

## Safety Data Sheet

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

Revision date:

Rules and Regulations

Date of issue: 04/02/2015

CLM-4484-S

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

1.1. Product identifier

Product form : Mixtures

Product name. : 1,3-DICHLOROBENZENE (13C6, 99%) 100 UG/ML IN ISOOCTANE

Product code : CLM-4484-S

#### 1.2. Relevant identified uses of the substance 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: 1-800-322-1174 Int: 1-978-749-8000 <a href="mailto:cilsales@isotope.com">cilsales@isotope.com</a> 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. 2 H225 Skin Irrit. 2 H315 STOT SE 3 H336 Asp. Tox. 1 H304 Aquatic Acute 1 H400 Aquatic Chronic 1 H410

Full text of H-phrases: see section 16

#### Classification according to Directive 67/548/EEC or 1999/45/EC

F; R11 Xi; R38 N; R50/53

Full text of R-phrases: see section 16

## Classification (GHS-US)

Flam. Liq. 2 H225 Skin Irrit. 2 H315 STOT SE 3 H336 Asp. Tox. 1 H304 Aquatic Acute 1 H400 Aquatic Chronic 1 H410

## Adverse physicochemical, human health and environmental effects

Liver, Kidney.

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#### 2.2. Label elements

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

Hazard pictograms (CLP)









GHS02

GHS07

GHS08

GHS09

Signal word (CLP)

Hazard statements (CLP) : H225 - Highly flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H336 - May cause drowsiness or dizziness

H410 - Very toxic to aquatic life with long lasting effects

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 fume, spray, mist, vapors P264 - Wash both hands thoroughly after handling P271 - Use only outdoors or in a well-ventilated area

P273 - Avoid release to the environment

#### **GHS-US** labeling

Hazard pictograms (GHS-US)









Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H336 - May cause drowsiness or dizziness

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

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 fume, mist, spray, vapors P264 - Wash Both hands thoroughly after handling P271 - Use only outdoors or in a well-ventilated area

P273 - Avoid release to the environment

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

P312 - Call a POISON CENTER/doctor/physician if you feel unwell

P331 - If swallowed, do NOT induce vomiting

P332+P313 - If skin irritation occurs: Get medical advice/attention P362 - Take off contaminated clothing and wash before reuse

P370+P378 - In case of fire: Use Alcohol resistant foam., Carbon dioxide., Dry chemical., Water spray for extinction

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.

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#### Other hazards

No additional information available

### **SECTION 3: Composition/information on ingredients**

Not applicable

3.2. Mixtures			
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	99.9855	F; R11 Xi; R38 N; R50/53 R67
1,3-DICHLOROBENZENE (13C6, 99%)	(CAS No) 541-73-1 (unlabeled) (EC no) 208-792-1 (EC index no) 602-067-00-7	0.0145	Xn; R20 N; R51/53 R10
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	99.9855	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,3-DICHLOROBENZENE (13C6, 99%)	(CAS No) 541-73-1 (unlabeled) (EC no) 208-792-1 (EC index no) 602-067-00-7	0.0145	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Aquatic Chronic 2, H411
Name	Product identifier	%	Classification (GHS-US)
ISOOCTANE UNLABELED	(CAS No) 540-84-1	99.9855	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	n of firet aic	l measures
7.1.	Description	n or mot are	i ilicasules

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. Wash with plenty of soap and water.

Wash contaminated clothing before reuse.

First-aid measures after eye contact Flush eyes with water as a precaution.

First-aid measures after ingestion Immediately call a POISON CENTER or doctor/physician.

#### 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.

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

No additional information available

## **SECTION 5: Firefighting measures**

### **Extinguishing media**

suitable extinguishing media

For small fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

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

Fire hazard : Highly flammable liquid and vapor.

Explosion hazard : May form flammable/explosive vapor-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 measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use spec

: 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

No additional information available

#### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to 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 vapors are flammable.

Precautions for safe handling : No naked lights. No smoking. 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, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond

container and receiving 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/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

Personal protective equipment : Gloves. Safety glasses. Respiratory protection of the dependent type. 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.

