

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: 05/06/2017 Revision date: 24/10/2019 Supersedes: 26/11/2018 Version: 2.1 ECN-5578

SECTION 4.1	dentification of the cube	tenes/mixture and of the company/undertaking
		stance/mixture and of the company/undertaking
	t identifier	· Mixturee
Product form		
Product name		: MONO-OCTA PCN CLEANUP SPIKE (13C10, 99%) 1000 NG/ML IN ISOOCTANE : ECN-5578
Product code	and a state of the state of the state	
		ance or mixture and uses advised against
	nt identified uses	
Main use category		: Professional use
Industrial/Professi	onal use spec	: For professional use only
1.2.2. Uses ad	lvised against	
No additional infor	mation available	
1.3. Details	of the supplier of the safety d	ata sheet
	e Laboratories, Inc.	
50 Frontage Road Andover, MA 018		
USA		
	1174 Int: 1-978-749-8000	
cilsales@isotope.o	com www.isotope.com	
	ency telephone number	
Emergency numb	ers:	
	424-9300 (24 hours) 03-741-5970 (24 hours)	
SECTION 2: H	lazards identification	
2.1. Classifi	cation of the substance or mi	xture
Classification ac	cording to Regulation (EC) No	0. 1272/2008 [CLP]
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 hazard	classes and H-statements : see	e section 16
Classification ac	cording to Directive 67/548/EE	EC [DSD] or 1999/45/EC [DPD]
F; R11	-	
Xi; R38		
N; R50/53 R67		
Xn; R65		
	ses: see section 16	
GHS-US classific	ation	
Flam. Liq. 2	H225	
Skin Irrit. 2	H315	
STOT SE 3 Asp. Tox. 1	H336 H304	
Aquatic Acute 1	H400	

Full text of H statements : see section 16

Aquatic Chronic 1 H410

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapor. May cause drowsiness or dizziness. Causes skin irritation. Very toxic to aquatic life with long lasting effects.

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2.2. Label elements



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P405 - Store locked up.

P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

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3.7	/.	ixture	1

Name	Product identifier	%	Classification according to Directive 67/548/EEC
ISOOCTANE UNLABELED	(CAS-No.) 540-84-1 (EC-No.) 208-759-1 (EC Index-No.) 601-009-00-8 (REACH-no) 01-2119457965-22	99.99865	Xi; R38 N; R50/53 R67 F; R11 Xn; R65
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	0.00015	Xn; R20/21 Xi; R36/37/38 N; R50/53
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	0.00015	Xn; R20/21 Xi; R36/37/38 N; R50/53
OCTACN (13C10, 99%)	(CAS-No.) 2234-13-1 (Unlabeled) (EC-No.) 218-778-7	0.00015	Xn; R22 R53
1,3,5,7-TETRACN (13C10, 99%)	(CAS-No.) 53555-64-9 (Unlabeled)	0.00015	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
1,5-DICN (13C10, 99%)	(CAS-No.) 1825-30-5 (Unlabeled)	0.00015	Xn; R22 C; R34 Xi; R41 Xi; R37/38 N; R50/53
1,2,3,4,5,8-HEXACN (13C10, 99%)	(CAS-No.) 103426-93-3 (Unlabeled)	0.00015	Xn; R22 Xi; R41 Xi; R36/37 N; R51/53
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	0.00015	Xn; R20/21 Xi; R36/37/38 N; R50/53
1,2,3-TRICN (13C10, 99%)	(CAS-No.) 50402-52-3 (Unlabeled) (EC-No.) (EC Index-No.)	0.00015	Xi; R36/37/38
MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)		0.00015	Xi; R38 N; R50/53 R67 F; R11 Xn; R65
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ISOOCTANE UNLABELED	(CAS-No.) 540-84-1 (EC-No.) 208-759-1 (EC Index-No.) 601-009-00-8 (REACH-no) 01-2119457965-22	99.99865	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
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	0.00015	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H315 STOT RE 1, H372 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
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	0.00015	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	0.00015	Acute Tox. 4 (Oral), H302 Aquatic Chronic 4, H413
1,3,5,7-TETRACN (13C10, 99%)	(CAS-No.) 53555-64-9 (Unlabeled)	0.00015	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
1,5-DICN (13C10, 99%)	(CAS-No.) 1825-30-5 (Unlabeled)	0.00015	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
1,2,3,4,5,8-HEXACN (13C10, 99%)	(CAS-No.) 103426-93-3 (Unlabeled)	0.00015	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 2, H411
1,2,3,5,6,7-HEXACN (13C10, 98%)	(CAS-No.) 103426-97-7 (Unlabeled) (EC-No.) 215-320-8 (EC Index-No.) 602-041-00-5	0.00015	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
1,2,3-TRICN (13C10, 99%)	(CAS-No.) 50402-52-3 (Unlabeled) (EC-No.) (EC Index-No.)	0.00015	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)		0.00015	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
ISOOCTANE UNLABELED	(CAS-No.) 540-84-1	99.99865	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2,3,5,7-PENTACN (13C10, 99%)	(CAS-No.) 53555-65-0 (Unlabeled)	0.00015	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
1,2,3,4,5,6,7-HEPTACN (13C10, 98%)	(CAS-No.) 58863-14-2 (Unlabeled)	0.00015	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

