

### 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: 26/04/2017 Revision date: 05/06/2018 Supersedes: 26/04/2017 Version: 1.1 ECN-5261-A

SECTION 1:	Identification of the subs	stance/mixture and of the company/undertaking
	ct identifier	
Product form		: Mixtures
Product name		: 1,2,3,5,6,7-HEXACN (PCN-67) (13C10, 98%) 10 UG/ML IN ISOOCTANE
Product code		: ECN-5261-A
1.2. Releva	nt identified uses of the subst	ance or mixture and uses advised against
1.2.1. Releva	int identified uses	
Main use catego	У	: Professional use
Industrial/Profess	sional use spec	: For professional use only
1.2.2. Uses a	dvised against	
No additional info	ormation available	
	s of the supplier of the safety d	ata sheet
Cambridge Isoto 50 Frontage Roa Andover, MA 01 USA		
cilsales@isotope	·	
	ency telephone number	
Emergency num		
	)-424-9300 (24 hours) 703-741-5970 (24 hours)	
SECTION 2:	Hazards identification	
2.1. Classi	fication of the substance or mi	xture
Classification a	ccording to Regulation (EC) No	D. 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		
Full text of hazar	d classes and H-statements : see	e section 16
Xi; R38 N; R50/53	ccording to Directive 67/548/EI	EC [DSD] or 1999/45/EC [DPD]
R67 F; R11 Xp: B65		
Xn; R65 Full text of R-phr	ases: see section 16	
	- ction	
GHS-US classifi		
Flam. Liq. 2 Skin Irrit. 2 STOT SE 3 Asp. Tox. 1 Aquatic Acute 1	H225 H315 H336 H304 H400	
Aquatic Acute 1		

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects Liver, Kidney.

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2.2. Label elements	
Labeling according to Regulation (EC) No	o. 1272/2008 [CLP]
Hazard pictograms (CLP)	
Signal word (CLD)	GHS02 GHS08 GHS07 GHS09
Signal word (CLP) Hazard statements (CLP)	: Danger : H225 - Highly flammable liquid and vapor
	H304 - May be fatal if swallowed and enters airways H315 - Causes skin irritation H336 - May cause drowsiness or dizziness H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (CLP)	<ul> <li>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking</li> <li>P233 - Keep container tightly closed</li> <li>P240 - Ground/bond container and receiving equipment</li> <li>P241 - Use explosion-proof ventilating, lighting, electrical equipment</li> <li>P261 - Avoid breathing vapors, spray, mist, gas, fume, dust</li> <li>P264 - Wash hands, forearms and face thoroughly after handling</li> <li>P271 - Use only outdoors or in a well-ventilated area</li> <li>P273 - Avoid release to the environment</li> </ul>
GHS-US labeling	
Hazard pictograms (GHS-US)	
Signal word (GHS-US)	GHS02 GHS08 GHS07 GHS09 : Danger
Hazard statements (GHS-US)	<ul> <li>H225 - Highly flammable liquid and vapor</li> <li>H304 - May be fatal if swallowed and enters airways</li> <li>H315 - Causes skin irritation</li> <li>H336 - May cause drowsiness or dizziness</li> <li>H410 - Very toxic to aquatic life with long lasting effects</li> </ul>
Precautionary statements (GHS-US)	<ul> <li>P210 - Keep away from sparks, open flames, hot surfaces, heat 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 mist, spray, vapors, gas, fume, dust 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 P280 - Wear protective gloves, protective clothing, eye protection, face protection 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</li> <li>P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P312 - Call a doctor if you feel unwell</li> <li>P321 - Specific treatment (see Hazard pictograms (CLP) on this label)</li> <li>P331 - Do NOT induce vomiting</li> <li>P332+P313 - If skin irritation occurs: Get medical advice/attention</li> <li>P362+P364 - Take off icontaminated clothing and wash it before reuse</li> <li>P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO2), dry extinguishing powder to extinguish</li> <li>P391 - Collect spillage</li> <li>P403+P235 - Store in a well-ventilated place. Keep container tightly closed</li> <li>P403+P235 - Store in a well-ventilated place. Keep cool</li> <li>P405 - Store locked up</li> </ul>