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## **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 : 114.23

: No data available. Color Odor : No data available Odor threshold : No data available рΗ : No data available Relative evaporation rate (butyl acetate=1) : No data available Melting point : -107 °C (- 161 °F) Freezing point : No data available : 99 °C (210 °F) Boiling point

Flash point : -12 °C (10 °F) - closed cup

Self ignition temperature : 396 °C (745 °F)

Decomposition temperature : No data available

Flammability (solid, gas) : Highly flammable liquid and vapor Vapor pressure : 55 hPa (41 mmHg) at 21 °C (70 °F)

Relative vapor density at 20 °C : 3.94 - (Air = 1.0) : No data available Relative density Solubility : Water: 0 % Log Pow No data available Log Kow : No data available Viscosity, kinematic : No data available : No data available Viscosity, dynamic Explosive properties No data available Oxidizing properties : No data available **Explosive limits** : 1-6%(V)

#### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Vapors may form explosive mixture with air.

## 10.2. Chemical stability

See storage and expiration date on CoA.

#### 10.3. Possibility of hazardous reactions

No additional information available

## 10.4. Conditions to avoid

Open flame. Direct sunlight.

#### 10.5. Incompatible materials

Strong oxidizing agents.

## 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

1,3-DICHLOROBENZENE (13C6, 99%) (541-73-1 (unlabeled))	
ATE (oral)	500.000 mg/kg body weight
ATE (gases)	4500.000 ppmV/4h
ATE (vapors)	11.000 mg/l/4h
ATE (dust, mist)	1.500 mg/l/4h

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Skin corrosion/irritation : Causes skin irritation.

No data available

Serious eye damage/irritation : Not classified

No data available

Respiratory or skin sensitization : Not available

No data available

Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity : Not available

Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.

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

: The chemical, physical, and toxicological properties have not been thoroughly investigated.

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

Ecology - water : Very toxic to aquatic life with long lasting effects.

1,3-DICHLOROBENZENE (13C6, 99%) (541-73-1 (unlabeled))	
LC50 fish 1	7.8 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	1.7 mg/l Daphnia magna (Water flea) - 48 h

#### 12.2. Persistence and degradability

1,3-DICHLOROBENZENE (13C6, 99%) 100 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.

## 1,3-DICHLOROBENZENE (13C6, 99%) (541-73-1 (unlabeled))

Persistence and degradability Not available.

## 12.3. Bioaccumulative potential

## 1,3-DICHLOROBENZENE (13C6, 99%) 100 UG/ML IN ISOOCTANE

Bioaccumulative potential Not available.

## ISOOCTANE UNLABELED (540-84-1)

Bioaccumulative potential Not available.

## 1,3-DICHLOROBENZENE (13C6, 99%) (541-73-1 (unlabeled))

Bioconcentration factor (BCF REACH) 97

## 12.4. Mobility in soil

Ecology - soil

## 1,3-DICHLOROBENZENE (13C6, 99%) 100 UG/ML IN ISOOCTANE

Not available.

#### **ISOOCTANE UNLABELED (540-84-1)**

Ecology - soil Not available.

### 1,3-DICHLOROBENZENE (13C6, 99%) (541-73-1 (unlabeled))

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.

#### Very toxic to aquatic organisms.

## 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 : Dispose in a safe manner in accordance with local/national 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) : 1262 DOT NA no. UN1262

#### 14.2. UN proper shipping name

DOT Proper Shipping Name : Octanes

Department of Transportation (DOT) Hazard

Classes

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...... 178.275(d)(3)

: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

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) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242

#### 14.3. Additional information

Other information : No supplementary information available.

#### **Overland transport**

Packing group (ADR) : II

Class (ADR) : 3 - Flammable liquid

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

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EAC : 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 : 5 L

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L

CFR 175.75)

Civil Aeronautics Law : Flammable liquids

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 Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## **SECTION 15: Regulatory information**

## 15.1. US Federal regulations

1,3-DICHLOROBENZENE (13C6, 99%) 100 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

#### 15.2. International regulations

### **CANADA**

## 1,3-DICHLOROBENZENE (13C6, 99%) 100 UG/ML IN ISOOCTANE

Listed on the Canadian DSL (Domestic Substances List) inventory

## 15.2.1. National regulations

No additional information available

## 15.3. US State regulations

1,3-DICHLOROBENZENE (13C6, 99%) 100 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 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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- 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 (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
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Asp. Tox. 1	Aspiration hazard Category 1
Flam. Liq. 2	Flammable liquids 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
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
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
H411	Toxic to aquatic life with long lasting effects
R10	Flammable
R11	Highly flammable
R20	Harmful by inhalation
R38	Irritating to skin
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
R67	Vapors may cause drowsiness and dizziness
F	Highly flammable
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

NFPA health hazard

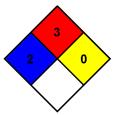
 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

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

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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

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