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Name	Product identifier	%	GHS-US classification
1,3,5,7-TETRACN (13C10, 99%)	(CAS-No.) 53555-64-9 (Unlabeled)	0.00015	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
1,5-DICN (13C10, 99%)	(CAS-No.) 1825-30-5 (Unlabeled)	0.00015	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
1,2,3,4,5,8-HEXACN (13C10, 99%)	(CAS-No.) 103426-93-3 (Unlabeled)	0.00015	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
1,2,3,5,6,7-HEXACN (13C10, 98%)	(CAS-No.) 103426-97-7 (Unlabeled)	0.00015	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
1,2,3-TRICN (13C10, 99%)	(CAS-No.) 50402-52-3 (Unlabeled)	0.00015	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)		0.00015	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 poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
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 eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
4.2. Most important symptoms and effe	cts, both acute and delayed
Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.
4.3. Indication of any immediate medic	al attention and special treatment needed

Treat symptomatically.

SECT	ION 5: Firefighting measu	Ires
5.1.	Extinguishing media	
Suitable	extinguishing media	: Flood fire area with water from a distance. Water spray. Dry powder. Foam. Carbon dioxide.
5.2.	Special hazards arising from	the substance or mixture
Fire haz	ard	: Highly flammable liquid and vapor.
Explosion hazard		: Flash back possible over important distance.
Reactivi	ty	: Highly flammable liquid and vapor.
5.3.	Advice for firefighters	
Firefight	ing instructions	: Wear a self contained breathing apparatus.
Protection	on during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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Other information	: Use water spray to cool exposed surfaces.
SECTION 6: Accidental release m	easures
6.1. Personal precautions, protective	equipment and emergency procedures
6.1.1. For non-emergency personnel	
Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust, 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	
Avoid release to the environment.	
6.3. Methods and material for contain	nment and cleaning up
For containment	: Collect spillage.
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. This material and its container must be disposed of in a safe way, and as per local legislation.
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	
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 dust, fume, gas, mist, spray, vapors, Aerosols. 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.
7.2. Conditions for safe storage, inclu	uding any incompatibilities
Technical measures	: Ground/bond container and receiving equipment. Keep in a cool, well-ventilated place away from heat. Keep dry.
Storage conditions	: Store at room temperature away from light and moisture.
7.3. Specific end use(s)	
No additional information available	

No additional information available

ECTION 8: Exposure c	ontrols/personal protection		
.1. Control parameters			
MONO-OCTA PCN CLEANUF	P SPIKE (13C10, 99%) 1000 NG/ML IN ISOOCTANE		
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	
1,2,3,5,7-PENTACN (13C10, 9	9%) (53555-65-0 (Unlabeled))		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³ Skin	
USA OSHA	OSHA PEL (TWA) (mg/m³)	0.5 mg/m³ Skin	
1,5-DICN (13C10, 99%) (1825	-30-5 (Unlabeled))		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	skin designation{0}	
ISOOCTANE UNLABELED (5	40-84-1)		
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	
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	

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8.2. **Exposure controls** : Wash hands and other exposed areas with mild soap and water before eating, drinking or Appropriate engineering controls smoking and when leaving work. Ensure good ventilation of the work station. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. : Wear suitable protective clothing and gloves. Materials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear eye protection. Chemical goggles or face shield with safety glasses. Safety glasses.

