

### 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
 Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

 Date of issue: 03/11/2014
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 ECN-2653

SECTION 1. Identification	of the substance/mixture and of the company/undertaking	
1.1. Product identifier	or the substance/mixture and or the company/undertaking	
Product form	: Mixtures	
Product name	: 1,2,3,6,7-PENTACN (PCN-54) UNLABELED 100 UG/ML IN NONANE	
Product code	: ECN-2653	
	s of the substance or mixture and uses advised against	
1.2.1. Relevant identified use		
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	of the safety data sheet	
Cambridge Isotope Laboratories, Ir 50 Frontage Road Andover, MA 01810 USA	ıc.	
USA: 1-800-322-1174 Int: 1-978 cilsales@isotope.com www.isoto		
Emergency telephone r	number	
Emergency numbers:		
Chemtrec: 1-800-424-9300 (24 ho International: 1-703-741-5970 (24		
<b>SECTION 2: Hazards ident</b>	ification	
2.1. Classification of the su	bstance or mixture	
Classification according to Regu	lation (EC) No. 1272/2008 [CLP]	
Flam. Liq. 3	H226	
Acute Tox. 4 (Inhalation:dust,mist)	H332	
Skin Irrit. 2	H315	
Eye Irrit. 2	H319	
STOT SE 3	H336	
Asp. Tox. 1	H304	
Full text of hazard classes and H-statements : see section 16		
Classification according to Direc	tive 67/548/EEC [DSD] or 1999/45/EC [DPD]	
Xn; R20 Xn; R65		
R10 Xi; R36/38 R67		
Full text of R-phrases: see section	16	
GHS-US classification		
Flam. Liq. 3	H226	
Acute Tox. 4 (Inhalation:dust,mist) Skin Irrit. 2	H332 H315 H319	

 STOT SE 3
 H336

 Asp. Tox. 1
 H304

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects Central Nervous System.

H319

Eye Irrit. 2A

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Labeling according to Regulation (EC) N	lo. 1272/2008 [CLP]
Hazard pictograms (CLP)	$\wedge \land \land$
	GHS02 GHS08 GHS07
Signal word (CLP)	: Danger
Hazardous ingredients	: N-NONANE UNLABELED
Hazard statements (CLP)	<ul> <li>H226 - Flammable liquid and vapor</li> <li>H304 - May be fatal if swallowed and enters airways</li> <li>H315 - Causes skin irritation</li> <li>H319 - Causes serious eye irritation</li> <li>H332 - Harmful if inhaled</li> <li>H336 - May cause drowsiness or dizziness</li> </ul>
Precautionary statements (CLP)	<ul> <li>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</li> <li>P233 - Keep container tightly closed.</li> <li>P240 - Ground/bond container and receiving equipment.</li> <li>P241 - Use explosion-proof electrical, lighting, ventilating equipment</li> <li>P261 - Avoid breathing dust, fume, gas, mist, vapors, spray.</li> <li>P264 - Wash Both hands thoroughly after handling.</li> <li>P271 - Use only outdoors or in a well-ventilated area.</li> <li>P280 - Wear protective gloves, protective clothing.</li> </ul>
GHS-US labeling	
Hazard pictograms (GHS-US)	
Signal word (GHS-US)	GHS02 GHS08 GHS07
Hazard statements (GHS-US)	<ul> <li>Danger</li> <li>H226 - Flammable liquid and vapor</li> <li>H304 - May be fatal if swallowed and enters airways</li> <li>H315 - Causes skin irritation</li> <li>H319 - Causes serious eye irritation</li> <li>H332 - Harmful if inhaled</li> </ul>
Precautionary statements (GHS-US)	H336 - May cause drowsiness or dizziness : P210 - Keep away from heat, hot surfaces, open flames, sparks No smoking.
	<ul> <li>P233 - Keep container tightly closed.</li> <li>P240 - Ground/Bond container and receiving equipment</li> <li>P241 - Use explosion-proof electrical, lighting, ventilating equipment</li> <li>P242 - Use only non-sparking tools.</li> <li>P243 - Take precautionary measures against static discharge.</li> <li>P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.</li> <li>P264 - Wash Both hands thoroughly after handling.</li> <li>P271 - Use only outdoors or in a well-ventilated area.</li> <li>P280 - Wear protective gloves, protective clothing.</li> <li>P301+P310 - If swallowed: Immediately call a poison center or doctor</li> <li>P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower</li> </ul>
	<ul> <li>P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing</li> <li>P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact</li> <li>lenses, if present and easy to do. Continue rinsing</li> <li>P312 - Call a poison center or doctor if you feel unwell</li> <li>P321 - Specific treatment (see Hazard pictograms (CLP) on this label)</li> <li>P331 - Do NOT induce vomiting.</li> <li>P332+P313 - If skin irritation occurs: Get medical advice/attention.</li> <li>P337+P313 - If eye irritation persists: Get medical advice/attention.</li> <li>P362 - Take off contaminated clothing and wash before reuse.</li> <li>P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water</li> </ul>

