

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: 10/10/2014

Revision date:

Version: 1.0

ECN-2651

1.1. Product identifier	
	. A Badaran
Product form	: Mixtures
Product name.	: 1,2,3,5,7-PENTACN (PCN-52) UNLABELED 100 UG/ML IN NONANE
Product code	: ECN-2651
1.2. Relevant identified uses of the sub	bstance 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 safet	y data sheet
Cambridge Isotope Laboratories, Inc. 50 Frontage Road Andover, MA 01810 USA USA: 1-800-322-1174 Int: 1-978-749-8000 <u>cilsales@isotope.com</u> 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	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
	1007
Full text of H-phrases: see section 16	
Classification according to Directive 67/548 Xn; R20 Xn; R65 R10	/EEC or 1999/45/EC
Full text of R-phrases: see section 16	
Classification (GHS-US)	
Flam. Liq. 3 Acute Tox. 4 (Inhalation:dust,mist) Skin Irrit. 2	H226 H332 H315 H319

Central Nervous System.

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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**

#### 3.1. Substances

- Not applicable
- 3.2. **Mixtures**

Name	Product identifier	%	Classification according to Directive 67/548/EEC
N-NONANE UNLABELED	(CAS No)111-84-2 (Unlabeled) (EC no)203-913-4	99.9861	R10 Xn; R20 Xn; R65 R67
1,2,3,5,7-PENTACN UNLABELED	(CAS No)53555-65-0 (Unlabeled) (EC no)215-320-8 (EC index no)602-041-00-5	0.0139	Xn; R20/21 Xi; R36/37/38 N; R50/53
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-NONANE UNLABELED	(CAS No)111-84-2 (Unlabeled) (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
1,2,3,5,7-PENTACN UNLABELED	(CAS No)53555-65-0 (Unlabeled) (EC no)215-320-8 (EC index no)602-041-00-5	0.0139	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 1, H372 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 (Unlabeled)	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	
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	<ul> <li>Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.</li> </ul>
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 effe	cts, both acute and delayed
Symptoms/injuries after inhalation	<ul> <li>Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause drowsiness or dizziness.</li> </ul>
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.

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0 0 ( )	<u></u>			
4.3. Indication of any imm	4.3. Indication of any immediate medical attention and special treatment needed			
No additional information availal	No additional information available			
SECTION 5: Firefighting	measures			
5.1. Extinguishing media				
suitable extinguishing media	: Use water spray, alcoho	I-resistant foam, dry chemical, or carbon dioxide.		
5.2. Special hazards aris	ing from the substance or mixture			
Fire hazard	: Flammable liquid and va			
Explosion hazard	: May form flammable/exp	plosive vapor-air mixture.		
5.3. Advice for firefighter				
Protection during firefighting	: Do not enter fire area wi	thout proper protective equipment, including respiratory protection.		
SECTION 6: Accidental	release measures			
6.1. Personal precaution	s, protective equipment and emergency p	rocedures		
General measures	: Remove ignition sources smoking.	s. Use special care to avoid static electric charges. No naked lights. No		
6.1.1. For non-emergency	personnel			
No additional information availal	ble			
6.1.2. For emergency resp	onders			
Protective equipment	: Avoid breathing dust, mi	st or spray.		
6.2. Environmental preca	utions			
Prevent further leakage or spilla	ge if safe to do so. Do not let product enter o	drains. Discharge into the environment must be avoided.		
6.3. Methods and materia	al for containment and cleaning up			
No additional information availal	ble			
6.4. Reference to other s	ections			
No additional information availal	ble			
SECTION 7: Handling ar	nd storage			
7.1. Precautions for safe	handling			
Additional hazards when proces		s with care because residual vapors are flammable.		
Precautions for safe handling		oking. Take precautionary measures against static discharge. Use only only outdoors or in a well-ventilated area. Avoid breathing dust, mist or		
Hygiene measures	: Wash Both hands thorou	ughly after handling.		
7.2. Conditions for safe s	storage, including any incompatibilities			
Technical measures	: Proper grounding procee	dures to avoid static electricity should be followed. Ground/bond equipment. Use explosion-proof electrical equipment.		
Storage conditions	: Store at room temperatu	ire 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				
N-NONANE UNLABELED (11				
Italy - Portugal- USA ACGIH	ACGIH TWA (ppm)	200.0000000000 ppm Central Nervous System impairment.		
1,2,3,5,7-PENTACN UNLABELED (53555-65-0 (Unlabeled))				
Italy - Portugal- USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.500000000 mg/m³ Skin		
USA OSHA	OSHA PEL (TWA) (mg/m3)	0.500000000 mg/m³ Skin		