- Eye protection Skin and body protection Respiratory protection Environmental exposure controls
- : Wear suitable protective clothing, gloves and eye/face protection.
- : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.
- : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and	chemical properties		
The properties listed below are for the solvent, the main component of this mixture.			
Physical state	: Liquid		
Appearance	: Liquid		
Molecular mass	: 114.23 g/mol		
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	: -107 °C (-161 °F)		
Freezing point	: No data available		
Boiling point	: 98 - 99 °C (208 - 210 °F) at 1,013 hPa (760 mmHg)		
Flash point	: -12 °C (10 °F) - closed cup		
Auto-ignition temperature	: No data available		
Decomposition temperature	: No data available		
Flammability (solid, gas)	: Not applicable		
Vapor pressure	: 55 hPa (41 mmHg) at 21 °C (70 °F); 117 hPa (88 mmHg) at 37.8 °C (100.04 °F)		
Relative vapor density at 20 °C	: 3.94 - (Air = 1.0)		
Relative density	: No data available		
Specific gravity / density	: 0.69 g/ml at 20 °C (68 °F)		
Solubility	: Water: insoluble		
Log Pow	: 4.6		
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	: 1 - 6 % (V)		
9.2. Other information			

No additional information available

No audi			
SECT	ION 10: Stability and reactivity		
10.1.	Reactivity		
Highly fl	ammable liquid and vapor.		
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.			

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10.4. Conditions to avoid Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition. Incompatible materials 10.5. No additional information available 10.6. Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced. **SECTION 11: Toxicological information** Information on toxicological effects 11.1. : Not classified Acute toxicity 1,2,3,5,7-PENTACN (13C10, 99%) (53555-65-0 (Unlabeled)) ATE CLP (oral) 500.000 mg/kg body weight 1,2,3,4,5,6,7-HEPTACN (13C10, 98%) (58863-14-2 (Unlabeled)) ATE CLP (oral) 500.000 mg/kg body weight 1,5-DICN (13C10, 99%) (1825-30-5 (Unlabeled)) 500.000 mg/kg body weight ATE CLP (oral) 1,3,5,7-TETRACN (13C10, 99%) (53555-64-9 (Unlabeled)) ATE CLP (oral) 500.000 mg/kg body weight OCTACN (13C10, 99%) (2234-13-1 (Unlabeled)) 500.000 mg/kg body weight ATE CLP (oral) **ISOOCTANE UNLABELED (540-84-1)** 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) 1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97-7 (Unlabeled)) ATE CLP (oral) 500.000 mg/kg body weight 1,2,3,4,5,8-HEXACN (13C10, 99%) (103426-93-3 (Unlabeled)) ATE CLP (oral) 500.000 mg/kg body weight MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%) > 5000 mg/kg (OECD Test Guideline 401) LD50 oral rat LD50 dermal rabbit > 2000 mg/kg (OECD Test Guideline 402) > 33.52 mg/l/4h (OECD Test Guideline 403) LC50 inhalation rat (mg/l) : Causes skin irritation. Skin corrosion/irritation Not classified Serious eye damage/irritation • Not classified Respiratory or skin sensitization 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 : Not classified exposure

Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

SECTION 12: Ecological	information	
12.1. Toxicity		
Ecology - general	: Very toxic to aquatic life with long lasting effects.	
OCTACN (13C10, 99%) (2234-	13-1 (Unlabeled))	
LC50 fish 1	> 600 mg/l Lepomis macrochirus (Bluegill) - 96 h	
24/42/2242		0/15

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OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))			
EC50 Daphnia 1	> 530 mg/l Daphnia magna (Water flea) - 48 h		
ErC50 (algae)	rC50 (algae) > 500 mg/l Pseudokirchneriella subcapitata (green algae) - 72 h		
NOEC (chronic) 560 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h			
12.2. Persistence and degradability	n		
,			
MONOCN ISOMER MIX (87% 2-MONO	CN, 13% 1-MONOCN) (13C10, 99%)		
MONOCN ISOMER MIX (87% 2-MONO Persistence and degradability			
MONOCN ISOMER MIX (87% 2-MONO	CN, 13% 1-MONOCN) (13C10, 99%)		

Log Pow	4.6			
OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))				
Log Pow	6.42			
ISOOCTANE UNLABELED (540-84-1)				
Log Pow	4.6			
MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)				
Log Pow	4.6			
12.4. Mobility in soil				

No additional information available

12.5. R	esults of PBT	and vPvB	assessment

No additional information available

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12.6. Other adverse effects
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No additional information available
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SECTION 13: Disposal consideration	15
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 / AI	DN
14.1. UN number	
UN-No.(DOT)	: 1262
DOT NA no.	UN1262
14.2. UN proper shipping name	
Proper Shipping Name (DOT)	: Octanes
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid
Packing group (DOT)	: II - Medium Danger
DOT Special Provisions (49 CFR 172.102)	 IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150

