



# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/<sup>13</sup>C10, 99%)

## 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: 28/11/2018

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Supersedes: 28/11/2018

Version: 2.0

ECN-5577

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

### 1.1. Product identifier

Product form : Mixtures  
Product name : MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/<sup>13</sup>C10, 99%)  
Product code : ECN-5577

### 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](mailto:cilsales@isotope.com) [www.isotope.com](http://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. 3 H226  
Acute Tox. 4 (Inhalation) H332  
Skin Irrit. 2 H315  
Eye Irrit. 2 H319  
STOT SE 3 H336  
Asp. Tox. 1 H304  
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]

R10  
Xn; R20  
Xn; R65  
Xi; R36/38  
R67  
N; R50/53

Full text of R-phrases: see section 16

#### GHS-US classification

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  
Aquatic Chronic 1 H410

Full text of H statements : see section 16

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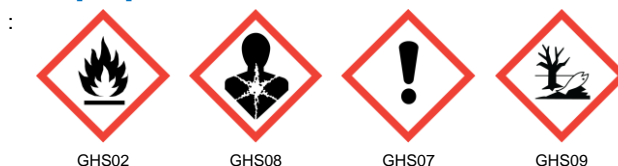
### Adverse physicochemical, human health and environmental effects

Central Nervous System. Flammable liquid and vapor. 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

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazardous ingredients

: 1,4,5,8-TETRACN UNLABELED; 1,2,3,5,7,8-HEXACN UNLABELED; 1,2,3,4,5,6,7-HEPTACN UNLABELED; 1,2,3,5-TETRACN UNLABELED; 2,3,6,7-TETRACN UNLABELED; 1,2,3,5,7-PENTACN UNLABELED; 1,3,5,7-TETRACN UNLABELED; 1,2,3,4,5-PENTACN UNLABELED; 1,2,3,5,8-PENTACN UNLABELED; 1,2,3,5,6,8-HEXACN UNLABELED; 1,2,3,5,7-PENTACN (<sup>13</sup>C10, 99%); 1,2,3,4,5,6,7-HEPTACN (<sup>13</sup>C10, 98%); 1,3,5,7-TETRACN (<sup>13</sup>C10, 99%); 1,2,3,5,6,7-HEXACN (<sup>13</sup>C10, 98%); 2,5-DICB (PCB-9) (<sup>13</sup>C12, 98-99%); 2,2',5,5'-TETRACB (PCB-52) (<sup>13</sup>C12, 99%); 2,2',4,5,5'-PENTACB (PCB-101) (<sup>13</sup>C12, 99%); 2,2',3,4,4',5'-HEXACB (PCB-138) (<sup>13</sup>C12, 99%); 2,2',3,3',4,4',5,5'-OCTACB (CHEM PURITY 96.5%) (<sup>13</sup>C12, 99%); ISOCTANE UNLABELED; N-NONANE UNLABELED

Hazard statements (CLP)

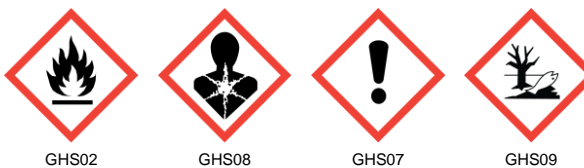
: H226 - Flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H336 - May cause drowsiness or dizziness  
H410 - Very toxic to aquatic life with long lasting effects

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  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.

### GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H226 - Flammable liquid and vapor  
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  
H410 - Very toxic to aquatic life with long lasting effects

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.  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.

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P280 - Wear eye protection, face protection, protective clothing, protective gloves.  
P301+P310 - If swallowed: Immediately call a 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  
P312 - Call a doctor if you feel unwell  
P321 - Specific treatment (see Hazardous component(s) for labeling 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+P364 - Take off contaminated clothing and wash it before reuse.  
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO<sub>2</sub>), dry extinguishing powder 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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 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-NONANE UNLABELED	(CAS-No.) 111-84-2 (EC-No.) 203-913-4	91.309884 - 91.310848	R10 Xn; R20 Xn; R65 Xi; R36/38 R67
ISOCTANE UNLABELED	(CAS-No.) 540-84-1 (EC-No.) 208-759-1 (EC Index-No.) 601-009-00-8 (REACH-no) 01-2119457965-22	8.689129 - 8.689814	Xi; R38 N; R50/53 R67 F; R11 Xn; R65
2-MONOCN UNLABELED	(CAS-No.) 91-58-7 (EC-No.) 202-079-9	0.00000003 - 0.00001397	N; R51/53
1,2,3,4-TETRACN UNLABELED	(CAS-No.) 20020-02-4	0.00000003 - 0.00001397	Xn; R22
1,4,5,8-TETRACN UNLABELED	(CAS-No.) 3432-57-3	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY)	(CAS-No.) 67922-26-3	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R36/37 N; R51/53
1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED	(CAS-No.) 103426-93-3 (Unlabeled)	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R36/37 N; R51/53
1,2,3,5,7,8-HEXACN UNLABELED	(CAS-No.) 103426-94-4 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Xn; R20/21 Xi; R36/37/38 N; R50/53
1,2,3,4,5,6,7-HEPTACN UNLABELED	(CAS-No.) 58863-14-2 (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Xn; R20/21 Xi; R36/37/38 N; R50/53