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- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container to Comply with applicable regulations

#### **Other hazards** 2.3.

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-NONANE UNLABELED	(CAS-No.) 111-84-2 (EC-No.) 203-913-4	99.9861	R10 Xn; R20 Xn; R65 Xi; R36/38 R67
1,2,3,6,7-PENTACN UNLABELED	(CAS-No.) 150224-16-1 (Unlabeled)	0.0139	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-NONANE UNLABELED	(CAS-No.) 111-84-2 (EC-No.) 203-913-4	99.9861	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
1,2,3,6,7-PENTACN UNLABELED	(CAS-No.) 150224-16-1 (Unlabeled)	0.0139	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Name	Product identifier	%	GHS-US classification
N-NONANE UNLABELED	(CAS-No.) 111-84-2	99.9861	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304
1,2,3,6,7-PENTACN UNLABELED	(CAS-No.) 150224-16-1 (Unlabeled)	0.0139	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

### 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 physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell. Give oxygen or artificial respiration if necessary.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.
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	: Do not induce vomiting. Call a physician immediately.
4.2. Most important symptoms and effective statements and effective sta	ffects, both acute and delayed
Symptoms/effects	: May cause drowsiness or dizziness.

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6, 2012 / Rules and Regulations	
Symptoms/effects after inhalation	: Harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation. May be harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways. Risk of lung edema.
4.3. Indication of any immediate medic	cal attention and special treatment needed
Treat symptomatically.	
SECTION 5: Firefighting 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 s	substance or mixture
Fire hazard	: Flammable liquid and vapor.
Reactivity	: Flammable liquid and vapor. Vapors 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 mea	asures
6.1. Personal precautions, protective e	equipment and emergency procedures
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, vapors. Avoid contact with skin and eyes.
6.1.2. For emergency responders	
Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
6.2. Environmental precautions Prevent entry to sewers and public waters. Avc	aid release to the environment
6.3. Methods and material for containn	
For containment	: Dike and contain spill. Dispose as hazardous waste. Comply with local regulations for disposa
Methods for cleaning up	<ul> <li>Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.</li> </ul>
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	
	Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the
Additional hazards when processed	<ul> <li>Avoid all contact with skin, eyes, or clothing. Keep away from sources of ignition - No smoking Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer). Take precautionary measures against static discharges.</li> <li>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.</li> </ul>
Additional hazards when processed	<ul> <li>Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer). Take precautionary measures against static discharges.</li> <li>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.</li> </ul>
Additional hazards when processed Precautions for safe handling Hygiene measures	<ul> <li>Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer). Take precautionary measures against static discharges.</li> <li>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.</li> <li>Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this produc Always wash hands after handling the product.</li> </ul>
Additional hazards when processed Precautions for safe handling Hygiene measures	<ul> <li>Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer). Take precautionary measures against static discharges.</li> <li>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.</li> <li>Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product Always wash hands after handling the product.</li> </ul>
Additional hazards when processed Precautions for safe handling Hygiene measures 7.2. Conditions for safe storage, includ	<ul> <li>Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer). Take precautionary measures against static discharges.</li> <li>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.</li> <li>Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product Always wash hands after handling the product.</li> <li>Store in a well-ventilated place. Keep container tightly closed. Keep dry. Ground/bond contain</li> </ul>

