

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: 29/10/2014

Revision date:

Version: 1.0

ECN-2642

	bstance/mixture and of the company/undertaking
1.1. Product identifier	
Product form	
Product name.	: 1,2,5,6-TETRACN (PCN-36) UNLABELED 100 UG/ML IN NONANE
Product code	: ECN-2642
1.2. Relevant identified uses of the sub	stance or mixture and uses advised against
1.2.1. Relevant identified uses	
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 USA: 1-800-322-1174 Int: 1-978-749-8000	
cilsales@isotope.com www.isotope.com	
Emergency telephone number	
Emergency numbers:	
Chemtrec: 1-800-424-9300 (24 hours)	
International: 1-202-483-7616 (24 hours)	
SECTION 2: Hazards identification	
2.1. Classification of the substance or r	mixture
Classification according to Regulation (EC)	No. 1272/2008 [CLP]
Flam. Liq. 3	H226
Acute Tox. 4 (Inhalation:dust,mist)	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 or 1999/45/EC
Xn; R20	
Xn; R65	
R10	
Full text of R-phrases: see section 16	
Classification (GHS-US)	
Flam. Lig. 3	H226
Acute Tox. 4 (Inhalation:dust,mist)	H332
Skin Irrit. 2	H315
Eye Irrit. 2A	H319 H336
STOT SE 3	1000

Adverse physicochemical, human health and environmental effects

Central Nervous System.

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



P403+P233 - Store in a well-ventilated place. Keep container tightly closed

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

P403+P235 - Store in a well-ventilated place. Keep cool

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

Substances 3.1.

Not applicable

3.2. **Mixtures**

Name	Product identifier	%	Classification according to Directive 67/548/EEC
N-NONANE UNLABELED	(CAS No)111-84-2 (EC no)203-913-4	99.9861	R10 Xn; R20 Xn; R65 R67
1,2,5,6-TETRACN UNLABELED	(CAS No)67922-22-9 (Unlabeled)	0.0139	Xn; R22 Xi; R41 Xi; R38 N; R50/53 R48
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	99.9861	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
1,2,5,6-TETRACN UNLABELED	(CAS No)67922-22-9 (Unlabeled)	0.0139	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
Name	Product identifier	%	Classification (GHS-US)
N-NONANE UNLABELED	(CAS No)111-84-2	99.9861	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

Full text of R-, H- and EUH-phrases: see section 16

SECTION 4: First aid measures	
4.1. Description of first aid measures	3
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 to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/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. If skin irritation occurs: Wash with plenty of soap and water. Get medical advice/attention. Specific treatment (see Hazard pictograms (CLP) on this label).
First-aid measures after eye contact	: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
First-aid measures after ingestion	: Immediately call a POISON CENTER or doctor/physician.
4.2. Most important symptoms and e	ffects, both acute and delayed
Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. 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.

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

4.3. Indication of any immediate medi	cal attention and special treatment needed
No additional information available	
SECTION 5: Eirofighting modeuros	
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 s	
Fire hazard	: Flammable liquid and vapor.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
5.3. Advice for firefighters	
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
SECTION 6: Accidental release me	easures
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 No additional information available	
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 de	o so. Do not let product enter drains. Discharge into the environment must be avoided.
6.3. Methods and material for contain	ment and cleaning up
No additional information available	
6.4. Reference to other sections	
No additional information available	
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 naked lights. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Avoid breathing dust, mist or spray.
Hygiene measures	: Wash Both hands thoroughly after handling.
7.2. Conditions for safe storage, inclu	ding any incompatibilities
Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical 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/pe	rsonal protection
9.1 Control parameters	

Control parameters 8.1.

N-NONANE UNLABELED (11	N-NONANE UNLABELED (111-84-2)		
Italy - Portugal- USA ACGIH	ACGIH TWA (ppm)	200.0000000000 ppm Central Nervous System impairment.	

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

8.2. Exposure controls Personal protective equipment

: Gloves. Protective goggles. Protective clothing. Self-contained breathing apparatus.



Hand protection	: We
Eye protection	: We
Skin and body protection	: We
Respiratory protection	: WI

- : Wear suitable protective clothing and gloves.
- : Wear safety glasses with side shields (or goggles) and a face shield.
- : Wear suitable protective clothing.
- : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear respiratory protection.

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
Color	: No data available.
Odor	: No data available
Odor threshold	: No data available
рН	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: -53 °C (- 63 °F) - lit
Freezing point	: No data available
Boiling point	: 151 °C (304 °F) - lit
Flash point	: 31.0 °C (87.8 °F) - closed cup
Self ignition temperature	: 205 °C (401 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapor
Vapor pressure	: 12.4 hPa (9.3 mmHg) at 37.7 °C (99.9 °F)
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
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

SECTIO	ON 10: Stability and reactivity			
10.1.	Reactivity			
No additi	No additional information available			
10.2.	Chemical stability			
Stable if stored under recommended conditions.				
10.3.	Possibility of hazardous reactions			
No additional information available				
10.4.	Conditions to avoid			
Open flame. Overheating. Direct sunlight. Heat. Sparks.				
10.5.	Incompatible materials			
No additional information available				