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Name	Product identifier	%	Classification according to Directive 67/548/EEC
1,5-DICN UNLABELED	(CAS-No.) 1825-30-5	0.00000003 - 0.00001397	Xn; R22 C; R34 Xi; R41 Xi; R37/38 N; R50/53
1,2,3,5-TETRACN UNLABELED	(CAS-No.) 53555-63-8	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
2,3,6,7-TETRACN UNLABELED	(CAS-No.) 34588-40-4	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
1,2,3,5,7-PENTACN UNLABELED	(CAS-No.) 53555-65-0 (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Xn; R20/21 Xi; R36/37/38 N; R50/53
1,2,3,5,6,7-HEXACN UNLABELED	(CAS-No.) 103426-97-7 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Xn; R20/21 Xi; R36/37/38 N; R50/53
1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED	(CAS-No.) 17062-87-2	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R36/37 N; R51/53
OCTACN UNLABELED	(CAS-No.) 2234-13-1 (EC-No.) 218-778-7	0.00000003 - 0.00001397	Xn; R22 R53
1,2,3-TRICN UNLABELED	(CAS-No.) 50402-52-3 (EC-No.) (EC Index-No.)	0.00000003 - 0.00001397	Xi; R36/37/38
1,3,5,7-TETRACN UNLABELED	(CAS-No.) 53555-64-9	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
1,2,3,4,5-PENTACN UNLABELED	(CAS-No.) 67922-25-2	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
1,2,3,5,8-PENTACN UNLABELED	(CAS-No.) 150224-24-1	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
1,2,3,5,6,8-HEXACN UNLABELED	(CAS-No.) 103426-95-5 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Xn; R20/21 Xi; R36/37/38 N; R50/53
1,2,4,5,7,8-HEXACN UNLABELED	(CAS-No.) 103426-92-2	0.00000003 - 0.00001397	Xn; R22 Xi; R41 Xi; R36/37 N; R51/53
1,2,3-TRICN ( <sup>13</sup> C10, 99%)	(CAS-No.) 50402-52-3 (Unlabeled) (EC-No.) (EC Index-No.)	0.00000014	Xi; R36/37/38
1,2,3,5,7-PENTACN ( <sup>13</sup> C10, 99%)	(CAS-No.) 53555-65-0 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000014	Xn; R20/21 Xi; R36/37/38 N; R50/53
1,2,3,4,5,8-HEXACN ( <sup>13</sup> C10, 99%)	(CAS-No.) 103426-93-3 (Unlabeled)	0.00000014	Xn; R22 Xi; R41 Xi; R36/37 N; R51/53

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Name	Product identifier	%	Classification according to Directive 67/548/EEC
1,2,3,4,5,6,7-HEPTACN (13C10, 98%)	(CAS-No.) 58863-14-2 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.0000014	Xn; R20/21 Xi; R36/37/38 N; R50/53
1,5-DICN (13C10, 99%)	(CAS-No.) 1825-30-5 (Unlabeled)	0.0000014	Xn; R22 C; R34 Xi; R41 Xi; R37/38 N; R50/53
1,3,5,7-TETRACN (13C10, 99%)	(CAS-No.) 53555-64-9 (Unlabeled)	0.0000014	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
1,2,3,5,6,7-HEXACN (13C10, 98%)	(CAS-No.) 103426-97-7 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.0000014	Xn; R20/21 Xi; R36/37/38 N; R50/53
OCTACN (13C10, 99%)	(CAS-No.) 2234-13-1 (Unlabeled) (EC-No.) 218-778-7	0.0000014	Xn; R22 R53
1,8-DICN (PCN-9) (13C10, 99%)	(CAS-No.) 2050-74-0 (Unlabeled) (EC-No.) 218-101-4 (Unlabeled)	0.0000014	N; R51/53 Xi; R37/38 Xi; R41 Xn; R22
1,2,3,4-TETRACN (13C10, 99%)	(CAS-No.) 20020-02-4 (Unlabeled)	0.0000014	Xn; R22
2,5-DICB (PCB-9) (13C12, 98-99%)	(CAS-No.) 250694-89-4 (EC Index-No.) 602-039-00-4 (Unlabeled)	0.0000014	R48 N; R50/53
2,2',5,5'-TETRACB (PCB-52) (13C12, 99%)	(CAS-No.) 208263-80-3 (EC Index-No.) 602-039-00-4	0.0000014	Carc. Cat. 1; R45 N; R51/53 Xn; R48/20/21/22
2,2',4,5,5'-PENTACB (PCB-101) (13C12, 99%)	(CAS-No.) 104130-39-4 (EC Index-No.) 602-039-00-4 (Unlabeled)	0.0000014	Xn; R48/20 N; R50/53
2,2',3,4,4',5'-HEXACB (PCB-138) (13C12, 99%)	(CAS-No.) 208263-66-5 (EC Index-No.) 602-039-00-4	0.0000014	Xn; R48/20/21/22 N; R50/53 R33
2,2',3,3',4,4',5,5'-OCTACB (CHEM PURITY 96.5%) (13C12, 99%)	(CAS-No.) 208263-74-5 (EC Index-No.) 602-039-00-4	0.0000014	Xn; R48/20/21/22 N; R50/53 R33
MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%)		0.0000014	Xi; R38 N; R50/53 R67 F; R11 Xn; R65

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	91.309884 - 91.310848	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
ISOCTANE UNLABELED	(CAS-No.) 540-84-1 (EC-No.) 208-759-1 (EC Index-No.) 601-009-00-8 (REACH-no) 01-2119457965-22	8.689129 - 8.689814	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2-MONO-CN UNLABELED	(CAS-No.) 91-58-7 (EC-No.) 202-079-9	0.00000003 - 0.00001397	Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1,2,3,4-TETRACN UNLABELED	(CAS-No.) 20020-02-4	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413

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1,4,5,8-TETRACN UNLABELED	(CAS-No.) 3432-57-3	0.00000003 - 0.00001397	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
1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY)	(CAS-No.) 67922-26-3	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336 Aquatic Chronic 2, H411
1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED	(CAS-No.) 103426-93-3 (Unlabeled)	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 2, H411
1,2,3,5,7,8-HEXACN UNLABELED	(CAS-No.) 103426-94-4 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2,3,4,5,6,7-HEPTACN UNLABELED	(CAS-No.) 58863-14-2 (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,5-DICN UNLABELED	(CAS-No.) 1825-30-5	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1,2,3,5-TETRACN UNLABELED	(CAS-No.) 53555-63-8	0.00000003 - 0.00001397	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
2,3,6,7-TETRACN UNLABELED	(CAS-No.) 34588-40-4	0.00000003 - 0.00001397	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
1,2,3,5,7-PENTACN UNLABELED	(CAS-No.) 53555-65-0 (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2,3,5,6,7-HEXACN UNLABELED	(CAS-No.) 103426-97-7 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 1, H370 STOT SE 2, H371 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED	(CAS-No.) 17062-87-2	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336 Aquatic Chronic 2, H411
OCTACN UNLABELED	(CAS-No.) 2234-13-1 (EC-No.) 218-778-7	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Aquatic Chronic 4, H413
1,2,3-TRICN UNLABELED	(CAS-No.) 50402-52-3 (EC-No.) (EC Index-No.)	0.00000003 - 0.00001397	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