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### 8.2. Exposure controls

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



Hand protection
Eye protection
Skin and body protection
Respiratory protection

- : 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 comp	onent of this mixture.
Physical state	: Liquid
Appearance	: Solid.
Molecular mass	: 300.4
Color	: White.
Odor	: No data available.
Odor threshold	: No data available
рН	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 120 °C
Freezing point	: No data available
Boiling point	: 120 °C
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	: < 1 mm Hg
Relative vapor density at 20 °C	: 10.4 (air = 1)
Relative density	: No data available
Density	: 1.7 g/cm³ (20 °C)
Solubility	: Water: 0 %
Log Pow	: 6.88
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

SECT	ION 10: Stability and reactivity	
10.1.	Reactivity	
No additional information available		
10.2.	Chemical stability	
See sto	rage and expiration date on CoA.	
10.3.	Possibility of hazardous reactions	
No addi	tional information available	
10.4.	Conditions to avoid	
Open fla	ame. Overheating. Direct sunlight. Heat. Sp	

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10.5. Incompatible materials		
No additional information available		
10.6. Hazardous decomposition products		
May release flammable gases.		
SECTION 11: Toxicological information	on	
11.1. Information on toxicological effects		
Acute toxicity	: Harmful if inhaled.	
1,2,3,5,7-PENTACN (PCN-52) UNLABELED 10	00 UG/ML IN NONANE	
ATE (dust, mist)	1.500 mg/l/4h	
N-NONANE UNLABELED (111-84-2 (Unlabele	d))	
LC50 inhalation rat (ppm)	3200 ppm/4h	
ATE (dust, mist)	1.500 mg/l/4h	
1,2,3,5,7-PENTACN UNLABELED (53555-65-0	(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.	

SECT	ION 12: Ecological information
12.1.	Toxicity
No addi	tional information available
12.2.	Persistence and degradability

N-NONANE UNLABELED (111-84-2 (Unlabeled))		
Persistence and degradability	Not available.	
1,2,3,5,7-PENTACN UNLABELED (53555-65-0 (Unlabeled))		
Persistence and degradability	No data available.	
12.3. Bioaccumulative potential		
1,2,3,5,7-PENTACN (PCN-52) UNLABELI	ED 100 UG/ML IN NONANE	
Log Pow	6.88	
N-NONANE UNLABELED (111-84-2 (Unlabeled))		
Log Pow	5.65	
Bioaccumulative potential	Indication of bioaccumulation.	
1,2,3,5,7-PENTACN UNLABELED (53555-65-0 (Unlabeled))		
Log Pow	6.88	
Bioaccumulative potential	No data available.	
12.4. Mobility in soil		

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N-NONANE UNLABELED (111-84-2 (Unlabel	led))
Ecology - soil	Not available.
1,2,3,5,7-PENTACN UNLABELED (53555-65-	-0 (Unlabeled))
Ecology - soil	No data available.
12.5. Results of PBT and vPvB assessme	ent
No additional information available	
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 /	
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)	<ul> <li>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.</li> <li>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).</li> <li>T2 - 1.5 178.274(d)(2) Normal</li></ul>
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	

Other information

: No supplementary information available.

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Overland transport		
Packing group (ADR)	: III	
Class (ADR)	: 3 - Flammable liquid	
Hazard identification number (Kemler No.)	: 30	
Classification code (ADR)	: F1	
Danger labels (ADR)	: 3 - Flammable liquids	
Orange plates	<b>30</b> <b>1920</b>	
Tunnel restriction code	: D/E	
Limited quantities (ADR)	5L	
	: 3Y	
Excepted quantities (ADR)	: E1	
Transport by sea		
-	: 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 (49 CFR 173.27)	: 60 L	
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L	
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		
1,2,3,5,7-PENTACN (PCN-52) UNLABELED 100 UG/ML IN NONANE		
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard	
N-NONANE UNLABELED (111-84-2 (Unlabeled	d))	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard	

### 15.2. International regulations

### CANADA

1,2,3,5,7-PENTACN (PCN-52) UNLABELED 100 UG/ML IN NONANE	
Listed on the Canadian DSL (Domestic Substances List) inventory.	

### 15.2.1. National regulations

No additional information available

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15.3. US State regulations		
1,2,3,5,7-PENTACN (PCN-52) 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 (Unlabeled))

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 Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
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
Asp. Tox. 1	Aspiration hazard 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
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
H302	Harmful if swallowed
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
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
R10	Flammable
R20	Harmful by inhalation
R20/21	Harmful by inhalation and in contact with skin
R36/37/38	Irritating to eyes, respiratory system and 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
N	Dangerous for the environment
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.

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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