



# MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE

## Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 19/09/2016

Revision date:

Version: 1.0

**ES-5321-200X**

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE  
Product code : ES-5321-200X

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only.

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.  
50 Frontage Road  
Andover, MA 01810  
USA

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

#### Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)  
International: 1-703-741-5970 (24 hours)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Flam. Liq. 3 H226  
Acute Tox. 4 (Inhalation) H332  
Skin Irrit. 2 H315  
Eye Irrit. 2 H319  
STOT SE 3 H336  
Asp. Tox. 1 H304

Full text of H-phrases: see section 16

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

R10  
Xn; R20  
Xi; R36/38  
R67  
Xn; R65

Full text of R-phrases: see section 16

##### Classification (GHS-US)

Flam. Liq. 3 H226  
Acute Tox. 4 (Inhalation) H332  
Skin Irrit. 2 H315  
Eye Irrit. 2A H319  
STOT SE 3 H336  
Asp. Tox. 1 H304

#### Adverse physicochemical, human health and environmental effects

Peripheral nervous system., Kidney, Testes.

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### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS08

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H226 - Flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H336 - May cause drowsiness or dizziness

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 thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear eye protection, face protection, protective clothing, protective gloves

#### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02

GHS08

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H226 - Flammable liquid and vapor  
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H336 - May cause drowsiness or dizziness

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 Both hands thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear eye protection, face protection, protective clothing, protective gloves  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water  
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312 - Call a POISON CENTER or doctor/physician if you feel unwell  
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)  
P331 - Do NOT induce vomiting  
P332+P313 - If skin irritation occurs: Get medical advice/attention  
P337+P313 - If eye irritation persists: Get medical advice/attention  
P362 - Take off contaminated clothing and wash it before reuse  
P370+P378 - In case of fire: Use Carbon dioxide., Dry chemical., Water spray to extinguish  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P403+P235 - Store in a well-ventilated place. Keep cool

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P405 - Store locked up  
P501 - Dispose of contents/container to Comply with applicable regulations.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
N-NONANE UNLABELED	(CAS No) 111-84-2 (EC no) 203-913-4	99.999234	R10 Xn; R20 Xn; R65 R67 Xi; R38
2,2',3,3',4,5,5',6,6'-NONACB (PCB-208) (13C12, 99%)	(CAS No) 52663-77-1 (Unlabeled) (EC index no) 602-039-00-4	0.000279	Xn; R48/20/21/22 N; R50/53 R33
3,3',4,4'-TETRABDE (BDE-77) (13C12, 99%)	(CAS No) 93703-48-1 (Unlabeled)	0.000209	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,2',3,4,4',6-HEXABDE (BDE-139) (13C12, 99%)	(CAS No) 488710-25-4	0.000209	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C6, 99%)	(CAS No) 30746-58-8 (Unlabeled)	0.000070	T+; R26/27/28 Carc.Cat.1; R45

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-NONANE UNLABELED	(CAS No) 111-84-2 (EC no) 203-913-4	99.999234	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304
2,2',3,3',4,5,5',6,6'-NONACB (PCB-208) (13C12, 99%)	(CAS No) 52663-77-1 (Unlabeled) (EC index no) 602-039-00-4	0.000279	Carc. 1B, H350 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
3,3',4,4'-TETRABDE (BDE-77) (13C12, 99%)	(CAS No) 93703-48-1 (Unlabeled)	0.000209	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
2,2',3,4,4',6-HEXABDE (BDE-139) (13C12, 99%)	(CAS No) 488710-25-4	0.000209	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C6, 99%)	(CAS No) 30746-58-8 (Unlabeled)	0.000070	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 Carc. 1A, H350

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Name	Product identifier	%	Classification (GHS-US)
N-NONANE UNLABELED	(CAS No) 111-84-2	99.999234	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H336 Asp. Tox. 1, H304

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 : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous 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. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Get medical advice/attention.
- First-aid measures after eye contact : Flush eye with water for 15 minutes. Get medical 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 after inhalation : May cause drowsiness or dizziness.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes eye irritation.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Flammable liquid and vapor.
- Explosion hazard : May form flammable/explosive vapor-air mixture.