. 150

: 202

: 242

DOT Packaging Non Bulk (49 CFR 173.xxx)

DOT Packaging Bulk (49 CFR 173.xxx)

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14.3. Additional information	
Emergency Response Guide (ERG) Number	: 128
Other information	: No supplementary information available.
Overland transport	
No additional information available	
Transport by sea	
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" or passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
MFAG-No	: 128
Air transport	
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
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	x II of MARPOL 73/78 and the IBC Code
Not applicable	
SECTION 15: Regulatory information	
15.1. US Federal regulations	
MONO-OCTA PCN CLEANUP SPIKE (13C10,	99%) 1000 NG/ML IN ISOOCTANE
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 reporing requirements of the United States SARA Section 313.
1,2,3,5,7-PENTACN (13C10, 99%) (53555-65-0	(Unlabeled))
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.
1,2,3,4,5,6,7-HEPTACN (13C10, 98%) (58863-1	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.

Quantity (TPQ)						
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.					
1,5-DICN (13C10, 99%) (1825-30-5 (Unlabeled))	1,5-DICN (13C10, 99%) (1825-30-5 (Unlabeled))					
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.					
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard					
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.					
1,3,5,7-TETRACN (13C10, 99%) (53555-64-9 (Unlabeled))						
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.					

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1,3,5,7-TETRACN (13C10, 99%) (53555-64-9 (Unlabeled))					
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.				
OCTACN (13C10, 99%) (2234-13-1 (Unlabeled))					
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.				
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard				
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.				
ISOOCTANE UNLABELED (540-84-1)					
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporing 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 reporing requirements of the United States SARA Section 313.				
1,2,3-TRICN (13C10, 99%) (50402-52-3 (Unlab	eled))				
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporing requirements of the United States SARA Section 302.				
SARA Section 313 - Emission Reporting	Not subject to reporing requirements of the United States SARA Section 313.				
1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97-	-7 (Unlabeled))				
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				
1,2,3,4,5,8-HEXACN (13C10, 99%) (103426-93-3 (Unlabeled))					
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302				
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard				
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313				
MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%)					
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporing 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 reporing requirements of the United States SARA Section 313.				

15.2. International regulations

CANADA

MONO-OCTA PCN CLEANUP SPIKE (13C10, 99%) 1000 NG/ML IN ISOOCTANE Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

MONO-OCTA PCN CLEANUP SPIKE (13C10, 99%) 1000 NG/ML IN ISOOCTANE()			
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 Massachusetts - Right To Know List U.S Pennsylvania - RTK (Right to Know) List U.S New Jersey - Right to Know Hazardous Substance List		

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	C10, 99%) (53555-65-0 (Unlabe			
U.S California -	U.S California -	U.S California -	U.S California -	No significant risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	
		Female	Male	
No	No	No	No	
1,2,3,4,5,6,7-HEPTACN	(13C10, 98%) (58863-14-2 (Unl	abeled))		
J.S California -	U.S California -	U.S California -	U.S California -	No significant risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRĽ)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	
5	, , , , , , , , , , , , , , , , , , , ,	Female	Male	
No	No	No	No	
1,5-DICN (13C10, 99%) (
U.S California -	U.S California -	U.S California -	U.S California -	No significant risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	(110112)
		Female	Male	
No	No	No	No	
-	-		NO	
1,3,5,7-TETRACN (13C1 U.S California -	0, 99%) (53555-64-9 (Unlabele U.S California -	d)) U.S California -	U.S California -	
D.S California - Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	No significant risk level (NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	
Carcinogens List		Female	Male	
No	No	No	No	
OCTACN (13C10, 00%)	(2234-12-1 (Unisholod))			
OCTACN (13C10, 99%) (U.S California -	U.S California -	U.S California -	U.S California -	No significant risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	(NORE)
	Developmental Toxicity	Female	Male	
No	No	No	No	
ISOOCTANE UNLABEL	ED (540-84-1)	-		-
U.S California -	U.S California -	U.S California -	U.S California -	No significant risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRĽ)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	(-)
5		Female	Male	
No	No	No	No	
1,2,3-TRICN (13C10, 99%	%) (50402-52-3 (Unlabeled))			
U.S California -	U.S California -	U.S California -	U.S California -	No significant risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	, ,
-		Female	Male	
No	No	No	No	
1,2,3,5,6,7-HEXACN (13	C10, 98%) (103426-97-7 (Unlat	oeled))		
U.S California -	U.S California -	U.S California -	U.S California -	No significant risk level
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity - Female	Reproductive Toxicity - Male	
No	No			
No	No	No	No	
1,2,3,4,5,8-HEXACN (13) U.S California -	C10, 99%) (103426-93-3 (Unlat U.S California -	beled)) U.S California -	U.S California -	No significant risk laws
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	No significant risk level (NSRL)
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	
Carolinoyena Liat		Female	Male	
		No	No	
No	No			
	No			
	(87% 2-MONOCN, 13% 1-MON	OCN) (13C10, 99%)		No significant rick level
MONOCN ISOMER MIX U.S California -	(87% 2-MONOCN, 13% 1-MON U.S California -	OCN) (13C10, 99%) U.S California -	U.S California -	
MONOCN ISOMER MIX	(87% 2-MONOCN, 13% 1-MON	OCN) (13C10, 99%)	U.S California - Proposition 65 - Reproductive Toxicity -	No significant risk level (NSRL)