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1,3,5,7-TETRACN UNLABELED	(CAS-No.) 53555-64-9	0.00000003 - 0.00001397	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
1,2,3,4,5-PENTACN UNLABELED	(CAS-No.) 67922-25-2	0.00000003 - 0.00001397	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
1,2,3,5,8-PENTACN UNLABELED	(CAS-No.) 150224-24-1	0.00000003 - 0.00001397	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
1,2,3,5,6,8-HEXACN UNLABELED	(CAS-No.) 103426-95-5 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2,4,5,7,8-HEXACN UNLABELED	(CAS-No.) 103426-92-2	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 2, H411
1,2,3-TRICN (13C10, 99%)	(CAS-No.) 50402-52-3 (Unlabeled) (EC-No.) (EC Index-No.)	0.0000014	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
1,2,3,5,7-PENTACN (13C10, 99%)	(CAS-No.) 53555-65-0 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2,3,4,5,8-HEXACN (13C10, 99%)	(CAS-No.) 103426-93-3 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 2, H411
1,2,3,4,5,6,7-HEPTACN (13C10, 98%)	(CAS-No.) 58863-14-2 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 1, H372 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,5-DICN (13C10, 99%)	(CAS-No.) 1825-30-5 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1,3,5,7-TETRACN (13C10, 99%)	(CAS-No.) 53555-64-9 (Unlabeled)	0.0000014	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
1,2,3,5,6,7-HEXACN (13C10, 98%)	(CAS-No.) 103426-97-7 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 1, H372 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
OCTACN (13C10, 99%)	(CAS-No.) 2234-13-1 (Unlabeled) (EC-No.) 218-778-7	0.0000014	Acute Tox. 4 (Oral), H302 Aquatic Chronic 4, H413



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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1,8-DICN (PCN-9) (13C10, 99%)	(CAS-No.) 2050-74-0 (Unlabeled) (EC-No.) 218-101-4 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 2, H411
1,2,3,4-TETRACN (13C10, 99%)	(CAS-No.) 20020-02-4 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
2,5-DICB (PCB-9) (13C12, 98-99%)	(CAS-No.) 250694-89-4 (EC Index-No.) 602-039-00-4 (Unlabeled)	0.0000014	STOT RE 2, H373 Aquatic Chronic 1, H410
2,2',5,5'-TETRACB (PCB-52) (13C12, 99%)	(CAS-No.) 208263-80-3 (EC Index-No.) 602-039-00-4	0.0000014	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',4,5,5'-PENTACB (PCB-101) (13C12, 99%)	(CAS-No.) 104130-39-4 (EC Index-No.) 602-039-00-4 (Unlabeled)	0.0000014	STOT RE 2, H373 Aquatic Chronic 1, H410
2,2',3,4,4',5'-HEXACB (PCB-138) (13C12, 99%)	(CAS-No.) 208263-66-5 (EC Index-No.) 602-039-00-4	0.0000014	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,3',4,4',5,5'-OCTACB (CHEM PURITY 96.5%) (13C12, 99%)	(CAS-No.) 208263-74-5 (EC Index-No.) 602-039-00-4	0.0000014	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%)		0.0000014	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Name	Product identifier	%	GHS-US classification
N-NONANE UNLABELED	(CAS-No.) 111-84-2	91.309884 - 91.310848	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
ISOCTANE UNLABELED	(CAS-No.) 540-84-1	8.689129 - 8.689814	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2-MONO-CN UNLABELED	(CAS-No.) 91-58-7	0.00000003 - 0.00001397	Aquatic Acute 2, H401 Aquatic Chronic 2, H411
1,2,3,4-TETRACN UNLABELED	(CAS-No.) 20020-02-4	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
1,4,5,8-TETRACN UNLABELED	(CAS-No.) 3432-57-3	0.00000003 - 0.00001397	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
1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY)	(CAS-No.) 67922-26-3	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED	(CAS-No.) 103426-93-3 (Unlabeled)	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
1,2,3,5,7,8-HEXACN UNLABELED	(CAS-No.) 103426-94-4 (Unlabeled)	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Chronic 1, H410



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Name	Product identifier	%	GHS-US classification
1,2,3,4,5,6,7-HEPTACN UNLABELED	(CAS-No.) 58863-14-2	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Chronic 1, H410
1,5-DICN UNLABELED	(CAS-No.) 1825-30-5	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1,2,3,5-TETRACN UNLABELED	(CAS-No.) 53555-63-8	0.00000003 - 0.00001397	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
2,3,6,7-TETRACN UNLABELED	(CAS-No.) 34588-40-4	0.00000003 - 0.00001397	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
1,2,3,5,7-PENTACN UNLABELED	(CAS-No.) 53555-65-0	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Chronic 1, H410
1,2,3,5,6,7-HEXACN UNLABELED	(CAS-No.) 103426-97-7 (Unlabeled)	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 1, H370 STOT SE 2, H371 Aquatic Chronic 1, H410
1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED	(CAS-No.) 17062-87-2	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
OCTACN UNLABELED	(CAS-No.) 2234-13-1	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Aquatic Chronic 4, H413
1,2,3-TRICN UNLABELED	(CAS-No.) 50402-52-3	0.00000003 - 0.00001397	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
1,3,5,7-TETRACN UNLABELED	(CAS-No.) 53555-64-9	0.00000003 - 0.00001397	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
1,2,3,4,5-PENTACN UNLABELED	(CAS-No.) 67922-25-2	0.00000003 - 0.00001397	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
1,2,3,5,8-PENTACN UNLABELED	(CAS-No.) 150224-24-1	0.00000003 - 0.00001397	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
1,2,3,5,6,8-HEXACN UNLABELED	(CAS-No.) 103426-95-5 (Unlabeled)	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Chronic 1, H410
1,2,4,5,7,8-HEXACN UNLABELED	(CAS-No.) 103426-92-2	0.00000003 - 0.00001397	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

