



DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE

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: 19/10/2015

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EDF-5526

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

1.1. Product identifier

Product form : Mixtures
Product name : DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE
Product code : EDF-5526

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
Skin Irrit. 2 H315
Eye Irrit. 2 H319
Repr. 2 H361
STOT SE 3 H336
STOT SE 2 H371
Asp. Tox. 1 H304
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

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
Xn; R20
Xn; R65

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 3 H226
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Repr. 2 H361
STOT SE 3 H336
STOT SE 2 H371
Asp. Tox. 1 H304
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

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Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Central Nervous System. Flammable liquid and vapour. May cause drowsiness or dizziness. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May be fatal if swallowed and enters airways.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazardous ingredients

: N-HEXANE UNLABELED

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H361 - Suspected of damaging fertility. Suspected of damaging the unborn child (in contact with skin, if inhaled, if swallowed)
H371 - May cause damage to organs (central nervous system) (in contact with skin, if inhaled, if swallowed)
H410 - Very toxic to aquatic life with long lasting effects

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, vapours
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

GHS-US labelling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H361 - central nervous system (Dermal, Inhalation, oral)
H371 - May cause damage to organs (central nervous system) (Dermal, Inhalation, oral)
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

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
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe dust, fume, gas, mist, spray, vapours
P261 - Avoid breathing fume, mist, spray, vapours
P264 - Wash Both hands thoroughly after handling

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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 eye protection, face protection, protective clothing, protective gloves
P301+P310 - If swallowed: Immediately call a poison center/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
P308+P313 - If exposed or concerned: Get medical advice/attention
P312 - Call a poison center/doctor/... if you feel unwell
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P331 - Do NOT induce vomiting
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water spray to extinguish
P391 - Collect spillage
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
N-HEXANE UNLABELED	(CAS No) 110-54-3 (EC No) 203-777-6 (EC Index No) 601-037-00-0	87.99939046	F; R11 N; R50/53 Xn; R65 Xi; R36/38 Muta.Cat.3; R68 Repr.Cat.3; R62 Repr.Cat.3; R63 R67
N-NONANE UNLABELED	(CAS No) 111-84-2 (EC No) 203-913-4	10.000635	R10 Xn; R20 Xn; R65 Xi; R36/38 R67
DODECANE UNLABELED	(CAS No) 112-40-3 (EC No) 203-967-9	1.999974	Xn; R65
3,3',5,5'-TETRACB (PCB-80) (13C12, 99%)	(CAS No) 33284-52-5 (Unlabeled) (EC Index No) 602-039-00-4	0.00000023	Xn; R48/20/21/22 N; R50/53 R33
2,4,6,8-TETRABROMODIBENZOFURAN (13C12, 99%)	(CAS No) 617707-91-2 (Unlabeled)	0.00000015	Xn; R22 Xi; R36 R53
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 69698-58-4 (Unlabeled)	0.00000008	Xn; R22 Xi; R36 R53

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-HEXANE UNLABELED	(CAS No) 110-54-3 (EC No) 203-777-6 (EC Index No) 601-037-00-0	87.99939046	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361fd STOT SE 3, H336 STOT SE 2, H371 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
N-NONANE UNLABELED	(CAS No) 111-84-2 (EC No) 203-913-4	10.000635	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304
DODECANE UNLABELED	(CAS No) 112-40-3 (EC No) 203-967-9	1.999974	Asp. Tox. 1, H304
3,3',5,5'-TETRACB (PCB-80) (13C12, 99%)	(CAS No) 33284-52-5 (Unlabeled) (EC Index No) 602-039-00-4	0.00000023	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,4,6,8-TETRABROMODIBENZOFURAN (13C12, 99%)	(CAS No) 617707-91-2 (Unlabeled)	0.00000015	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 69698-58-4 (Unlabeled)	0.00000008	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413

Name	Product identifier	%	GHS-US classification
N-HEXANE UNLABELED	(CAS No) 110-54-3	87.99939046	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Repr. 2, H361 STOT SE 3, H336 STOT SE 2, H371 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
N-NONANE UNLABELED	(CAS No) 111-84-2	10.000635	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H336 Asp. Tox. 1, H304
DODECANE UNLABELED	(CAS No) 112-40-3	1.999974	Flam. Liq. 4, H227 Asp. Tox. 1, H304

Full text of R- and H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Immediately call a POISON CENTER or doctor/physician.

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

Symptoms/injuries	: May cause drowsiness or dizziness.
Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.

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

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour.
Explosion hazard : May form flammable/explosive vapour-air mixture.
Reactivity : Flammable liquid and vapour. Vapours may form flammable mixture with air.

