



# MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%) 10 UG/ML IN ISO-OCTANE

## 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: 01/12/2015

Revision date: 08/05/2018

Supersedes: 15/02/2018

Version: 2.1

ECN-5217

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

### 1.1. Product identifier

Product form : Mixtures  
Product name : MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%) 10 UG/ML IN ISO-OCTANE  
Product code : ECN-5217

### 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. 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 section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R38  
N; R50/53  
R67  
F; R11  
Xn; R65

Full text of R-phrases: see section 16

#### GHS-US classification

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 H statements : see section 16

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### Adverse physicochemical, human health and environmental effects

Liver, Kidney. Highly flammable liquid and vapor. May cause drowsiness or dizziness. Causes skin irritation. May be fatal if swallowed and enters airways. Very toxic to aquatic life with long lasting effects.

## 2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: 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)

: 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, spray, vapors  
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)

: 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 (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, spray, vapors  
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 eye protection, face protection, protective clothing, protective gloves  
P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER  
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  
P312 - Call a doctor, a POISON CENTER 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  
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

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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
ISO-OCTANE 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
2-MONO-CN (13C10, 99%)	(CAS No) 91-58-7 (Unlabeled) (EC No) 202-079-9 (Unlabeled)	0.00122	N; R51/53
1-MONO-CN (13C10, 99%)	(CAS No) 90-13-1 (Unlabeled) (EC No) 201-967-3 (Unlabeled)	0.00018	Xn; R22 Xi; R36/37/38 N; R50/53

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ISO-OCTANE 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
2-MONO-CN (13C10, 99%)	(CAS No) 91-58-7 (Unlabeled) (EC No) 202-079-9 (Unlabeled)	0.00122	Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1-MONO-CN (13C10, 99%)	(CAS No) 90-13-1 (Unlabeled) (EC No) 201-967-3 (Unlabeled)	0.00018	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Name	Product identifier	%	GHS-US classification
ISO-OCTANE 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
1-MONO-CN (13C10, 99%)	(CAS No) 90-13-1 (Unlabeled)	0.00018	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336 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 medical advice is needed, have product container or label at hand. Call a physician immediately. Evacuate danger area.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse.

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- First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Immediately call a poison center or doctor/physician.

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

- Symptoms/injuries : May cause drowsiness or dizziness.
- Symptoms/injuries after inhalation : May be fatal if swallowed and enters airways. May cause drowsiness or dizziness.
- Symptoms/injuries after skin contact : May be harmful in contact with skin. Causes skin irritation.
- Symptoms/injuries after eye contact : May cause eye irritation.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. May result in aspiration into the lungs, causing chemical pneumonia. 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 : 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 hazard : Extremely flammable liquid and vapor.
- Explosion hazard : May form flammable/explosive vapor-air mixture.
- Reactivity : vapors may form flammable mixture with air. Highly flammable liquid and vapor.

### 5.3. Advice for firefighters

- Firefighting instructions : Wear a self contained breathing apparatus.
- Protection 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.
- Other information : Use water spray to cool exposed surfaces.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

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

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Use personal protective equipment as required. Remove all sources of ignition. Ensure adequate air ventilation. Provide adequate ventilation to minimize dust and/or vapor concentrations. No open flames, no sparks, and no smoking. Avoid breathing gas, mist, vapors. Avoid contact with skin and eyes. Evacuate danger area. Special attention should be given to low areas/pits where flammable vapors can accumulate.

#### 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

Stop leak, if possible without risk. Prevent entry to sewers and public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

- For containment : Vacuum with an equipment that avoids ignition risk. This material and its container must be disposed of in a safe way, and as per local legislation. 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

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area.

# MONOEN ISOMER MIX (87% 2-MONOEN, 13% 1-MONOEN) (13C10, 99%) 10 UG/ML IN ISOCTANE

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Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures : Keep dry. Store in tightly closed, leak-proof containers. Containers which are opened should be properly resealed and kept upright to prevent leakage. Ground/bond container and receiving equipment.

Storage conditions : Store at room temperature away from light and moisture.

Incompatible materials : Heat sources.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

MONOEN ISOMER MIX (87% 2-MONOEN, 13% 1-MONOEN) (13C10, 99%) 10 UG/ML IN ISOCTANE		
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
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

### 8.2. Exposure controls

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Ensure good ventilation of the work station.

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses. Safety glasses.

Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.