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26, 2012 / Rules and Regulations	X 2 MONOCN 139/ 1 N				
MONOCN ISOMER MIX (879	/ 2-IVIUNUUN , 13% 1-N	Female	Male		
No	No	No	No		
1,2,3,5,7-PENTACN (13C10,	99%) (53555-65-0 (Un	labeled))	·	·	
State or local regulations					
U.S Pennsylvania - RTK (R U.S New Jersey - Right to P		ance List			
1,2,3,4,5,6,7-HEPTACN (130	C10, 98%) (58863-14-2	(Unlabeled))			
State or local regulations					
U.S Pennsylvania - RTK (R U.S New Jersey - Right to R		ance List			
1,5-DICN (13C10, 99%) (182	5-30-5 (Unlabeled))				
State or local regulations					
U.S Pennsylvania - RTK (R U.S New Jersey - Right to R		ance List			
1,3,5,7-TETRACN (13C10, 9	9%) (53555-64-9 (Unla	beled))			
State or local regulations					
U.S Pennsylvania - RTK (R U.S New Jersey - Right to R		ance List			
OCTACN (13C10, 99%) (223	4-13-1 (Unlabeled))				
State or local regulations					
U.S Massachusetts - Right U.S Pennsylvania - RTK (R U.S New Jersey - Right to R	light to Know) List	ance List			
ISOOCTANE UNLABELED	(540-84-1)				
State or local regulations					
U.S Massachusetts - Right U.S Pennsylvania - RTK (R U.S New Jersey - Right to P	light to Know) List	ance List			
1,2,3-TRICN (13C10, 99%) (50402-52-3 (Unlabeled))			
State or local regulations					
U.S Pennsylvania - RTK (R U.S New Jersey - Right to P		ance List			
1,2,3,5,6,7-HEXACN (13C10	, 98%) (103426-97-7 (U	nlabeled))			
State or local regulations					
U.S New Jersey - Right to H U.S Pennsylvania - RTK (R		ance List			
1,2,3,4,5,8-HEXACN (13C10	, 99%) (103426-93-3 (U	nlabeled))			
State or local regulations					
U.S Pennsylvania - RTK (R U.S New Jersey - Right to P		ance List			
MONOCN ISOMER MIX (87%	% 2-MONOCN, 13% 1-M	MONOCN) (13C10, 99%)			
State or local regulations					
U.S Massachusetts - Right U.S Pennsylvania - RTK (R U.S New Jersey - Right to P	Right to Know) List	ance List			

SECTION 16: Other information

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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 (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	
Skin Irrit. 2	Skin corrosion/irritation Category 2	
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1	
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2	
STOT SE 3	Specific target organ toxicity (single exposure) Category 3	
STOT SE 3	Specific target organ toxicity (single exposure) Category 3	
H225	Highly 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	
H335	May cause respiratory irritation	
H336	May cause drowsiness or dizziness	
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	
R11	Highly flammable	
R20/21	Harmful by inhalation and in contact with skin	
R22	Harmful if swallowed	
R34	Causes burns	
R36/37	Irritating to eyes and respiratory system	
R36/37/38		
R30/37/38	Irritating to eyes, respiratory system and skin	
R38	Irritating to respiratory system and skin	
R41	Irritating to skin	
R48	Risk of serious damage to eyes	
R50/53	Danger of serious damage to health by prolonged exposure	
	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	
NFPA fire hazard	
NFPA reactivity	

2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
3 - Liquids and solids (including finely divided suspended

- solids) that can be ignited under almost all ambient temperature conditions.
- : 0 Material that in themselves are normally stable, even under fire conditions.

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Hazard Rating

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

CIL Mixture SDS

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