classified
Reproductive toxicity	: Damage to fetus not classifiable. Fertility classification not possible from current data.
Specific target organ toxicity – single exposure	: Causes damage to organs through prolonged or repeated exposure Causes damage to organs
Specific target organ toxicity – repeated exposure	: The substance or mixture is not classified as specific target organ toxicant, repeated exposure. No data available
Aspiration hazard	: No aspiration toxicity classification.
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. Effects due to Ingestion may include: Headache. Dizziness. Drowsiness. metabolic acidosis. Coma. May be fatal if swallowed and enters airways. If swallowed there is a risk of blindness. Effects on humans. stomach.
Symptoms/effects after inhalation	: May be harmful if inhaled. Causes respiratory tract irritation.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

(+/)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL	
LC50 fish 1	19000 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 Daphnia 1	24500 mg/l Daphnia magna (Water flea) - 48 h
100% METHANOL UNLABELED (67-56-1)	
LC50 fish 1	15400 mg/l mortality LC50 - Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	> 10000 mg/l Daphnia magna (Water flea) - 48 h
EC50 Daphnia 2	22000 mg/l Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 96 h
NOEC (acute)	7900 mg/l Oryzias latipes - 200 h

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12.2. Persistence and degradability

100% METHANOL UNLABELED (67-56-1)

Biochemical oxygen demand (BOD)	600 - 1200 mg/g
Chemical oxygen demand (COD)	1420 mg/g
ThOD	1500 mg/g
Biodegradation	72 % - rapidly biodegradable aerobic - Exposure time 5 d

12.3. Bioaccumulative potential

(+/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL

Log Pow	-0.77
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100% METHANOL UNLABELED (67-56-1)

BCF fish 1	5 mg/l Cyprinus carpio (Carp) - 72 d at 20 °C
Bioconcentration factor (BCF REACH)	1
Log Pow	-0.77

12.4. Mobility in soil

100% METHANOL UNLABELED (67-56-1)

Ecology - soil	Not degradable in the soil.
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12.5. Results of PBT and vPvB assessment

100% METHANOL UNLABELED (67-56-1)

PBT: not relevant – no registration required
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12.6. Other adverse effects

No additional information available

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	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials	: Hazardous waste due to toxicity.

SECTION 14: Transport information

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

14.1. UN number

UN-No.(DOT)	: 1230
DOT NA no.	UN1230

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Methanol
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid 6.1 - Poison



DOT Symbols	: + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group, I - Proper shipping name appropriate for international and domestic transportation
Packing group (DOT)	: II - Medium Danger

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DOT Special Provisions (49 CFR 172.102)	: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). 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. 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)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242

14.3. Additional information

Other information	: No supplementary information available.
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Overland transport

Packing group (ADR)	: II
Class (ADR)	: 3 - Flammable liquid
Hazard identification number (Kemler No.)	: 336
Classification code (ADR)	: FT1
Hazard labels (ADR)	: 3 - Flammable liquids 6.1 - Toxic substances



Orange plates	:
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Tunnel restriction code (ADR)	: D/E
Limited quantities (ADR)	: 1I
EAC	: •2WE
APP	: A(fl)
Excepted quantities (ADR)	: E2

Transport by sea

DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"
MFAG-No	: 131

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
Civil Aeronautics Law	: Flammable liquids

14.4. Environmental hazards

Other information	: No supplementary information available.
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(+/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL

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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

(+/)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL	
SARA Section 302 Threshold Planning Quantity (TPQ)	Subject to reporting requirements of United States SARA Section 302
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313
100% METHANOL UNLABELED (67-56-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
CERCLA RQ	5000 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 Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA

(+/)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL	
Listed on the Canadian DSL (Domestic Substances List)	
100% METHANOL UNLABELED (67-56-1)	
Listed on the Canadian DSL (Domestic Substances List)	

15.2.1. National regulations

No additional information available

15.3. US State regulations

(±/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL()				
U.S. - California - Proposition 65 - Carcinogens List		No		
U.S. - California - Proposition 65 - Developmental Toxicity		Yes		
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		No		
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		No		
State or local regulations		U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List		
100% METHANOL UNLABELED (67-56-1)				
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)
No	Yes	No	No	
100% METHANOL UNLABELED (67-56-1)				
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. - Massachusetts - Right To Know List				

(+/-)-BENZO[A]PYRENE-R-7,T-8,T-9,C-10-TETRA- HYDROTETROL (RING-13C6, 99%) 100 UG/ML IN METHANOL

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100% METHANOL UNLABELED (67-56-1)

U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

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 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Carc. 1B	Carcinogenicity Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
Muta. 1B	Germ cell mutagenicity Category 1B
Repr. 1B	Reproductive toxicity Category 1B
Resp. Sens. 1	Respiratory sensitization, Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H340	May cause genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H370	Causes damage to organs
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
R11	Highly flammable
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R36/38	Irritating to eyes and skin
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
R42	May cause sensitization by inhalation
R45	May cause cancer
R46	May cause heritable genetic damage
R49	May cause cancer by inhalation
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R60	May impair fertility
R61	May cause harm to the unborn child
F	Highly flammable
N	Dangerous for the environment
T	Toxic
Xi	Irritant

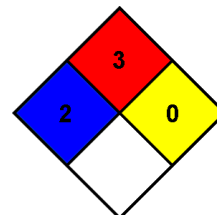
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NFPA health hazard	: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard	: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
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	: 3 Serious 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