Environmental exposure controls : Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

Physical state : Liquid

Appearance : Liquid

Molecular mass : 114.23 g/mol

Color : Colourless

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) : Extremely flammable liquid and vapor

Vapor pressure : 55 hPa (41 mmHg) at 21 °C (70 °F); 117 hPa (88 mmHg) at 37.8 °C (100.04 °F)

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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

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

vapors may form flammable mixture with air. Highly 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

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

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO2).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%) 10 UG/ML IN ISOOCTANE	
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)

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)

2-MONOCN (13C10, 99%) (91-58-7 (Unlabeled))	
LD50 oral rat	2078 mg/kg
ATE CLP (oral)	2078.000 mg/kg body weight

1-MONOCN (13C10, 99%) (90-13-1 (Unlabeled))	
LD50 oral rat	1540 mg/kg
ATE CLP (oral)	1540.000 mg/kg body weight

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 exposure	: Health hazard - Aspiration hazard

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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. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. May result in aspiration into the lungs, causing chemical pneumonia. Risk of lung edema.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

2-MONOCN (13C10, 99%) (91-58-7 (Unlabeled))	
EC50 Daphnia 1	1.64 mg/l - 48 h, Daphnia magna (Water flea) -
1-MONOCN (13C10, 99%) (90-13-1 (Unlabeled))	
LC50 fish 1	2.3 mg/l Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	0.81 mg/l Daphnia magna (Water flea) - 48 h
NOEC (chronic)	1.2 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h

### 12.2. Persistence and degradability

MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%) 10 UG/ML IN ISOOCTANE	
Persistence and degradability	May cause long-term adverse effects in the environment.
2-MONOCN (13C10, 99%) (91-58-7 (Unlabeled))	
Persistence and degradability	Not available.
1-MONOCN (13C10, 99%) (90-13-1 (Unlabeled))	
Persistence and degradability	Not available. May cause long-term adverse effects in the environment.

### 12.3. Bioaccumulative potential

MONOCN ISOMER MIX (87% 2-MONOCN, 13% 1-MONOCN) (13C10, 99%) 10 UG/ML IN ISOOCTANE	
Log Pow	4.6
ISOOCTANE UNLABELED (540-84-1)	
Log Pow	4.6
2-MONOCN (13C10, 99%) (91-58-7 (Unlabeled))	
Bioaccumulative potential	Not available.
1-MONOCN (13C10, 99%) (90-13-1 (Unlabeled))	
Bioaccumulative potential	Not available.

### 12.4. Mobility in soil

2-MONOCN (13C10, 99%) (91-58-7 (Unlabeled))	
Ecology - soil	Not available.
1-MONOCN (13C10, 99%) (90-13-1 (Unlabeled))	
Ecology - soil	Not available.

### 12.5. Results of PBT and vPvB assessment

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 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.
Additional information	: Handle empty containers with care because residual vapors are flammable.

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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) : 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..... 178.275(d)(3)  
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.  
DOT Packaging Exceptions (49 CFR 173.xxx) : 150  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242

#### 14.3. Additional information

Other information : No supplementary information available.

#### Overland transport

Packing group (ADR) : II  
Class (ADR) : 3 - Flammable liquid  
Hazard identification number (Kemler No.) : 33  
Classification code (ADR) : F1  
Hazard labels (ADR) : 3 - Flammable liquids



Orange plates : An orange rectangular plate with a black border. The number "33" is printed in black in the upper half, and the number "1262" is printed in black in the lower half.

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



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### Air transport

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

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

Civil Aeronautics Law : Flammable liquids

### 14.4. Environmental hazards

Dangerous for the environment :



Other information : No supplementary information available.

### 14.5. Special precautions for user

### 14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%) 10 UG/ML IN ISO-OCTANE

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
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SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard
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SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
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#### ISO-OCTANE UNLABELED (540-84-1)

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

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

#### 1-MONO-CN (13C10, 99%) (90-13-1 (Unlabeled))

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
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SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
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SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
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#### 2-MONO-CN (13C10, 99%) (91-58-7 (Unlabeled))

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
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SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
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SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
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### 15.2. International regulations

#### CANADA

#### MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%) 10 UG/ML IN ISO-OCTANE

Listed on the Canadian DSL (Domestic Substances List)

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

#### MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%) 10 UG/ML IN ISO-OCTANE

U.S. - California - Proposition 65 - Carcinogens List	No
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U.S. - California - Proposition 65 - Developmental	No
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# MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%) 10 UG/ML IN ISO-OCTANE

ECN-5217

## 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

MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%) 10 UG/ML IN ISO-OCTANE	
Toxicity	
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

ISO-OCTANE 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	

1-MONO-CN (13C10, 99%) (90-13-1 (Unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

2-MONO-CN (13C10, 99%) (91-58-7 (Unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

ISO-OCTANE UNLABELED (540-84-1)				
<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				

1-MONO-CN (13C10, 99%) (90-13-1 (Unlabeled))				
<b>State or local regulations</b>				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				

2-MONO-CN (13C10, 99%) (91-58-7 (Unlabeled))				
<b>State or local regulations</b>				
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 (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
Asp. Tox. 1	Aspiration hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 2	Flammable liquids Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor

# MONO-CN ISOMER MIX (87% 2-MONO-CN, 13% 1-MONO-CN) (13C10, 99%) 10 UG/ML IN ISO-OCTANE

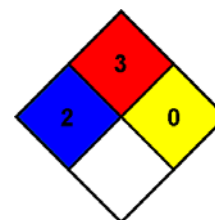
ECN-5217

## 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

H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H318	Causes serious eye damage
H336	May cause drowsiness or dizziness
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
R11	Highly flammable
R22	Harmful if swallowed
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
R51/53	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
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



### HMIS III Rating

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

### 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*