

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

PCB-172

SECTION 1: Identification of the sub	ostance/mixture and of the company/undertaking
1.1. Product identifier	
Product form	: Mixture
Product name.	: 2,2',3,3',4,5,5'-HEPTACB UNLABELED 35 UG/ML IN ISOOCTANE
Product code	: PCB-172
1.2. Relevant identified uses of the subs	stance or mixture and uses advised against
1.2.1. Relevant identified uses	, and the second s
Main use category	: Professional use
Industrial/Professional use spec	: For professional use only. Industrial.
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 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 m	nixture
Classification according to Regulation (EC) N	No. 1272/2008 [CLP]
Classification according to Regulation (EC) N Flam. Liq. 1	No. 1272/2008 [CLP] H224
Flam. Liq. 1	H224
Flam. Liq. 1 Skin Irrit. 2	H224 H315
Flam. Liq. 1 Skin Irrit. 2 STOT SE 3	H224 H315 H336
Flam. Liq. 1 Skin Irrit. 2 STOT SE 3 Asp. Tox. 1	H224 H315 H336 H304
Flam. Liq. 1 Skin Irrit. 2 STOT SE 3 Asp. Tox. 1 Aquatic Acute 1	H224 H315 H336 H304 H400
Flam. Liq. 1 Skin Irrit. 2 STOT SE 3 Asp. Tox. 1 Aquatic Acute 1 Aquatic Chronic 1	H224 H315 H336 H304 H400 H410
Flam. Liq. 1 Skin Irrit. 2 STOT SE 3 Asp. Tox. 1 Aquatic Acute 1 Aquatic Chronic 1 Full text of H-phrases: see section 16 Classification according to Directive 67/548/E F; R11 Xn; R65 Xi; R38 N; R50/53 R67 Full text of R-phrases: see section 16	H224 H315 H336 H304 H400 H410
Flam. Liq. 1 Skin Irrit. 2 STOT SE 3 Asp. Tox. 1 Aquatic Acute 1 Aquatic Chronic 1 Full text of H-phrases: see section 16 Classification according to Directive 67/548/E F; R11 Xn; R65 Xi; R38 N; R50/53 R67	H224 H315 H336 H304 H400 H410

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Adverse physicochemical, human health and environmental effects

Liver, Kidney.



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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 Comply with applicable regulations.

2.3. **Other hazards**

No additional information available

SECTION 3: Composition/information on ingredients

Substances 3.1.

Not applicable 2.2 BALL

3.2. Mixture			
Name	Product identifier	%	Classification according to Directive 67/548/EEC
ISOOCTANE UNLABELED	(CAS No)540-84-1 (EC no)208-759-1 (EC index no)601-009-00-8	99.9949	F; R11 Xn; R65 Xi; R38 N; R50/53 R67
2,2',3,3',4,5,5'-HEPTACB UNLABELED	(CAS No)52663-74-8 (Unlabeled) (EC index no)602-039-00-4	0.0051	N; R50/53 R33 R48
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ISOOCTANE UNLABELED	(CAS No)540-84-1 (EC no)208-759-1 (EC index no)601-009-00-8	99.9949	Flam. Liq. 1, H224 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,3',4,5,5'-HEPTACB UNLABELED	(CAS No)52663-74-8 (Unlabeled) (EC index no)602-039-00-4	0.0051	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Name	Product identifier	%	GHS-US classification
ISOOCTANE UNLABELED	(CAS No)540-84-1	99.9949	Flam. Liq. 1, H224 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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

SECTION 4: First aid measures	
4.1. Description of first aid measured	es
First-aid measures general	 Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
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	 Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Get medical advice/attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. 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 ingestion	: May be fatal if swallowed and enters airways.
4.3. Indication of any immediate me	edical attention and special treatment needed
No additional information available	