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

### No additional information available

### SECTION 3: Composition/Information on ingredients

#### 3.1. **Substances**

Not applicable Mix

.2. Mixtures			
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	99.9986	Xi; R38 N; R50/53 R67 F; R11 Xn; R65
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	0.0014	Xn; R20/21 Xi; R36/37/38 N; R50/53
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	99.9986	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2,3,5,6,7-HEXACN (13C10, 98%)	(CAS No) 103426-97-7 (Unlabeled) (EC No) 215-320-8 (EC Index No) 602-041-00-5	0.0014	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
Name	Product identifier	%	GHS-US classification
ISOOCTANE UNLABELED	(CAS No) 540-84-1	99.9986	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 :	If you feel unwell, seek medical advice.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration.
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	Never give anything by mouth to an unconscious person. Do not induce vomiting. Call a physician immediately.
4.2. Most important symptoms and effects	, both acute and delayed
Symptoms/injuries :	May cause drowsiness or dizziness.
Symptoms/injuries after inhalation :	May be fatal if swallowed and enters airways.
Symptoms/injuries after skin contact	Causes skin irritation. May be harmful in contact with skin.
Symptoms/injuries after eye contact	May cause severe irritation.
Symptoms/injuries after ingestion :	May be fatal if swallowed and enters airways. Risk of lung edema.

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

Treat symptomatically.

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<b>SECTION 5: Firefighting</b>	measures	
5.1. Extinguishing media		
Suitable extinguishing media	: Water spray. Dry powder. For	am. Carbon dioxide. Flood fire area with water from a distance.
5.2. Special hazards aris	ing from the substance or mixture	
Fire hazard	: Extremely flammable liquid a	nd vapor.
Explosion hazard	: May form flammable/explosiv	e vapor-air mixture.
Reactivity	: vapors may form flammable r	nixture with air. Highly flammable liquid and vapor.
5.3. Advice for firefighter	S	
Firefighting instructions	: Wear a self contained breathing	ing apparatus.
Protection during firefighting		proper protective equipment, including respiratory protection. Do hout suitable protective equipment. Self-contained breathing ve clothing.
SECTION 6: Accidental	release measures	
6.1. Personal precaution	s, protective equipment and emergency procee	dures
6.1.1. For non-emergency	personnel	
Emergency procedures	mist, gas. Avoid contact with	ben flames, no sparks, and no smoking. Avoid breathing vapors, skin and eyes. Use personal protective equipment as required. n. Ensure adequate air ventilation. Provide adequate ventilation to oncentrations.
6.1.2. For emergency resp	onders	
Protective equipment	: Do not attempt to take action refer to section 8: "Exposure	without suitable protective equipment. For further information controls/personal protection".
6.2. Environmental preca	utions	
Stop leak, if possible without risl	k. Prevent entry to sewers and public waters. Avoi	d release to the environment.
6.3. Methods and materia	al for containment and cleaning up	
For containment	: Collect spillage. Vacuum with	an equipment that avoids ignition risk. This material and its fin a safe way, and as per local legislation.
Methods for cleaning up		bent material. Notify authorities if product enters sewers or public
6.4. Reference to other s	ections	
No additional information availal	ole	
<b>SECTION 7: Handling ar</b>	d storage	
7.1. Precautions for safe		
Additional hazards when proces	•	ves or clothing
Precautions for safe handling	: Keep away from heat, hot su smoking. Ground/bond conta precautionary measures agai container. Use explosion-prod	rfaces, sparks, open flames and other ignition sources. No iner and receiving equipment. Use only non-sparking tools. Take nst static discharge. Flammable vapors may accumulate in the of equipment. Wear personal protective equipment. Use only ed area. Avoid breathing dust, fume, gas, mist, spray, vapors.
Hygiene measures	: Handle in accordance with go breaks and at the end of work	bod industrial hygiene and safety practice. Wash hands before kday. Wash contaminated clothing before reuse. Do not eat, drink buduct. Always wash hands after handling the product.
7.2. Conditions for safe s	storage, including any incompatibilities	
Technical measures		eceiving equipment. Keep dry. Store in tightly closed, leak-proof are opened should be properly resealed and kept upright to
Storage conditions	: Store at room temperature av	vay from light and moisture.
Incompatible materials	: Heat sources.	
7.3. Specific end use(s)		
No additional information availal	ble	
SECTION 8. Exposure c	ontrols/personal protection	
8.1. Control parameters		
Italy - Portugal - USA ACGIH	) (13C10, 98%) 10 UG/ML IN ISOOCTANE ACGIH TWA (ppm)	300.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)

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1,2,3,5,6,7-HEXACN (PCN-67	) (13C10, 98%) 10 UG/ML IN ISOOCTANE	
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Upper Respiratory Tract irritation
ISOOCTANE UNLABELED (5	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
8.2. Exposure controls		
Appropriate engineering control		d areas with mild soap and water before eating, drinking or k. Ensure good ventilation of the work station.
Personal protective equipment	: Gloves. Protective goggles. Pro	ptective clothing. Self-contained breathing apparatus.