No additional information available

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.1. Control parameters	ontrols/personal protection	
	UNLABELED 100 UG/ML IN NONANE	
Italy - Portugal - USA ACGIH		200.00000000 ppm USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	CNS impair
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1050 mg/m <sup>3</sup> 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/m³)	1050 mg/m <sup>3</sup> 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 <sup>3</sup> )	1050 California permissible exposure limits for chemical contaminants.
USA OSHA	OSHA PEL (Ceiling) (ppm)	200 ppm California permissible exposure limits for chemical contaminants.
N-NONANE UNLABELED (11	1-84-2)	
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 <sup>3</sup> )	1050 mg/m <sup>3</sup> 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/m³)	1050 mg/m <sup>3</sup> 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 <sup>3</sup> )	1050 California permissible exposure limits for chemical contaminants.
USA OSHA	OSHA PEL (Ceiling) (ppm)	200 ppm California permissible exposure limits for chemical contaminants.

#### 8.2. **Exposure controls**

Appropriate engineering controls

Personal protective equipment

- : Ensure good ventilation of the work station.
- : Protective clothing. Protective goggles. Gloves. Self-contained breathing apparatus.



Materials for protective clothing Hand protection Eye protection Skin and body protection Respiratory protection

- : Wear suitable protective clothing and gloves. : protective gloves.
- Chemical goggles or face shield. Chemical goggles or safety glasses. :
- Wear suitable protective clothing, gloves and eye/face protection.
- Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Approved 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 : Liquid Molecular mass : 128.3 g/mol

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, 0	
Color	: Colorless
Odor	: No data available
Odor threshold	: No data available
рН	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: -53 °C (- 63 °F) - lit
Boiling point	: 151 °C (304 °F) - lit
Flash point	: 31 °C (87.8 °F) - closed cup
Auto-ignition temperature	: 205 °C (401 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: 5.69 hPa (4.27 mmHg) at 25 °C (77 °F)
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 0.718 g/ml at 25 °C (77 °F)
Solubility	: Water: 0.0002 % at 25 °C (77 °F) - slightly soluble
Log Pow	: 5.65
Log Kow	: No data available
Viscosity, kinematic	: <= 1.008 mm <sup>2</sup> /s at 20 °C (68 °F)
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 0.87 - 2.9 % (V)
9.2 Other information	

#### 9.2. **Other information**

No additional information available

## SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Flammable liquid and vapor. Vapors may form flammable mixture with air.

#### 10.2. **Chemical stability**

See storage and expiration date on CoA.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. **Conditions to avoid**

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials

No additional information available

#### Hazardous decomposition products 10.6.

Carbon oxides (CO, CO2).

SECTION 11: Toxicological informatio	n	
11.1. Information on toxicological effects		
Acute toxicity :	Inhalation:dust,mist: Harmful if inhaled.	
1,2,3,6,7-PENTACN (PCN-54) UNLABELED 100 UG/ML IN NONANE		
LC50 inhalation rat (mg/l)	23760 mg/m <sup>3</sup> male - 4 h	
ATE CLP (vapors)	11.000 mg/l/4h	
Skin corrosion/irritation, Dermal, rat	Result: Skin Irritation (Draize Test)	
Additional information	: S. Typhimurium Result: negative	
1,2,3,6,7-PENTACN UNLABELED (150224-16-1 (Unlabeled))		
ATE CLP (oral)	500.000 mg/kg body weight	
N-NONANE UNLABELED (111-84-2)		
LC50 inhalation rat (mg/l)	23760 mg/m <sup>3</sup> male - 4 h	
ATE CLP (vapors)	11.000 mg/l/4h	
Skin corrosion/irritation, Dermal, rat	Result: Skin Irritation (Draize Test)	
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N-NONANE UNLABELED (111-84-2)	
Additional information	: S. Typhimurium Result: negative
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product fo the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: Harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation. May be harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways. Risk of lung edema.

SECTION 12: Ecological information			
12.1.	Toxicity		
Ecology	- general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.	