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Name	Product identifier	%	GHS-US classification
1,2,3-TRICN (13C10, 99%)	(CAS-No.) 50402-52-3 (Unlabeled)	0.0000014	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
1,2,3,5,7-PENTACN (13C10, 99%)	(CAS-No.) 53555-65-0 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT RE 1, H372 STOT RE 2, H373 Aquatic Chronic 1, H410
1,2,3,4,5,8-HEXACN (13C10, 99%)	(CAS-No.) 103426-93-3 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
1,2,3,4,5,6,7-HEPTACN (13C10, 98%)	(CAS-No.) 58863-14-2 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 1, H372 STOT RE 2, H373 Aquatic Chronic 1, H410
1,5-DICN (13C10, 99%)	(CAS-No.) 1825-30-5 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1,3,5,7-TETRACN (13C10, 99%)	(CAS-No.) 53555-64-9 (Unlabeled)	0.0000014	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
1,2,3,5,6,7-HEXACN (13C10, 98%)	(CAS-No.) 103426-97-7 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 1, H372 STOT RE 2, H373 Aquatic Chronic 1, H410
OCTACN (13C10, 99%)	(CAS-No.) 2234-13-1 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Aquatic Chronic 4, H413
1,8-DICN (PCN-9) (13C10, 99%)	(CAS-No.) 2050-74-0 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
1,2,3,4-TETRACN (13C10, 99%)	(CAS-No.) 20020-02-4 (Unlabeled)	0.0000014	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
2,5-DICB (PCB-9) (13C12, 98-99%)	(CAS-No.) 250694-89-4	0.0000014	STOT RE 2, H373 Aquatic Chronic 1, H410
2,2',5,5'-TETRACB (PCB-52) (13C12, 99%)	(CAS-No.) 208263-80-3	0.0000014	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',4,5,5'-PENTACB (PCB-101) (13C12, 99%)	(CAS-No.) 104130-39-4	0.0000014	STOT RE 2, H373 Aquatic Chronic 1, H410
2,2',3,4,4',5'-HEXACB (PCB-138) (13C12, 99%)	(CAS-No.) 208263-66-5	0.0000014	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,3',4,4',5,5'-OCTACB (CHEM PURITY 96.5%) (13C12, 99%)	(CAS-No.) 208263-74-5	0.0000014	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)		0.0000014	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 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.

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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 effects, both acute and delayed

Symptoms/effects	: May cause drowsiness or dizziness.
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 medical 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 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 measures

### 6.1. Personal precautions, protective 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. 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 : 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.  
Precautions for safe handling : 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.  
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Store in a well-ventilated place. Keep container tightly closed. Keep dry. Ground/bond container and receiving equipment.
Storage conditions	: Store at room temperature away from light and moisture.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)		
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/m <sup>3</sup> )	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.
1,5-DICN UNLABELED (1825-30-5)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	skin designation{0}
1,2,3,5,7-PENTACN UNLABELED (53555-65-0)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup> Skin
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup> Skin
1,2,3,5,7-PENTACN (13C10, 99%) (53555-65-0 (Unlabeled))		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup> Skin
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup> Skin
1,5-DICN (13C10, 99%) (1825-30-5 (Unlabeled))		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	skin designation{0}
2,2',5,5'-TETRACB (PCB-52) (13C12, 99%) (208263-80-3)		
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
ISOCTANE UNLABELED (540-84-1)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	300.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Upper Respiratory Tract irritation
N-NONANE UNLABELED (111-84-2)		
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/m <sup>3</sup> )	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

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N-NONANE UNLABELED (111-84-2)		
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.
MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	300.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Upper Respiratory Tract irritation

### 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 : protective gloves.  
Eye protection : Chemical goggles or face shield. Chemical goggles or safety glasses.  
Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.  
Respiratory 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

Physical state : Liquid  
Appearance : Liquid  
Color : Colorless  
Odor : No data available  
Odor threshold : No data available  
pH : No data available  
Relative evaporation rate (butyl acetate=1) : No data available  
Melting point : Not applicable  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Flammability (solid, gas) : No data available  
Vapor pressure : No data available  
Relative vapor density at 20 °C : No data available  
Relative density : No data available  
Solubility : No data available  
Log Pow : No data available  
Log Kow : No data available  
Viscosity, kinematic : No data available  
Viscosity, dynamic : No data available  
Explosive properties : No data available  
Oxidizing properties : No data available  
Explosion limits : No data available

### 9.2. Other information

No additional information available

# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/<sup>13</sup>C10, 99%)

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### 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

#### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>).

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Inhalation: Harmful if inhaled.

<b>MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/<sup>13</sup>C10, 99%)</b>	
LC50 inhalation rat (mg/l)	23760 mg/m <sup>3</sup> male - 4 h
ATE CLP (vapors)	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
<b>2-MONOCN UNLABELED (91-58-7)</b>	
LD50 oral rat	2078 mg/kg
ATE CLP (oral)	2078.000 mg/kg body weight
<b>1,2,3,4-TETRACN UNLABELED (20020-02-4)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,4,5,8-TETRACN UNLABELED (3432-57-3)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY) (67922-26-3)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED (103426-93-3 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,5,7,8-HEXACN UNLABELED (103426-94-4 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,4,5,6,7-HEPTACN UNLABELED (58863-14-2)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,5-DICN UNLABELED (1825-30-5)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,5-TETRACN UNLABELED (53555-63-8)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>2,3,6,7-TETRACN UNLABELED (34588-40-4)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,5,7-PENTACN UNLABELED (53555-65-0)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,5,6,7-HEXACN UNLABELED (103426-97-7 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED (17062-87-2)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>OCTACN UNLABELED (2234-13-1)</b>	
ATE CLP (oral)	500.000 mg/kg body weight