: Wear suitable protective clothing and gloves.
: Wear suitable protective clothing and gloves.
: Wear eye protection. Chemical goggles or face shield with safety glasses. Safety glasses.
: 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 compo	onent 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)
0.2 Other information	

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity	
10.1. Reactivity	
Vapors may form flammable mixture with air. Hig	hlv flammable liquid and vapor.
10.2. Chemical stability	
See storage and expiration date on CoA.	
10.3. Possibility of hazardous reactions	
Vapors may form explosive mixture with air.	
10.4. Conditions to avoid	
Sparks. Heat. Direct sunlight. Overheating. Open	flame.
10.5. Incompatible materials	
Strong oxidizing agents.	
10.6. Hazardous decomposition products	
Carbon oxides (CO, CO2).	
SECTION 11: Toxicological informati	on
11.1. Information on toxicological effects	
Acute toxicity	: Not classified
1,2,3,5,6,7-HEXACN (PCN-67) (13C10, 98%) 1	
LD50 oral rat	> 5000 mg/kg (OECD Test Guideline 401)
LD50 dermal rabbit	> 2000 mg/kg (OECD Test Guideline 401) > 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	
ATE CLP (oral)	500.000 mg/kg body weight
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)
Skin corrosion/irritation	: Skin. Rabbit. Result: Irritating to skin. (OECD 404 method)
Serious eye damage/irritation	: Eyes. Rabbit. Result: No eye irritation. (OECD 405 method)
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	: Rat - Unscheduled DNA synthesis
Carcinogenicity	: Not classified
Reproductive toxicity	: Not available
Specific target organ toxicity – single exposure	: May cause drowsiness or dizziness
Specific target organ toxicity – repeated	: Health hazard - Aspiration hazard
exposure	No data available
Aspiration hazard	Aspiration hazard
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. Affects the liver.
Symptoms/injuries after inhalation	: May be fatal if swallowed and enters airways.
Symptoms/injuries after skin contact	: Causes skin irritation. May be harmful in contact with skin.
Symptoms/injuries after eye contact	: May cause severe irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. Risk of lung edema.

<b>SECTION 12: Ecological information</b>	
12.1. Toxicity	
Ecology - water	: Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability	
1,2,3,5,6,7-HEXACN (PCN-67) (13C10, 98%) 10	UG/ML IN ISOOCTANE
Persistence and degradability	May cause long-term adverse effects in the environment.
1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97-7 (Unlabeled))	
Persistence and degradability	No data available.
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40.0 Discourse lating as for the	
12.3. Bioaccumulative potential	
1,2,3,5,6,7-HEXACN (PCN-67) (13C10, 98%) 1	
Log Pow	4.6
1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97	
Bioaccumulative potential	No data available.
ISOOCTANE UNLABELED (540-84-1)	
Log Pow	4.6
12.4. Mobility in soil	
1,2,3,5,6,7-HEXACN (13C10, 98%) (103426-97	7-7 (Unlabeled))
Ecology - soil	No data available.
12.5. Results of PBT and vPvB assessme	nt
No additional information available	
12.6. Other adverse effects	
Other adverse effects	: 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 consideration	
13.1. Waste treatment methods	
Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and Loca environmental control regulations.
Product/Packaging disposal recommendations:	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.
SECTION 14: Transport information	
In accordance with ADR / RID / IMDG / IATA / AD	אר
14.1. UN number	
UN-No.(DOT)	: 1262
DOT NA no.	UN1262
14.2. UN proper shipping name	
Proper Shipping Name (DOT)	: Octanes
Proper Shipping Name (DOT) Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Proper Shipping Name (DOT)	
Proper Shipping Name (DOT) Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT)	<ul> <li>3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>3 - Flammable liquid</li> </ul>
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx)	<ul> <li>3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>3 - Flammable liquid</li> <li>3 - Flammable liquid</li> <li>11 - Medium Danger</li> <li>II - Medium Danger</li> <li>IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.</li> <li>150</li> </ul>
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx)	<ul> <li>3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>3 - Flammable liquid</li> <li>3 - Flammable liquid</li> <li>11 - Medium Danger</li> <li>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</li></ul>
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx)	<ul> <li>3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>3 - Flammable liquid</li> <li>3 - Flammable liquid</li> <li>11 - Medium Danger</li> <li>II - Medium Danger</li> <li>IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.</li> <li>150</li> </ul>
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx)	<ul> <li>3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>3 - Flammable liquid</li> <li>3 - Flammable liquid</li> <li>11 - Medium Danger</li> <li>II - Medium Danger</li> <li>IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal 178.275(d)(3)</li> <li>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.</li> <li>150</li> <li>202</li> </ul>
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) HA3. Additional information	<ul> <li>: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>: 3 - Flammable liquid</li> <li>i - Authonized liquid</li> <li>: II - Medium Danger</li> <li>: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31H21). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal 178.275(d)(3)</li> <li>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.</li> <li>: 150</li> <li>: 202</li> <li>: 242</li> </ul>
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) HA3. Additional information	<ul> <li>3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>3 - Flammable liquid</li> <li>3 - Flammable liquid</li> <li>11 - Medium Danger</li> <li>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</li></ul>
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) Hat a Additional information Emergency Response Guide (ERG) Number	<ul> <li>: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>: 3 - Flammable liquid</li> <li>i - Authonized lipuid</li> <li>: II - Medium Danger</li> <li>: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31H21). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal 178.275(d)(3)</li> <li>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.</li> <li>: 150</li> <li>: 202</li> <li>: 242</li> </ul>
Proper Shipping Name (DOT) Class (DOT) Hazard labels (DOT) Packing group (DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) <b>14.3.</b> Additional information Emergency Response Guide (ERG) Number Other information	<ul> <li>: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</li> <li>: 3 - Flammable liquid</li> <li>: II - Medium Danger</li> <li>: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31H21). 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</li></ul>
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26, 2012 / Rules and Regulations	
Hazard identification number (Kemler No.)	: 33
Classification code (ADR)	: F1
Hazard labels (ADR)	: 3 - Flammable liquids
Orange plates	33
	33
	1262
Tunnel restriction code (ADR)	: D/E
Limited quantities (ADR)	11
EAC	: 3YE
Excepted quantities (ADR)	: E2
Transport by sea	
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a
	passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on
	passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this
	section is exceeded.
MFAG-No	: 128
Air transport	
DOT Quantity Limitations Passenger aircraft/rail	: 5L
(49 CFR 173.27)	
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
Civil Aeronautics Law	: Flammable liquids
14.4. Environmental hazards	
Dangerous for the environment	:
0	XXX \
	$\langle \mathbf{I}_{2} \rangle$
Other information	: No supplementary information available.
14.5. Special precautions for user	
	x II of MARPOL 73/78 and the IBC Code
Not applicable	
SECTION 15: Regulatory information	
15.1. US Federal regulations	
1,2,3,5,6,7-HEXACN (PCN-67) (13C10, 98%) 1	0 UG/ML IN ISOOCTANE
SARA Section 302 Threshold Planning	Not subject to reporting requirements of the United States SARA Section 302.
Quantity (TPQ)	
SARA Section 311/312 Hazard Classes	Fire hazard
CADA Contine 242 Entenies Description	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporing 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.
CARA Section 211/212 Llazard Classes	