#### 5.3. Advice for firefighters

- Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### 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 naked lights. No smoking.

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Use personal protective equipment, and ensure adequate ventilation. Avoid breathing vapors, mist, gas. Remove ignition sources, and move personnel to safe area. Vapors accumulate especially in low areas to form explosive concentrations.

##### 6.1.2. For emergency responders

- Protective equipment : Avoid breathing dust, mist or spray.

#### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

- For containment : Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations.

#### 6.4. Reference to other sections

No additional information available

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### 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 : Avoid breathing dust, mist or spray. No naked lights. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area.
- Hygiene measures : Wash Both hands thoroughly after handling.

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

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Keep container tightly closed.
- 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

MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50.000000000 ppm Central Nervous System impairment Eye irritation Peripheral neuropathy. Danger of cutaneous absorption
N-NONANE UNLABELED (111-84-2)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.000000000 ppm Central Nervous System impairment.

#### 8.2. Exposure controls

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



- Hand protection : Wear suitable protective clothing and gloves.
- Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear respiratory protection.
- Other information : Do not eat, drink or smoke when using this product.

### SECTION 9: Physical and chemical properties

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

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

- Physical state : Liquid
- Appearance : Liquid.
- Molecular mass : 128.3 g/mol
- 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 : No data available
- Freezing point : -53 °C (- 63 °F) - lit
- Boiling point : 151 °C (304 °F) - lit
- Flash point : 31.0 °C (87.8 °F) - closed cup
- Auto-ignition temperature : 205 °C (401 °F)
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : 12.4 hPa (9.3 mmHg) at 37.7 °C (99.9 °F)

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Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 0.718 g/ml at 25 °C (77 °F)
Solubility	: Water: 0 %
Log Pow	: 5.65
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
Explosive limits	: 0.87 - 2.9 % (V)

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

See storage and expiration date on CoA.

### 10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

### 10.4. Conditions to avoid

Open flame. Overheating. Direct sunlight. Heat. Sparks.

### 10.5. Incompatible materials

Oxidizing agents.

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Harmful if inhaled.

MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE	
LD50 oral rat	25000 mg/kg
LC50 inhalation rat (ppm)	48000 ppm -4 h
ATE CLP (oral)	25000.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

N-NONANE UNLABELED (111-84-2)	
LC50 inhalation rat (mg/l)	23760 mg/m <sup>3</sup> male - 4 h
LC50 inhalation rat (ppm)	3200 ppm/4h
ATE CLP (gases)	3200.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	23.760 mg/l/4h

1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C6, 99%) (30746-58-8 (Unlabeled))	
ATE CLP (oral)	5.000 mg/kg body weight
ATE CLP (dermal)	5.000 mg/kg body weight
ATE CLP (dust, mist)	0.050 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation. Eyes - rabbit - Mild eye irritation
Respiratory or skin sensitization	: Not available May be fatal if swallowed and enters airways.
Germ cell mutagenicity	: Not available
Carcinogenicity	: Not classified

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Reproductive toxicity	: Suspected reproductive toxicant. Laboratory experiments have shown teratogenic effects. Overexposure may cause reproductive disorders with laboratory animals. Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness. May cause damage to organs.
Specific target organ toxicity (repeated exposure)	: Not classified No data available
Aspiration hazard	: May be fatal if swallowed and enters airways.
Potential Adverse human health effects and symptoms	: Defatting. Dermatitis. Blurred vision. Redness in the eyes. Provokes tears. Gastrointestinal discomfort. Central nervous system depression. Lung irritation. Chest pain. Pulmonary edema. Giddiness. Slowed reaction time. Slurred speech. Headache. Dizziness. Drowsiness. Unconsciousness.
Symptoms/injuries after inhalation	: May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.