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<b>1,3,5,7-TETRACN UNLABELED (53555-64-9)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,4,5-PENTACN UNLABELED (67922-25-2)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,5,8-PENTACN UNLABELED (150224-24-1)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,5,6,8-HEXACN UNLABELED (103426-95-5 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,4,5,7,8-HEXACN UNLABELED (103426-92-2)</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,5,7-PENTACN (13C10, 99%) (53555-65-0 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,4,5,8-HEXACN (13C10, 99%) (103426-93-3 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,4,5,6,7-HEPTACN (13C10, 98%) (58863-14-2 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,5-DICN (13C10, 99%) (1825-30-5 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,3,5,7-TETRACN (13C10, 99%) (53555-64-9 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97-7 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,8-DICN (PCN-9) (13C10, 99%) (2050-74-0 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>1,2,3,4-TETRACN (13C10, 99%) (20020-02-4 (Unlabeled))</b>	
ATE CLP (oral)	500.000 mg/kg body weight
<b>ISOCTANE UNLABELED (540-84-1)</b>	
LD50 oral rat	> 5000 mg/kg (OECD Test Guideline 401)
LD50 dermal rabbit	> 2000 mg/kg (OECD Test Guideline 402)
LC50 inhalation rat (mg/l)	> 33.52 mg/l/4h (OECD Test Guideline 403)
<b>N-NONANE UNLABELED (111-84-2)</b>	
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
<b>MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)</b>	
LD50 oral rat	> 5000 mg/kg (OECD Test Guideline 401)
LD50 dermal rabbit	> 2000 mg/kg (OECD Test Guideline 402)
LC50 inhalation rat (mg/l)	> 33.52 mg/l/4h (OECD Test Guideline 403)
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
<b>MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)</b>	
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.



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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.
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 : Very toxic to aquatic life with long lasting effects.

MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)	
EC50 Daphnia 1	0.2 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h
2-MONOCN UNLABELED (91-58-7)	
EC50 Daphnia 1	1.64 mg/l Daphnia magna (Water flea) - 48 h
OCTACN UNLABELED (2234-13-1)	
LC50 fish 1	> 600 mg/l Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	> 530 mg/l Daphnia magna (Water flea) - 48 h
ErC50 (algae)	> 500 mg/l Pseudokirchneriella subcapitata (green algae) - 72 h
NOEC (chronic)	560 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h
OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))	
LC50 fish 1	> 600 mg/l Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	> 530 mg/l Daphnia magna (Water flea) - 48 h
ErC50 (algae)	> 500 mg/l Pseudokirchneriella subcapitata (green algae) - 72 h
NOEC (chronic)	560 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h
2,2',5,5'-TETRACB (PCB-52) (13C12, 99%) (208263-80-3)	
LC50 fish 1	>= 0.002 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	>= 0.002 mg/l Daphnia magna (Water flea) - 48 h
NOEC (chronic)	0.1 mg/l Oncorhynchus mykiss (rainbow trout) - 7 d

### 12.2. Persistence and degradability

2-MONOCN UNLABELED (91-58-7)	
Persistence and degradability	Not available.
1,2,3,4-TETRACN UNLABELED (20020-02-4)	
Persistence and degradability	Not available.
1,4,5,8-TETRACN UNLABELED (3432-57-3)	
Persistence and degradability	Not available.
1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY) (67922-26-3)	
Persistence and degradability	Not available.
1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED (103426-93-3 (Unlabeled))	
Persistence and degradability	Not available.
1,2,3,5,7,8-HEXACN UNLABELED (103426-94-4 (Unlabeled))	
Persistence and degradability	No data available.
1,2,3,4,5,6,7-HEPTACN UNLABELED (58863-14-2)	
Persistence and degradability	No data available.
1,2,3,5-TETRACN UNLABELED (53555-63-8)	
Persistence and degradability	Not available.
2,3,6,7-TETRACN UNLABELED (34588-40-4)	
Persistence and degradability	Not available.
1,2,3,5,7-PENTACN UNLABELED (53555-65-0)	
Persistence and degradability	No data available.
1,2,3,5,6,7-HEXACN UNLABELED (103426-97-7 (Unlabeled))	
Persistence and degradability	No data available.

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<b>1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED (17062-87-2)</b>	
Persistence and degradability	Not available.
<b>OCTACN UNLABELED (2234-13-1)</b>	
Persistence and degradability	Not available.
<b>1,3,5,7-TETRACN UNLABELED (53555-64-9)</b>	
Persistence and degradability	Not available.
<b>1,2,3,4,5-PENTACN UNLABELED (67922-25-2)</b>	
Persistence and degradability	Not available.
<b>1,2,3,5,8-PENTACN UNLABELED (150224-24-1)</b>	
Persistence and degradability	Not available.
<b>1,2,3,5,6,8-HEXACN UNLABELED (103426-95-5 (Unlabeled))</b>	
Persistence and degradability	No data available.
<b>1,2,4,5,7,8-HEXACN UNLABELED (103426-92-2)</b>	
Persistence and degradability	Not available.
<b>1,8-DICN (PCN-9) (13C10, 99%) (2050-74-0 (Unlabeled))</b>	
Persistence and degradability	Not available. May cause long-term adverse effects in the environment.
<b>1,2,3,4-TETRACN (13C10, 99%) (20020-02-4 (Unlabeled))</b>	
Persistence and degradability	Not available.
<b>MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>12.3. Bioaccumulative potential</b>	
<b>MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)</b>	
Bioaccumulative potential	Indication of bioaccumulation.
<b>2-MONOCN UNLABELED (91-58-7)</b>	
Bioaccumulative potential	Not available.
<b>1,2,3,4-TETRACN UNLABELED (20020-02-4)</b>	
Log Pow	5.314
Bioaccumulative potential	Not available.
<b>1,4,5,8-TETRACN UNLABELED (3432-57-3)</b>	
Bioaccumulative potential	Not available.
<b>1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY) (67922-26-3)</b>	
Bioaccumulative potential	Not available.
<b>1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED (103426-93-3 (Unlabeled))</b>	
Bioaccumulative potential	Not available.
<b>1,2,3,5,7,8-HEXACN UNLABELED (103426-94-4 (Unlabeled))</b>	
Log Pow	6.88
Bioaccumulative potential	No data available.
<b>1,2,3,4,5,6,7-HEPTACN UNLABELED (58863-14-2)</b>	
Log Pow	6.88
Bioaccumulative potential	No data available.
<b>1,2,3,5-TETRACN UNLABELED (53555-63-8)</b>	
Bioaccumulative potential	Not available.
<b>2,3,6,7-TETRACN UNLABELED (34588-40-4)</b>	
Bioaccumulative potential	Not available.
<b>1,2,3,5,7-PENTACN UNLABELED (53555-65-0)</b>	
Log Pow	6.88
Bioaccumulative potential	No data available.
<b>1,2,3,5,6,7-HEXACN UNLABELED (103426-97-7 (Unlabeled))</b>	
Log Pow	6.88
Bioaccumulative potential	No data available.
<b>1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED (17062-87-2)</b>	
Bioaccumulative potential	Not available.