No additional information available

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SECTION 5: Firefighting measures	
5.1. Extinguishing media	
Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.
5.2. Special hazards arising from the	substance or mixture
Fire hazard	: Extremely flammable liquid and vapour.
Explosion hazard	: May form flammable/explosive vapour-air mixture.
Reactivity	: Vapour is explosive with air above.
5.3. Advice for firefighters	
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
SECTION 6: Accidental release me	easures
	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	: Evacuate unnecessary personnel.
C.4.2. For emergency respondence	
6.1.2. For emergency responders	. Equip deepup arounwith proper protection. Anoid breathing dust, mist or aprov
Protective equipment	: Equip cleanup crew with proper protection. Avoid breathing dust, mist or spray. : Ventilate area.
Emergency procedures	. Ventilate area.
6.2. Environmental precautions	
Prevent entry to sewers and public waters. No	otify authorities if liquid enters sewers or public waters. Avoid release to the environment.
6.3. Methods and material for contain	ment and cleaning up
For containment	: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet- brushing and place in container for disposal according to local regulations.
Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collec spillage. Store aways from other materials.
6.4. Reference to other sections	
See Heading 8. Exposure controls and person	nal protection.
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	Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapour. 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	: 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, inclu	Iding any incompatibilities
Technical measures	: Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.
Storage conditions	: Store at room temperature away from light and moisture.
Incompatible products	: Strong bases. strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight. Heat sources.
7.3. Specific end use(s)	
No additional information available	
SECTION 8: Exposure controls/pe	rsonal protection
8.1. Control parameters	
No additional information available	

No additional information available

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8.2. Exposure controls Personal protective equipment

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

Where exposure through inhalation may occur from use, respiratory protection equipment is



Hand protection Eye protection Skin and body protection Respiratory protection

Other information

: When using, do not eat, drink or smoke.

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	: Liquid.
Molecular mass	: 114.23
Colour	: Colourless.
Odour	: characteristic.
Odour threshold	: No data available
рН	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -107 °C (- 161 °F)
Freezing point	: No data available
Boiling point	: 98 - 99 °C (208 - 210 °F)
Flash point	: -12 °C (10 °F) - closed cup
Self ignition temperature	: 396 °C (745 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable liquid and vapour
Vapour pressure	: 55 hPa (41 mmHg) at 21 °C (70 °F)
Relative vapour density at 20 °C	: 3.94 - (Air = 1.0)
Relative density	: No data available
Solubility	: Water: 0 %
Log Pow	: No data available
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	: 1 - 6 % (V)
9.2. Other information	

No additional information available

SECT	ION 10: Stability and reactivity
10.1.	Reactivity
Vapour	is explosive with air above.
10.2.	Chemical stability
See sto	prage and expiration date on CoA.
10.3.	Possibility of hazardous reactions
Not est	ablished.
10.4.	Conditions to avoid
Discotor	unlight Enternative high an law terms and una Canada, Unat Overhautien, One afferra

Direct sunlight. Extremely high or low temperatures. Sparks. Heat. Overheating. Open flame.

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10.5. Incompatible materials strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information			
11.1. Information on toxicological effects			
Acute toxicity	: Not classified		
Skin corrosion/irritation	: Causes skin irritation.		
Serious eye damage/irritation	: Not classified		
	Based on available data, the classification criteria are not met		
Respiratory or skin sensitisation	: Not classified		
	Based on available data, the classification criteria are not met		
Germ cell mutagenicity	: Not classified		
	Based on available data, the classification criteria are not met		
Carcinogenicity	: Not classified		
	Based on available data, the classification criteria are not met		
Reproductive toxicity	: Not classified		
	Based on available data, the classification criteria are not met		
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.		
Specific target organ toxicity (repeated	: Not classified		
exposure)	Based on available data, the classification criteria are not met		
Aspiration hazard	: May be fatal if swallowed and enters airways.		
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.		
Symptoms/injuries after inhalation	: May cause drowsiness or dizziness.		
Symptoms/injuries after skin contact	: Causes skin irritation.		
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.		