## SECTION 12: Ecological information

### 12.1. Toxicity

MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE	
LC50 fish 1	2.5 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	3878.00 mg/l Daphnia magna (Water flea) - 48 h
EC50 other aquatic organisms 1	12840 mg/l EC50 - Chlorella vulgaris (Fresh water algae) - 3 h
EC50 other aquatic organisms 2	0.3 mg/l EC50 - SKELETOMA - 8 h

### 12.2. Persistence and degradability

3,3',4,4'-TETRABDE (BDE-77) (13C12, 99%) (93703-48-1 (Unlabeled))	
Persistence and degradability	Not available.

2,2',3,4,4',6-HEXABDE (BDE-139) (13C12, 99%) (488710-25-4)	
Persistence and degradability	Not available.

### 12.3. Bioaccumulative potential

MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE	
Log Pow	5.65
Bioaccumulative potential	Not available.

N-NONANE UNLABELED (111-84-2)	
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.

3,3',4,4'-TETRABDE (BDE-77) (13C12, 99%) (93703-48-1 (Unlabeled))	
Bioaccumulative potential	Not available.

2,2',3,4,4',6-HEXABDE (BDE-139) (13C12, 99%) (488710-25-4)	
Bioaccumulative potential	Not available.

### 12.4. Mobility in soil

MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE	
Ecology - soil	Not available.

3,3',4,4'-TETRABDE (BDE-77) (13C12, 99%) (93703-48-1 (Unlabeled))	
Ecology - soil	Not available.

2,2',3,4,4',6-HEXABDE (BDE-139) (13C12, 99%) (488710-25-4)	
Ecology - soil	Not available.

### 12.5. Results of PBT and vPvB assessment

No additional information available

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### 12.6. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 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.

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

Ecology - waste materials : Dispose of as unused product.

## SECTION 14: Transport information

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

### 14.1. UN number

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

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Nonanes

Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.  
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).  
T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3)  
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 242

Marine pollutant : No

### 14.3. Additional information

Other information : No supplementary information available.

### Overland transport

Packing group (ADR) : III

Class (ADR) : 3 - Flammable liquid

Hazard identification number (Kemler No.) : 30

Classification code (ADR) : F1

Hazard labels (ADR) : 3 - Flammable liquids





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Orange plates : 

<b>30</b>
<b>1920</b>

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

### Transport by sea

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

### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 60 L  
(49 CFR 173.27)  
DOT Quantity Limitations Cargo aircraft only (49 : 220 L  
CFR 175.75)

### 14.4. Environmental hazards

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

#### MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE

SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard
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#### N-NONANE UNLABELED (111-84-2)

SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard
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### 15.2. International regulations

#### CANADA

#### MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE

Listed on the Canadian DSL (Domestic Substances List) inventory.

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

#### MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE()

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 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
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#### N-NONANE UNLABELED (111-84-2)

U.S. - Massachusetts - Right To Know List  
U.S. - Pennsylvania - RTK (Right to Know) List

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### N-NONANE UNLABELED (111-84-2)

U.S. - New Jersey - Right to Know Hazardous Substance List

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### 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. 1 (Dermal)	Acute toxicity (dermal) Category 1
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral) Category 2
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) 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
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
H300	Fatal if swallowed
H304	May be fatal if swallowed and enters airways
H310	Fatal in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H350	May cause cancer
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
R10	Flammable
R20	Harmful by inhalation
R22	Harmful if swallowed
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed
R33	Danger of cumulative effects
R36/38	Irritating to eyes and skin
R37	Irritating to respiratory system
R38	Irritating to skin
R41	Risk of serious damage to eyes
R45	May cause cancer
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
R49	May cause cancer by inhalation
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

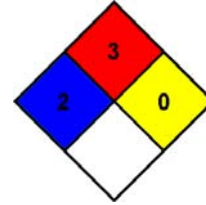
# MULTI-ANALYTE RECOVERY SPIKING STD. (13C12, 99%) 200X STOCK IN NONANE ES-5321-200X

## Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

R67	Vapors may cause drowsiness and dizziness
N	Dangerous for the environment
T+	Very toxic
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
- NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all ambient conditions.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### 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*