

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

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Revision date:

Version: 1.0

CLM-4727-S

SECTION 1. Identification	of the substance/mixture and of the company/undertaking
1.1. Product identifier	of the substance/mixture and of the company/undertaking
Product form	: Mixture
Product name.	: ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) 100 UG/ML IN NONANE
Product code	: CLM-4727-S
1.2. Relevant identified use	s of the substance or mixture and uses advised against
1.2.1. Relevant identified use	s
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	of the safety data sheet
Cambridge Isotope Laboratories, Ir 50 Frontage Road Andover, MA 01810 USA	IC.
USA: 1-800-322-1174 Int: 1-978 cilsales@isotope.com www.isoto	
Emergency telephone r	number
Emergency numbers:	
Chemtrec: 1-800-424-9300 (24 ho International: 1-703-741-5970 (24	
SECTION 2: Hazards ident	tification
2.1. Classification of the su	bstance or mixture
Classification according to Regu	Ilation (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 Direc	ctive 67/548/EEC or 1999/45/EC
Xn; R20 Xn; R65 R10	
Full text of R-phrases: see section	16
GHS-US classification	
Flam. Liq. 3 Acute Tox. 4 (Inhalation:dust,mist) Skin Irrit. 2 Eye Irrit. 2A	H226 H332 H315 H319

Adverse physicochemical, human health and environmental effects Central Nervous System.

H336

H304

STOT SE 3

Asp. Tox. 1

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

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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

- Substances 3.1.
- 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	99.9861	R10 Xn; R20 Xn; R65 R67 Xi; R38
ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%)	(CAS No) 465-73-6 (Unlabeled) (EC no) 207-366-2 (EC index no) 602-050-00-4	0.0139	T+; R26/27/28 N; R50/53
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:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304
ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%)	(CAS No) 465-73-6 (Unlabeled) (EC no) 207-366-2 (EC index no) 602-050-00-4	0.0139	Acute Tox. 1 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 1 (Inhalation:dust,mist), H330 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
Name	Product identifier	%	GHS-US classification
N-NONANE UNLABELED	(CAS No) 111-84-2	99.9861	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-, H- and EUH-phrases: see section 16

SECTION 4: First aid measures	
4.1. Description of first aid measure	95
First-aid measures general	: Call a POISON CENTER or doctor/physician.
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.
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	effects, 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.
4.3. Indication of any immediate me	dical attention and special treatment needed
No additional information available	

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SECTION 5: Firefighting measures	ng to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
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 su	ubstance or mixture
Fire hazard	: Flammable liquid and vapour.
Explosion hazard	May form flammable/explosive vapour-air mixture.
Reactivity	: Vapors may form explosive mixture with air.
5.3. Advice for firefighters	
Firefighting instructions	: Use water spray to cool unopened containers.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
SECTION 6: Accidental release mea	
	quipment 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. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapour accumulating to form explosive concentrations. Vapours can accumulate in low areas.
6.1.2. For emergency responders No additional information available	
6.2. Environmental precautions	
Avoid release to the environment.	
6.3. Methods and material for containm	ent 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	
SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Additional hazards when processed	: Handle empty containers with care because residual vapours 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.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
7.2. Conditions for safe storage, includ	ing 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/pers	sonal protection
8.1. Control parameters	
N-NONANE UNLABELED (111-84-2)	
Italy - Portugal - USA ACGIH ACGIH TWA	(ppm) 200.000000000 ppm Central Nervous System impairment.
8.2. Exposure controls	· Claves Protective gaggles Protective elething Self contained breathing apparetus
Personal protective equipment	: Gloves. Protective goggles. Protective clothing. Self-contained breathing apparatus.



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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.

2/2010 and according to Ecderal Register / Vol. 77, No. 58 / Manday, March 26, 2012 / Pulsa and Regulations

9.1. Information on basic physical and	chemical properties
The properties listed below are for the solvent, the main com	ponent of this mixture.
Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 128.3 g/mol
Colour	: Colourless.
Odour	: No data available
Odour threshold	: No data available
H	: No data available
Relative evaporation rate (butylacetate=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
Self ignition temperature	: 205 °C (401 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour
Vapour pressure	: 12.4 hPa (9.3 mmHg) at 37.7 °C (99.9 °F)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.718 g/ml
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
Oxidising properties	: No data available
Explosive limits	: 0.87 - 2.9 % (V)

SECTION 10: Stability and reactivity 10.1. Reactivity Vapors may form explosive mixture with air. **Chemical stability** 10.2. See storage and expiration date on CoA. 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 Strong oxidizing agents. 10.6. Hazardous decomposition products May release flammable gases.