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<b>OCTACN UNLABELED (2234-13-1)</b>	
Log Pow	6.42
Bioaccumulative potential	Not available.
<b>1,3,5,7-TETRACN UNLABELED (53555-64-9)</b>	
Bioaccumulative potential	Not available.
<b>1,2,3,4,5-PENTACN UNLABELED (67922-25-2)</b>	
Bioaccumulative potential	Not available.
<b>1,2,3,5,8-PENTACN UNLABELED (150224-24-1)</b>	
Bioaccumulative potential	Not available.
<b>1,2,3,5,6,8-HEXACN UNLABELED (103426-95-5 (Unlabeled))</b>	
Log Pow	6.88
Bioaccumulative potential	No data available.
<b>1,2,4,5,7,8-HEXACN UNLABELED (103426-92-2)</b>	
Bioaccumulative potential	Not available.
<b>OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))</b>	
Log Pow	6.42
<b>1,8-DICN (PCN-9) (13C10, 99%) (2050-74-0 (Unlabeled))</b>	
Log Pow	4.392
Bioaccumulative potential	Not available.
<b>1,2,3,4-TETRACN (13C10, 99%) (20020-02-4 (Unlabeled))</b>	
Log Pow	5.314
Bioaccumulative potential	Not available.
<b>ISOCTANE UNLABELED (540-84-1)</b>	
Log Pow	4.6
<b>N-NONANE UNLABELED (111-84-2)</b>	
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.
<b>MONO CN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)</b>	
Log Pow	4.6
<b>12.4. Mobility in soil</b>	
<b>2-MONOCN UNLABELED (91-58-7)</b>	
Ecology - soil	Not available.
<b>1,2,3,4-TETRACN UNLABELED (20020-02-4)</b>	
Ecology - soil	Not available.
<b>1,4,5,8-TETRACN UNLABELED (3432-57-3)</b>	
Ecology - soil	Not available.
<b>1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY) (67922-26-3)</b>	
Ecology - soil	Not available.
<b>1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED (103426-93-3 (Unlabeled))</b>	
Ecology - soil	Not available.
<b>1,2,3,5,7,8-HEXACN UNLABELED (103426-94-4 (Unlabeled))</b>	
Ecology - soil	No data available.
<b>1,2,3,4,5,6,7-HEPTACN UNLABELED (58863-14-2)</b>	
Ecology - soil	No data available.
<b>1,2,3,5-TETRACN UNLABELED (53555-63-8)</b>	
Ecology - soil	Not available.
<b>2,3,6,7-TETRACN UNLABELED (34588-40-4)</b>	
Ecology - soil	Not available.
<b>1,2,3,5,7-PENTACN UNLABELED (53555-65-0)</b>	
Ecology - soil	No data available.
<b>1,2,3,5,6,7-HEXACN UNLABELED (103426-97-7 (Unlabeled))</b>	
Ecology - soil	No data available.

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<b>1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED (17062-87-2)</b>	
Ecology - soil	Not available.
<b>OCTACN UNLABELED (2234-13-1)</b>	
Ecology - soil	Not available.
<b>1,3,5,7-TETRACN UNLABELED (53555-64-9)</b>	
Ecology - soil	Not available.
<b>1,2,3,4,5-PENTACN UNLABELED (67922-25-2)</b>	
Ecology - soil	Not available.
<b>1,2,3,5,8-PENTACN UNLABELED (150224-24-1)</b>	
Ecology - soil	Not available.
<b>1,2,3,5,6,8-HEXACN UNLABELED (103426-95-5 (Unlabeled))</b>	
Ecology - soil	No data available.
<b>1,2,4,5,7,8-HEXACN UNLABELED (103426-92-2)</b>	
Ecology - soil	Not available.
<b>1,8-DICN (PCN-9) (13C10, 99%) (2050-74-0 (Unlabeled))</b>	
Ecology - soil	Not available.
<b>1,2,3,4-TETRACN (13C10, 99%) (20020-02-4 (Unlabeled))</b>	
Ecology - soil	Not available.

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : Environmental precautions. Very toxic to aquatic life with long lasting effects. Avoid release to the environment. Disposal must be done according to official regulations.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

## SECTION 14: Transport information

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

### 14.1. UN number

UN-No.(DOT) : 1920  
DOT NA no. UN1920

### 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



Packing group (DOT) : III - Minor Danger

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DOT Special Provisions (49 CFR 172.102)	: 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. 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). T2 - 1.5 178.274(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)	: 203
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)	: III
Class (ADR)	: 3 - Flammable liquid
Hazard identification number (Kemler No.)	: 30
Classification code (ADR)	: F1
Hazard labels (ADR)	: 3 - Flammable liquids



Orange plates	:
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Tunnel restriction code (ADR)	: D/E
Limited quantities (ADR)	: 5l
EAC	: 3Y
Excepted quantities (ADR)	: E1

### Transport by sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
MFAG-No	: 128

### Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
Civil Aeronautics Law	: Flammable liquids

# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

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### 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

#### MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

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.

#### 2-MONOCN UNLABELED (91-58-7)

SARA Section 302 Threshold Planning Quantity (TPQ) Not subject to reporting requirements of the United States SARA Section 302.

SARA Section 313 - Emission Reporting Not subject to reporting requirements of the United States SARA Section 313.

#### 1,2,3,4-TETRACN UNLABELED (20020-02-4)

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.

#### 1,4,5,8-TETRACN UNLABELED (3432-57-3)

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.

#### 1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY) (67922-26-3)

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.

#### 1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED (103426-93-3 (Unlabeled))

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

#### 1,2,3,4,5,6,7-HEPTACN UNLABELED (58863-14-2)

SARA Section 302 Threshold Planning Quantity (TPQ) Not subject to reporting requirements of the United States SARA Section 302.