5.3. Advice for firefighters

Firefighting instructions : Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : 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

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

6.1.1. For non-emergency personnel

Emergency procedures : Wear personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing fume, gas, mist, spray, vapours. 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. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Dike and contain spill. Dispose as hazardous waste. Comply with local regulations 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 : Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling : No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
Storage conditions : Store at room temperature away from light and moisture.
Incompatible materials : Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.00000000 ppm USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	CNS impair

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N-NONANE UNLABELED		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.00000000 ppm USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	CNS impair
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1050 mg/m ³ USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm USA. NIOSH Recommended Exposure Limits
USA NIOSH	Remark (NIOSH)	Central Nervous System impairment
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1050 mg/m ³ USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	1050 California permissible exposure limits for chemical contaminants.
USA OSHA	OSHA PEL (Ceiling) (ppm)	200 ppm California permissible exposure limits for chemical contaminants.
N-HEXANE UNLABELED (110-54-3)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50.00000000 ppm Central Nervous System impairment Eye irritation Peripheral neuropathy.
USA OSHA	OSHA PEL (TWA) (ppm)	50 ppm

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.
 Personal protective equipment : Protective clothing. Protective goggles. Gloves. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.
 Hand protection : Wear suitable protective clothing and gloves.
 Eye protection : Chemical goggles or face shield. Chemical goggles or safety glasses.
 Skin and body protection : Wear suitable protective clothing.
 Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear respiratory protection.
 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 : Liquid.
 Molecular mass : 86.18 g/mol
 Colour : Colourless.
 Odour : No data available
 Odour threshold : No data available
 pH : 7
 Relative evaporation rate (butylacetate=1) : 15.8
 Melting point : -95 °C (-139 °F)
 Freezing point : No data available
 Boiling point : 69 °C (156 °F)
 Flash point : -26 °C (-14.8 °F) - closed cup
 Auto-ignition temperature : 234 °C (453 °F)
 Decomposition temperature : No data available
 Flammability (solid, gas) : Highly flammable liquid and vapour
 Vapour pressure : 341.3 hPa (256.0 mmHg) at 37.7 °C (99.9 °F). 176.0 hPa (132.0 mmHg) at 20 °C

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Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.659 g/ml at 25 °C (77 °F)
Solubility	: Water: 0 %
Log Pow	: 3.9 - 4.11
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1.2 - 7.7 % (V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour. Vapours may form flammable 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. Overheating. Direct sunlight. Heat. Sparks.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE	
LC50 inhalation rat (mg/l)	23760 mg/m ³ male - 4 h
ATE CLP (gases)	3200.000 ppmv/4h
ATE CLP (vapours)	23.760 mg/l/4h
ATE CLP (dust,mist)	23.760 mg/l/4h
Skin corrosion/irritation, Dermal, rat	Result: Skin Irritation (Draize Test)
Additional information	: S. Typhimurium Result: negative
N-NONANE UNLABELED	
LC50 inhalation rat (mg/l)	23760 mg/m ³ male - 4 h
ATE CLP (gases)	3200.000 ppmv/4h
ATE CLP (vapours)	11.000 mg/l/4h
ATE CLP (dust,mist)	23.760 mg/l/4h
Skin corrosion/irritation, Dermal, rat	Result: Skin Irritation (Draize Test)
Additional information	: S. Typhimurium Result: negative
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (69698-58-4 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
2,4,6,8-TETRABROMODIBENZOFURAN (13C12, 99%) (617707-91-2 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
N-HEXANE UNLABELED (110-54-3)	
LD50 oral rat	25000 mg/kg
LC50 inhalation rat (ppm)	48000 ppm 4 h
ATE CLP (oral)	25000.000 mg/kg bodyweight

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DODECANE UNLABELED (112-40-3)	
LC50 inhalation rat (ppm)	> 142 ppm 8 h
Skin corrosion/irritation	: Causes skin irritation. pH: 7
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging fertility. Suspected of damaging the unborn child (in contact with skin, if inhaled, if swallowed).
STOT-single exposure	: May cause drowsiness or dizziness. May cause damage to organs (central nervous system) (in contact with skin, if inhaled, if swallowed). May cause drowsiness or dizziness
STOT-repeated exposure	: Not classified No data available

DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE	
NOAEL (oral, rat, 90 days)	100 mg/kg bodyweight/day female (OECD Test Guideline 408)

N-NONANE UNLABELED	
NOAEL (oral, rat, 90 days)	100 mg/kg bodyweight/day female (OECD Test Guideline 408)

Aspiration hazard	: May be fatal if swallowed and enters airways.
Potential adverse human health effects and symptoms	: Harmful if inhaled.
Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
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DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE	
EC50 Daphnia 1	0.2 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h

N-NONANE UNLABELED	
EC50 Daphnia 1	0.2 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h

N-HEXANE UNLABELED (110-54-3)	
LC50 fish 1	>= 2.5 mg/l Pimephales promelas (fathead minnow) - 96.0 h
EC50 Daphnia 1	>= 3878 mg/l Daphnia magna (Water flea) - 48 h
ErC50 (algae)	>= 1284 mg/l Chlorella vulgaris (Fresh water algae) - 3 h.