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SECTION 11: Toxicological information			
11.1. Information on toxicological effects			
Acute toxicity	: Harmful if inhaled.		
ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) 100 UG/ML IN NONANE			
LC50 inhalation rat (mg/l)	23760 mg/m ³ male - 4 h		
LC50 inhalation rat (ppm)	3200 ppm/4h		
ATE (gases)	3200.000 ppmV/4h		
ATE (vapours)	11.000 mg/l/4h		
ATE (dust,mist)	1.500 mg/l/4h		
N-NONANE UNLABELED (111-84-2)			
LC50 inhalation rat (mg/l)	23760 mg/m ³ male - 4 h		
LC50 inhalation rat (ppm)	3200 ppm/4h		
ATE (gases)	3200.000 ppmV/4h		
ATE (vapours)	11.000 mg/l/4h		
ATE (dust,mist)	23.760 mg/l/4h		
ISODRIN (CHEMICAL PURITY 95%) (13C12, 9	99%) (465-73-6 (Unlabeled))		
ATE (oral)	0.500 mg/kg bodyweight		
ATE (dermal)	5.000 mg/kg bodyweight		
ATE (dust,mist)	0.005 mg/l/4h		
Skin corrosion/irritation	: Causes skin irritation.		
	Skin - rat - Skin irritation - Draize test		
Serious eye damage/irritation	: Causes serious eye irritation.		
	No data available		
Respiratory or skin sensitisation	: Not available		
	No data available		
Germ cell mutagenicity	: Not available		
Carcinogenicity	: Not classified		
Reproductive toxicity	: Not available		
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.		
	May cause drowsiness or dizziness.		
Specific target organ toxicity (repeated	: Not classified		
exposure)	No data available		
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.		

SECTION 12: Ecological information 12.1. Toxicity

ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) (465-73-6 (Unlabeled))	
LC50 fishes 1	0.012 mg/l Lepomis macrochirus - 24 h

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) 100 UG/ML IN NONANE	
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.

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N-NONANE UNLABELED (111-84-2) Log Pow	5.65	
Bioaccumulative potential	Indication of bioaccumulation.	
•		
12.4. Mobility in soil No additional information available		
12.5. Results of PBT and vPvB assessme	nt	
No additional information available		
12.6. Other adverse effects		
Other adverse effects	: An environmental hazard cannot be excluded in the event of unprofessional handling or dispose Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	
SECTION 13: Disposal consideratior	IS	
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 in a safe manner in accordance with local/national regulations.	
Additional information	: Handle empty containers with care because residual vapours are flammable.	
Ecology - waste materials	: Hazardous waste due to toxicity.	
SECTION 14: Transport information		
In accordance with ADR / RID / ADNR / IMDG / I	CAO / IATA	
14.1. UN number		
UN-No.(DOT)	: 1920	
DOT NA no.	UN1920	
I4.2. 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	
	3	
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, 31HD2, 31HD2 and 31HH2). Additional Requirement: Only liquid with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 52 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Tab 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		
Other information	: No supplementary information available.	
Overland transport		
Packing group (ADR)	: 111	
Class (ADR)	: 3 - Flammable liquids	
Hazard identification number (Kemler No.)	: 30	

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Classification code (ADR)	: F1
Danger labels (ADR)	: 3 - Flammable liquids
	3
Orange plates	30 1920
Tunnel restriction code	: D/E
Limited quantities (ADR)	5L
EAC code	: 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 (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
Civil Aeronautics Law	: Flammable liquids(Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)
14.4. Environmental hazards	
Other information	: No supplementary information available.
14.5. Special precautions for user	
14.6.Transport in bulk according to AnneNot applicable	ex II of MARPOL 73/78 and the IBC Code
SECTION 15: Regulatory information	
15.1. US Federal regulations	

15.1. US Federal regulations		
ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) 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

ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) 100 UG/ML IN NONANE	
Listed on the Canadian DSL (Domestic Sustances List) inventory.	

15.2.1. National regulations

No additional information available

15.3. US State regulations

ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) 100 UG/ML IN NONANE()		
State or local regulations	U.S Massachusetts - Right To Know List	

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ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) 100 UG/ML IN NONANE()	
	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 Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 1 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 1
Acute Tox. 1 (Oral)	Acute toxicity (oral), Category 1
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — AcuteHazard, 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 SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H226	Flammable liquid and vapour
H300	Fatal if swallowed
H304	May be fatal if swallowed and enters airways
H310	Fatal in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
R10	Flammable
R20	Harmful by inhalation
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed
R38	Irritating to skin
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R67	Vapours 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.

: 3 - Liquids and solids that can be ignited under almost all

2 0

NFPA fire hazard

ambient conditions.

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NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

Health Flammability Physical

- : 2 Moderate Hazard Temporary or minor injury may occur
- : 3 Serious Hazard
- : 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