SARA Section 313 - Emission Reporting Not subject to reporting requirements of the United States SARA Section 313

#### 1,5-DICN UNLABELED (1825-30-5)

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.

#### 1,2,3,5-TETRACN UNLABELED (53555-63-8)

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.

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<b>2,3,6,7-TETRACN UNLABELED (34588-40-4)</b>	
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.
<b>1,2,3,5,7-PENTACN UNLABELED (53555-65-0)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>1,2,3,5,6,7-HEXACN UNLABELED (103426-97-7 (Unlabeled))</b>	
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 Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313
<b>1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED (17062-87-2)</b>	
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
<b>OCTACN UNLABELED (2234-13-1)</b>	
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 Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>1,2,3-TRICN UNLABELED (50402-52-3)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>1,3,5,7-TETRACN UNLABELED (53555-64-9)</b>	
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.
<b>1,2,3,4,5-PENTACN UNLABELED (67922-25-2)</b>	
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.
<b>1,2,3,5,8-PENTACN UNLABELED (150224-24-1)</b>	
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.
<b>1,2,3,5,6,8-HEXACN UNLABELED (103426-95-5 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>1,2,4,5,7,8-HEXACN UNLABELED (103426-92-2)</b>	
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.
<b>1,2,3-TRICN (13C10, 99%) (50402-52-3 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.



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<b>1,2,3,5,7-PENTACN (13C10, 99%) (53555-65-0 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>1,2,3,4,5,8-HEXACN (13C10, 99%) (103426-93-3 (Unlabeled))</b>	
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
<b>1,2,3,4,5,6,7-HEPTACN (13C10, 98%) (58863-14-2 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>1,5-DICN (13C10, 99%) (1825-30-5 (Unlabeled))</b>	
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.
<b>1,3,5,7-TETRACN (13C10, 99%) (53555-64-9 (Unlabeled))</b>	
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.
<b>1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97-7 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313
<b>OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))</b>	
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 Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>1,8-DICN (PCN-9) (13C10, 99%) (2050-74-0 (Unlabeled))</b>	
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.
<b>1,2,3,4-TETRACN (13C10, 99%) (20020-02-4 (Unlabeled))</b>	
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.
<b>2,5-DICB (PCB-9) (13C12, 98-99%) (250694-89-4)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>2,2',5,5'-TETRACB (PCB-52) (13C12, 99%) (208263-80-3)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>2,2',4,5,5'-PENTACB (PCB-101) (13C12, 99%) (104130-39-4)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>2,2',3,4,4',5'-HEXACB (PCB-138) (13C12, 99%) (208263-66-5)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.

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<b>2,2',3,4,4',5'-HEXACB (PCB-138) (13C12, 99%) (208263-66-5)</b>	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>2,2',3,3',4,4',5,5'-OCTACB (CHEM PURITY 96.5%) (13C12, 99%) (208263-74-5)</b>	
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	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>ISOCTANE UNLABELED (540-84-1)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
<b>N-NONANE UNLABELED (111-84-2)</b>	
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.
<b>MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

## 15.2. International regulations

### CANADA

<b>MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
<b>N-NONANE UNLABELED (111-84-2)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

### 15.2.1. National regulations

No additional information available

## 15.3. US State regulations

<b>MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)(I)</b>				
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 U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances			
<b>2-MONO-CN UNLABELED (91-58-7)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity -	U.S. - California - Proposition 65 - Reproductive Toxicity -	No significant risk level (NSRL)

# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

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<b>2-MONOCN UNLABELED (91-58-7)</b>				
		Female	Male	
No	No	No	No	
<b>1,2,3,4-TETRACN UNLABELED (20020-02-4)</b>				
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	
<b>1,4,5,8-TETRACN UNLABELED (3432-57-3)</b>				
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	
<b>1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY) (67922-26-3)</b>				
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	
<b>1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED (103426-93-3 (Unlabeled))</b>				
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	
<b>1,2,3,5,7,8-HEXACN UNLABELED (103426-94-4 (Unlabeled))</b>				
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	
<b>1,2,3,4,5,6,7-HEPTACN UNLABELED (58863-14-2)</b>				
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	
<b>1,5-DICN UNLABELED (1825-30-5)</b>				
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	
<b>1,2,3,5-TETRACN UNLABELED (53555-63-8)</b>				
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	
<b>2,3,6,7-TETRACN UNLABELED (34588-40-4)</b>				
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)

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<b>2,3,6,7-TETRACN UNLABELED (34588-40-4)</b>				
No	No	No	No	
<b>1,2,3,5,7-PENTACN UNLABELED (53555-65-0)</b>				
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	
<b>1,2,3,5,6,7-HEXACN UNLABELED (103426-97-7 (Unlabeled))</b>				
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	
<b>1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED (17062-87-2)</b>				
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	
<b>OCTACN UNLABELED (2234-13-1)</b>				
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	
<b>1,2,3-TRICN UNLABELED (50402-52-3)</b>				
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	
<b>1,3,5,7-TETRACN UNLABELED (53555-64-9)</b>				
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	
<b>1,2,3,4,5-PENTACN UNLABELED (67922-25-2)</b>				
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	
<b>1,2,3,5,8-PENTACN UNLABELED (150224-24-1)</b>				
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	
<b>1,2,3,5,6,8-HEXACN UNLABELED (103426-95-5 (Unlabeled))</b>				
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	

# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

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<b>1,2,4,5,7,8-HEXACN UNLABELED (103426-92-2)</b>				
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	
<b>1,2,3-TRICN (13C10, 99%) (50402-52-3 (Unlabeled))</b>				
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	
<b>1,2,3,5,7-PENTACN (13C10, 99%) (53555-65-0 (Unlabeled))</b>				
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	
<b>1,2,3,4,5,8-HEXACN (13C10, 99%) (103426-93-3 (Unlabeled))</b>				
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	
<b>1,2,3,4,5,6,7-HEPTACN (13C10, 98%) (58863-14-2 (Unlabeled))</b>				
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	
<b>1,5-DICN (13C10, 99%) (1825-30-5 (Unlabeled))</b>				
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	
<b>1,3,5,7-TETRACN (13C10, 99%) (53555-64-9 (Unlabeled))</b>				
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	
<b>1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97-7 (Unlabeled))</b>				
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	
<b>OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))</b>				
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	
<b>1,8-DICN (PCN-9) (13C10, 99%) (2050-74-0 (Unlabeled))</b>				
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	

# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

ECN-5577

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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

<b>1,8-DICN (PCN-9) (13C10, 99%) (2050-74-0 (Unlabeled))</b>				
		Female	Male	
No	No	No	No	
<b>1,2,3,4-TETRACN (13C10, 99%) (20020-02-4 (Unlabeled))</b>				
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	
<b>2,5-DICB (PCB-9) (13C12, 98-99%) (250694-89-4)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	Yes	Yes	
<b>2,2',5,5'-TETRACB (PCB-52) (13C12, 99%) (208263-80-3)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	Yes	Yes	
<b>2,2',4,5,5'-PENTACB (PCB-101) (13C12, 99%) (104130-39-4)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	Yes	Yes	
<b>2,2',3,4,4',5'-HEXACB (PCB-138) (13C12, 99%) (208263-66-5)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	Yes	Yes	
<b>2,2',3,3',4,4',5,5'-OCTACB (CHEM PURITY 96.5%) (13C12, 99%) (208263-74-5)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	Yes	Yes	
<b>ISOCTANE UNLABELED (540-84-1)</b>				
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	
<b>N-NONANE UNLABELED (111-84-2)</b>				
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	
<b>MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%)</b>				
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)



# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

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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

<b>MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)</b>				
No	No	No	No	
<b>2-MONOCN UNLABELED (91-58-7)</b>				
<b>State or local regulations</b>				
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				
<b>1,2,3,4-TETRACN UNLABELED (20020-02-4)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
<b>1,4,5,8-TETRACN UNLABELED (3432-57-3)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
<b>1,2,3,4,6-PENTACN UNLABELED (97% CHEMICAL PURITY) (67922-26-3)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
<b>1,2,3,4,5,8-HEXACN 97% CHEMICAL PURITY UNLABELED (103426-93-3 (Unlabeled))</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.				
<b>1,2,3,4,5,6,7-HEPTACN UNLABELED (58863-14-2)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
<b>1,5-DICN UNLABELED (1825-30-5)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
<b>1,2,3,5-TETRACN UNLABELED (53555-63-8)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
<b>2,3,6,7-TETRACN UNLABELED (34588-40-4)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
<b>1,2,3,5,7-PENTACN UNLABELED (53555-65-0)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
<b>1,2,3,5,6,7-HEXACN UNLABELED (103426-97-7 (Unlabeled))</b>				
<b>State or local regulations</b>				
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				
<b>1,2,3,6,7,8-HEXACN (CHEMICAL PURITY 97%) UNLABELED (17062-87-2)</b>				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				



# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

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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

<b>OCTACN UNLABELED (2234-13-1)</b>
<b>State or local regulations</b>
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
<b>1,2,3-TRICN UNLABELED (50402-52-3)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,3,5,7-TETRACN UNLABELED (53555-64-9)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3,4,5-PENTACN UNLABELED (67922-25-2)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3,5,8-PENTACN UNLABELED (150224-24-1)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3,5,6,8-HEXACN UNLABELED (103426-95-5 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,4,5,7,8-HEXACN UNLABELED (103426-92-2)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3-TRICN (13C10, 99%) (50402-52-3 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3,5,7-PENTACN (13C10, 99%) (53555-65-0 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3,4,5,8-HEXACN (13C10, 99%) (103426-93-3 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3,4,5,6,7-HEPTACN (13C10, 98%) (58863-14-2 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,5-DICN (13C10, 99%) (1825-30-5 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

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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

<b>1,3,5,7-TETRACN (13C10, 99%) (53555-64-9 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97-7 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
<b>OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))</b>
<b>State or local regulations</b>
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
<b>1,8-DICN (PCN-9) (13C10, 99%) (2050-74-0 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>1,2,3,4-TETRACN (13C10, 99%) (20020-02-4 (Unlabeled))</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>2,5-DICB (PCB-9) (13C12, 98-99%) (250694-89-4)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>2,2',5,5'-TETRACB (PCB-52) (13C12, 99%) (208263-80-3)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>2,2',4,5,5'-PENTACB (PCB-101) (13C12, 99%) (104130-39-4)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>2,2',3,4,4',5'-HEXACB (PCB-138) (13C12, 99%) (208263-66-5)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>2,2',3,3',4,4',5,5'-OCTACB (CHEM PURITY 96.5%) (13C12, 99%) (208263-74-5)</b>
<b>State or local regulations</b>
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
<b>ISOCTANE UNLABELED (540-84-1)</b>
<b>State or local regulations</b>
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
<b>N-NONANE UNLABELED (111-84-2)</b>
<b>State or local regulations</b>
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

# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

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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

**MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)****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

**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)	Acute toxicity (inhalation) 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
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 4	Hazardous to the aquatic environment - Chronic Hazard Category 4
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. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 2	Specific target organ toxicity (single exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
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
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H370	Causes damage to organs
H371	May cause damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
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
H411	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
R20/21	Harmful by inhalation and in contact with skin
R22	Harmful if swallowed
R33	Danger of cumulative effects
R34	Causes burns
R36/37	Irritating to eyes and respiratory system
R36/37/38	Irritating to eyes, respiratory system and skin
R36/38	Irritating to eyes and skin
R37/38	Irritating to respiratory system and skin

# MONO-OCTA PCN CALIBRATION SOLUTIONS (CS1-CS5) (UNLABELED/13C10, 99%)

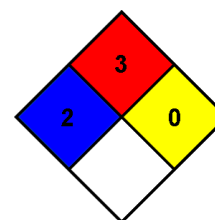
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R38	Irritating to skin
R41	Risk of serious damage to eyes
R45	May cause cancer
R48	Danger of serious damage to health by prolonged exposure
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R48/20/21/22	Harmful: 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
R51/53	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
R65	Harmful: may cause lung damage if swallowed
R67	Vapors may cause drowsiness and dizziness
C	Corrosive
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.



### Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 0 Minimal Hazard

### CIL Multi-Solvent Mixture SDS

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