SARA Section 311/312 Hazard Classes

SARA Section 313 - Emission Reporting

Fire hazard

Delayed (chronic) health hazard

Not subject to reporing requirements of the United States SARA Section 313.

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### 15.2. International regulations

#### **CANADA**

1,2,3,5,6,7-HEXACN (PCN-67	) (13C10, 98%) 10 UG/ML IN ISOOCTANE
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Listed on the Canadian DSL (Domestic Substances List)

#### 15.2.1. **National regulations**

No additional information available

#### 15.3. US State regulations

1,2,3,5,6,7-HEXACN (PCN-67) (13C10, 98%) 10 UG/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				
ISOOCTANE UNLABELED (540-84-1)						
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)		
No	No	No	No			
ISOOCTANE UNLABELED (540-84-1)						

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 toxicity (oral) Category 4
Hazardous to the aquatic environment - Acute Hazard Category 1
Hazardous to the aquatic environment - Chronic Hazard Category 1
Aspiration hazard Category 1
Serious eye damage/eye irritation Category 1
Flammable liquids Category 2
Skin corrosion/irritation Category 2
Specific target organ toxicity (repeated exposure) Category 1
Specific target organ toxicity (repeated exposure) Category 2
Specific target organ toxicity (single exposure) Category 3
Highly flammable liquid and vapor
Harmful if swallowed
May be fatal if swallowed and enters airways
Causes skin irritation
Causes serious eye damage
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May cause damage to organs through prolonged or repeated exposure
Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects

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R11	Highly flammable
R20/21	Harmful by inhalation and in contact with skin
R36/37/38	Irritating to eyes, respiratory system and skin
R38	Irritating to skin
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R67	Vapors may cause drowsiness and dizziness
F	Highly flammable
Ν	Dangerous for the environment
Xi	Irritant
Xn	Harmful

NFPA health hazard	: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.	
NFPA fire hazard	<ul> <li>3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.</li> </ul>	2 0
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.	
HMIS III Rating		
Health	: 2 Moderate Hazard - Temporary or minor injury may occur	
Flammability	: 3 Serious Hazard	
Physical	: 0 Minimal Hazard	

### 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