SECTION 12: Ecological informatic	on
12.1. Toxicity	
Ecology - water	: Very toxic to aquatic life with long lasting effects.
12.2 Persistence and degradability	

12.2. Persistence and degradability		
2,2',3,3',4,5,5'-HEPTACB UNLABELED 35 UG/ML IN ISOOCTANE		
Persistence and degradability	May cause long-term adverse effects in the environment.	
ISOOCTANE UNLABELED (540-84-1)		
Persistence and degradability	Not available.	
2,2',3,3',4,5,5'-HEPTACB UNLABELED (52663-	74-8 (Unlabeled))	
Persistence and degradability	Not available.	
12.3. Bioaccumulative potential		
2,2',3,3',4,5,5'-HEPTACB UNLABELED 35 UG/	IL IN ISOOCTANE	
Bioaccumulative potential	Not established.	
ISOOCTANE UNLABELED (540-84-1)		
Bioaccumulative potential	Not available.	
2,2',3,3',4,5,5'-HEPTACB UNLABELED (52663-74-8 (Unlabeled))		
Bioaccumulative potential	Not available.	
12.4. Mobility in soil		
ISOOCTANE UNLABELED (540-84-1)		
Ecology - soil	Not available.	
2,2',3,3',4,5,5'-HEPTACB UNLABELED (52663-74-8 (Unlabeled))		
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according to Regulation (EC) No. 453/2010 and according	g to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Ecology - soil	Not available.
12.5. Results of PBT and vPvB assessme	nt
No additional information available	
12.6. Other adverse effects	
Other information	: Avoid release to the environment.
SECTION 13: Disposal consideration	15
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. Dispose of contents/container to Comply with applicable regulations.
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Avoid release to the environment. Hazardous waste due to toxicity.
SECTION 14: Transport information	
In accordance with ADR / RID / ADNR / IMDG / I	
14.1. UN number	
UN-No.(DOT)	: 1262
DOT NA no.	UN1262
14.2. UN proper shipping name	
DOT Proper Shipping Name	: Octanes
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)	: 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
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
Marine pollutant	: No
	×
14.3. Additional information Other information	: No supplementary information available.
Other mormation	

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Overland transport	
Packing group (ADR)	: 11
Class (ADR)	: 3 - Flammable liquids
Hazard identification number (Kemler No.)	: 33
Classification code (ADR)	: F1
Danger labels (ADR)	: 3 - Flammable liquids
Orange plates	33 1262
Tunnel restriction code	: D/E
Limited quantities (ADR)	1L
EAC code	: 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
Air transport	
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
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 Anne	x II of MARPOL 73/78 and the IBC Code
Not applicable	
SECTION 15: Regulatory information	
15.1. US Federal regulations	
2,2',3,3',4,5,5'-HEPTACB UNLABELED 35 UG	/ML IN ISOOCTANE
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

ISOOCTANE UNLABELED (540-84-1) SARA Section 311/312 Hazard Classes

Fire hazard

Immediate (acute) health hazard Delayed (chronic) health hazard

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15.2. International regulations

CANADA

2.2',3.3',4.5,5'-HEPTACB UNLABELED 35 UG/ML IN ISOOCTANE

Listed on the Canadian DSL (Domestic Sustances List) inventory

15.2.1. National regulations

No additional information available

2,2',3,3',4,5,5'-HEPTACB UNLABELED 35 UG/ML IN ISOOCTANE()		
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 Subs This product does not contain any chemicals known birth defects, or any other reproductive harm.		

ISOOCTANE UNLABELED (540-84-1)

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

Data sources

Other information

- : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- 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.

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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
Flam. Liq. 1	Flammable liquids, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H224	Extremely flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
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
R11	Highly flammable
R33	Danger of cumulative effects
R38	Irritating to skin
R48	Danger of serious damage to health by prolonged exposure
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effect in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R67	Vapours may cause drowsiness and dizziness
F	Highly flammable
N	Dangerous for the environment
Xi	Irritant

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

: 0 Minimal Hazard

Flammability	
Physical	

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