### 12.2. Persistence and degradability

12.2. I croistence and degradability	
1,2,3,6,7-PENTACN UNLABELED (150224-16-	1 (Unlabeled))
Persistence and degradability	Not available.
12.3. Bioaccumulative potential	
1,2,3,6,7-PENTACN (PCN-54) UNLABELED 10	00 UG/ML IN NONANE
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.
N-NONANE UNLABELED (111-84-2)	
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.
12.4. Mobility in soil	
No additional information available	
12.5. Results of PBT and vPvB assessmen	nt
No additional information available	
12.6. Other adverse effects	
Other adverse effects	: Disposal must be done according to official regulations.
<b>SECTION 13: Disposal consideration</b>	S
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 / AD	
14.1. UN number	
UN-No.(DOT)	: 1920
DOT NA no.	UN1920

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14.2. UN proper shipping name	
Proper Shipping Name (DOT)	: Nonanes
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid
	FLAMMABLE LIQUID 3
Packing group (DOT)	: III - Minor Danger
	<ul> <li>B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.</li> <li>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).</li> <li>T2 - 1.5 178.274(d)(2) Normal</li></ul>
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
	. 171
14.3. Additional information	
Emergency Response Guide (ERG) Number	: 128
Other information	: No supplementary information available.
Overland transport	
Packing group (ADR)	: 111
Class (ADR)	: 3 - Flammable liquid
Hazard identification number (Kemler No.)	: 30
( )	: F1
Hazard labels (ADR)	: 3 - Flammable liquids
Orange plates	30 1920
Tunnel restriction code (ADR)	: D/E
Limited quantities (ADR)	51
EAC	: 3Y
Excepted quantities (ADR)	: E1
Transport by sea	
	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a
MFAG-No	passenger vessel. : 128
	. 120
Air transport DOT Quantity Limitations Passenger aircraft/rail	: 60 L

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DOT Quantity Limitations Cargo aircraft only (49 : 220 L CFR 175.75)			
Civil Aeronautics Law		: Flammable liquids	
14.4.	Environmental hazards		
Other in	nformation	: No supplementary information available.	
14.5.	Special precautions for user		
14.6.	Transport in bulk according to	Annex II of MARPOL 73/78 and the IBC Code	

### Not applicable

SECTION 15: Regulatory information		
15.1. US Federal regulations		
1,2,3,6,7-PENTACN (PCN-54) UNLABELED 100 UG/ML IN NONANE		
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.	
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.	
1,2,3,6,7-PENTACN UNLABELED (150224-16-1 (Unlabeled))		
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	Immediate (acute) health hazard	
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313	
N-NONANE UNLABELED (111-84-2)		
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.	
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.	

### 15.2. International regulations

CANADA		
1,2,3,6,7-PENTACN (PCN-54) UNLABELED 100 UG/ML IN NONANE		
Listed on the Canadian DSL (Domestic Substances List)		
N-NONANE UNLABELED (111-84-2)		
Listed on the Canadian DSL (Domestic Substances List)		

### 15.2.1. National regulations

No additional information available

15.3. US State regulations			
1,2,3,6,7-PENTACN (PCN-54) UNLABELED 100 UG/ML IN NONANE()			
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	No		
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		

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

1,2,3,6,7-PENTACN (PC	CN-54) UNLABELED 100 UG/ML	IN NONANE()		
		U.S New York - Reporting of	of Releases Part 597 - List of Ha	azardous Substances
1,2,3,6,7-PENTACN UN	ILABELED (150224-16-1 (Unlab	eled))		
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 UNLABELI	ED (111-84-2)			
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	
1,2,3,6,7-PENTACN UN	LABELED (150224-16-1 (Unlab	eled))		
State or local regulation	ons			
U.S Pennsylvania - RTK (Right to Know) List U.S New Jersey - Right to Know Hazardous Substance List				
N-NONANE UNLABELED (111-84-2)				
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				

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. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
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
R10	Flammable
R20	Harmful by inhalation
R22	Harmful if swallowed
R36/38	Irritating to eyes and skin
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## 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

R38	Irritating to skin
R41	Risk of serious damage to eyes
R48	Danger of serious damage to health by prolonged exposure
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R67	Vapors may cause drowsiness and dizziness
Ν	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	<ul> <li>: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.</li> </ul>
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