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

10.6. Hazardous decomposition products		
May release flammable gases.		
SECTION 11: Toxicological informati	on	
11.1. Information on toxicological effects		
Acute toxicity	: Harmful if inhaled.	
1,2,5,6-TETRACN (PCN-36) UNLABELED 100	UG/ML IN NONANE	
ATE (dust, mist)	1.500 mg/l/4h	
N-NONANE UNLABELED (111-84-2)		
LC50 inhalation rat (ppm)	3200 ppm/4h	
ATE (dust, mist)	1.500 mg/l/4h	
1,2,5,6-TETRACN UNLABELED (67922-22-9 (Unlabeled))	
ATE (oral)	500.000 mg/kg body weight	
Skin corrosion/irritation	: Causes skin irritation.	
Serious eye damage/irritation	: Causes serious eye irritation.	
Respiratory or skin sensitization	: Not classified	
Germ cell mutagenicity	: Not classified	
Carcinogenicity	: Not classified	
Reproductive toxicity	: Not classified	
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.	
Specific target organ toxicity (repeated exposure)	: Not classified	
Aspiration hazard	: May be fatal if swallowed and enters airways.	
Potential Adverse human health effects and symptoms	: Harmful if inhaled.	
Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. 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.		

SECTIO	ON 12: Ecc	ological information
.1.	Toxicity	

No additional information available

12.2. Persistence and degradability	
N-NONANE UNLABELED (111-84-2)	
Persistence and degradability	Not available.
1,2,5,6-TETRACN UNLABELED (67922-22-9 (U	nlabeled))
Persistence and degradability	Not available.
12.3. Bioaccumulative potential	
1.2,5,6-TETRACN (PCN-36) UNLABELED 100 L	JG/ML IN NONANE
Log Pow	5.65
N-NONANE UNLABELED (111-84-2)	
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.
1,2,5,6-TETRACN UNLABELED (67922-22-9 (U	nlabeled))
Bioaccumulative potential	Not available.
12.4. Mobility in soil	
-	
N-NONANE UNLABELED (111-84-2)	
Ecology - soil	Not available.
1,2,5,6-TETRACN UNLABELED (67922-22-9 (U	nlabeled))
07/11/2014	EN (English US) 6/10

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

Ecology - soil	ng to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Not available.
12.5. Results of PBT and vPvB assessme No additional information available	ent
12.6. Other adverse effects	
No additional information available	
SECTION 13: Disposal consideration	ns
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	: Dispose of contents/container to Comply with applicable regulations.
Additional information	: Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials	: Hazardous waste due to toxicity.
SECTION 14: Transport information	
In accordance with ADR / RID / ADNR / IMDG /	ICAO / IATA
14.1. UN number	
UN-No.(DOT)	: 1920
DOT NA no.	UN1920
14.2. UN proper shipping name	
DOT Proper Shipping Name	: Nonanes
Department of Transportation (DOT) Hazard Classes	: 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
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
14.3. Additional information	

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

Overland transport : III Packing group (ADR) : 3 - Flammable liquid Class (ADR) : 3 - Flammable liquid Hazard identification number (Kemler No.) : 30 Classification code (ADR) : F1 Danger labels (ADR) : 3 - Flammable liquids Verland : 3 - Flammable liquids Orange plates : 30	
Class (ADR) : 3 - Flammable liquid Hazard identification number (Kemler No.) : 30 Classification code (ADR) : F1 Danger labels (ADR) : 3 - Flammable liquids	
Hazard identification number (Kemler No.) : 30 Classification code (ADR) : F1 Danger labels (ADR) : 3 - Flammable liquids Variance plates : 3	
Classification code (ADR) : F1 Danger labels (ADR) : 3 - Flammable liquids	
Danger labels (ADR) : 3 - Flammable liquids	
Orange plates : 30	
1920	
Tunnel restriction code : D/E	
Limited quantities (ADR) 5L	
EAC : 3Y	
Excepted quantities (ADR) : E1	
Transport by sea	
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on passenger vessel.	а
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)	
Civil Aeronautics Law : Flammable liquids	
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	
1,2,5,6-TETRACN (PCN-36) UNLABELED 100 UG/ML IN NONANE	
SARA Section 311/312 Hazard Classes Fire hazard Immediate (acute) health hazard	
N-NONANE UNLABELED (111-84-2)	
SARA Section 311/312 Hazard Classes Fire hazard Immediate (acute) health hazard	

15.2. International regulations

CANADA

1,2,5,6-TETRACN (PCN-36) UNLABELED 100 UG/ML IN NONANE	
Listed on the Canadian DSL (Domestic Substances List) inventory.	

15.2.1. National regulations

No additional information available

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

15.3. US State regulations		
1,2,5,6-TETRACN (PCN-36) UNLABELED 100 UG/ML 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.	

N-NONANE UNLABELED (111-84-2)

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.

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 (inhalation) Category 4
Acute toxicity (inhalation:dust,mist) Category 4
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
Serious eye damage/eye irritation Category 2
Flammable liquids Category 3
skin corrosion/irritation Category 2
Specific target organ toxicity (repeated exposure) Category 2
Specific target organ toxicity (single exposure) Category 3
Flammable liquid and vapor
Harmful if swallowed
May be fatal if swallowed and enters airways
Causes skin irritation
Causes serious eye damage
Causes serious eye irritation
Harmful if inhaled
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects
Flammable
Harmful by inhalation
Harmful if swallowed
Irritating to skin
Risk of serious damage to eyes
Danger of serious damage to health by prolonged exposure
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Harmful: may cause lung damage if swallowed
Vapors may cause drowsiness and dizziness
Dangerous for the environment
Irritant
Harmful

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

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