12.2. Persistence and degradability

3,3',5,5'-TETRACB (PCB-80) (13C12, 99%) (33284-52-5 (Unlabeled))	
Persistence and degradability	Not available.

1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (69698-58-4 (Unlabeled))	
Persistence and degradability	Not available.

2,4,6,8-TETRABROMODIBENZOFURAN (13C12, 99%) (617707-91-2 (Unlabeled))	
Persistence and degradability	Not available.

N-HEXANE UNLABELED (110-54-3)	
Persistence and degradability	May cause long-term adverse effects in the environment.

DODECANE UNLABELED (112-40-3)	
Persistence and degradability	Not available.

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12.3. Bioaccumulative potential

DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE	
Log Pow	3.9 - 4.11
Bioaccumulative potential	Indication of bioaccumulation.
N-NONANE UNLABELED	
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.
3,3',5,5'-TETRACB (PCB-80) (13C12, 99%) (33284-52-5 (Unlabeled))	
Bioaccumulative potential	Not available.
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (69698-58-4 (Unlabeled))	
Bioaccumulative potential	Not available.
2,4,6,8-TETRABROMODIBENZOFURAN (13C12, 99%) (617707-91-2 (Unlabeled))	
Bioaccumulative potential	Not available.
N-HEXANE UNLABELED (110-54-3)	
Log Pow	3.9 - 4.11
Bioaccumulative potential	Not available.

12.4. Mobility in soil

3,3',5,5'-TETRACB (PCB-80) (13C12, 99%) (33284-52-5 (Unlabeled))	
Ecology - soil	Not available.
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (69698-58-4 (Unlabeled))	
Ecology - soil	Not available.
2,4,6,8-TETRABROMODIBENZOFURAN (13C12, 99%) (617707-91-2 (Unlabeled))	
Ecology - soil	Not available.
N-HEXANE UNLABELED (110-54-3)	
Ecology - soil	Not available.
DODECANE UNLABELED (112-40-3)	
Ecology - soil	Not available.

12.5. Results of PBT and vPvB assessment

N-HEXANE UNLABELED (110-54-3)	
PBT: not yet assessed	

12.6. Other adverse effects

Other adverse effects : Disposal must be done according to official regulations. Very toxic to aquatic life with long lasting effects.

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 vapours 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) : 1208
DOT NA no. UN1208

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Hexanes
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

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Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger

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.

T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

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

Marine pollutant : No



14.3. Additional information

Emergency Response Guide (ERG) Number : 128

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : II


Class (ADR) : 3 - Flammable liquid

Hazard identification number (Kemler No.) : 33

Classification code (ADR) : F1

Danger labels (ADR) : 3 - Flammable liquids



Orange plates : 

Tunnel restriction code (ADR) : D/E

Limited quantities (ADR) : 1l

EAC code : 3Y

Excepted quantities (ADR) : E2

Transport by sea

DOT Vessel Stowage Location : E - 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, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

MFAG-No : 128

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

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

Civil Aeronautics Law : Flammable liquids

14.4. Environmental hazards

Dangerous for the environment



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

DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE

Subject to reporting requirements of United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
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SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
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N-NONANE UNLABELED

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
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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
-------------------------------------	--

SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
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N-HEXANE UNLABELED (110-54-3)

Subject to reporting requirements of United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
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SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
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DODECANE UNLABELED (112-40-3)

SARA Section 311/312 Hazard Classes	Fire hazard
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15.2. International regulations

CANADA

DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE

Listed on the Canadian DSL (Domestic Substances List)

N-NONANE UNLABELED

Listed on the Canadian DSL (Domestic Substances List)

N-HEXANE UNLABELED (110-54-3)

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

N-NONANE UNLABELED

DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE

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15.3. US State regulations

DIOXIN/FURAN/CP-PCB RECOVERY STANDARD IN 88% HEXANE/10% NONANE/2% DODECANE()	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
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

N-NONANE UNLABELED

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	No	No	No	

N-HEXANE UNLABELED (110-54-3)

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)
No	No	No	Yes	

DODECANE UNLABELED (112-40-3)

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)
No	No	No	No	

N-NONANE UNLABELED

State or local regulations

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

N-HEXANE UNLABELED (110-54-3)

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

DODECANE UNLABELED (112-40-3)

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

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-statements:

Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4

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Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 2	Reproductive toxicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 2	Specific target organ toxicity — Single exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child
H371	May cause damage to organs
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life
R10	Flammable
R11	Highly flammable
R20	Harmful by inhalation
R22	Harmful if swallowed
R33	Danger of cumulative effects
R36	Irritating to eyes
R36/38	Irritating to eyes and skin
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R53	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	Vapours may cause drowsiness and dizziness
R68	Possible risk of irreversible effects
F	Highly flammable
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

NFPA health hazard

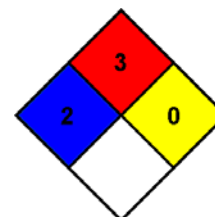
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

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.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 3 Serious Hazard

Physical

: 0 Minimal Hazard

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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