



# L-CARNITINE:HCL (DIMETHYL-D6, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 3/28/2011 Revision date: 3/31/2023 Supersedes: 1/1/2022 Version: 3.3

### SECTION 1: Identification

#### 1.1. Identification

Product form	: Substance
Substance name	: L-CARNITINE:HCL (DIMETHYL-D6, 98%)
CAS-No.	: 6645-46-1
Product code	: DLM-3820
Formula	: C7H9D6NO3-HCl
Synonyms	: Karnitin / Levocarnitine / Vitamin BT / (-)-Beta-Hydroxy-y-(trimethylammonio)butyrate

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Cambridge Isotope Laboratories, Inc.  
50 Frontage Rd  
01810  
ANDOVER, MA, 01810  
USA  
T 1-800-322-1174  
[cilsales@isotope.com](mailto:cilsales@isotope.com) - [www.isotope.com](http://www.isotope.com)

#### 1.4. Emergency telephone number

Emergency number : 1-703-741-5970  
Chemtrec 1-800-424-9300 24 hours

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning  
Hazard statements (GHS US) : H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation  
Precautionary statements (GHS US) : P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.  
P264 - Wash Both hands thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective clothing, protective gloves.

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P302+P352 - If on skin: Wash with plenty of water.  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 - Call a poison center or doctor if you feel unwell.  
P321 - Specific treatment (see Hazard pictograms (CLP) on this label).  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents/container to Comply with applicable regulations.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	GHS US classification
L-CARNITINE:HCL (DIMETHYL-D6, 98%) (Main constituent)	CAS-No.: 6645-46-1	100	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Move out of dangerous area. Consult a physician and show this safety data sheet.  
First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.  
First-aid measures after skin contact : Wash with soap and plenty of water. Consult a physician.  
First-aid measures after eye contact : Flush eye with water for 15 minutes. Get medical attention.  
First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : 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.  
Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.  
Symptoms/effects after skin contact : May be harmful if absorbed through the skin. Causes skin irritation.  
Symptoms/effects after eye contact : Causes serious eye irritation.  
Symptoms/effects after ingestion : May be harmful if swallowed.

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### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

### 5.2. Specific hazards arising from the chemical

No additional information available

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

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

For containment : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapor concentrations.

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

Storage conditions : Store refrigerated (-5°C to 5°C) and desiccated. Protect from light.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### L-CARNITINE:HCL (DIMETHYL-D6, 98%) (6645-46-1)

##### USA - ACGIH - Occupational Exposure Limits

ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
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#### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Environmental exposure controls	: Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Personal protective equipment:

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

##### Materials for protective clothing:

Wear suitable protective clothing and gloves

##### 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:

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

##### Respiratory protection:

When appropriate, use NIOSH/CEN approved respirator.

##### Personal protective equipment symbol(s):



### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Solid.
Color	: White to off-white
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: 142 °C (288 °F)
Freezing point	: No data available
Boiling point	: No data available

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Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Molecular mass	: 203.7 g/mol (Labeled)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: -0.975
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Two years after receipt of order if stored as above. Re-QC after two years.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Under fire conditions: Carbon oxides, nitrogen oxides, Hydrogen chloride gas.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### L-CARNITINE:HCL (DIMETHYL-D6, 98%) (6645-46-1)

LD50 oral rat	6890 mg/kg Remarks: Vascular: Other changes. Diarrhea. Skin and Appendages: Other: Hair.
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Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified

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Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: 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.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through the skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

#### L-CARNITINE:HCL (DIMETHYL-D6, 98%) (6645-46-1)

Partition coefficient n-octanol/water (Log Pow)	-0.975
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other adverse effects : Disposal must be done according to official regulations.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
Product/Packaging disposal recommendations	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

### 14.1. UN number

Not regulated for transport

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### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable  
Proper Shipping Name (TDG) : Not applicable  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Not applicable

### 14.3. Transport hazard class(es)

**DOT**  
Transport hazard class(es) (DOT) : Not applicable

**TDG**  
Transport hazard class(es) (TDG) : Not applicable

**IMDG**  
Transport hazard class(es) (IMDG) : Not applicable

**IATA**  
Transport hazard class(es) (IATA) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable  
Packing group (TDG) : Not applicable  
Packing group (IMDG) : Not applicable  
Packing group (IATA) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

Special transport precautions : Not dangerous goods.

**DOT**  
No data available

**TDG**  
No data available

**IMDG**  
No data available

**IATA**  
No data available

### 14.7. 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

#### L-CARNITINE:HCL (DIMETHYL-D6, 98%) (6645-46-1)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
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L-CARNITINE:HCL (DIMETHYL-D6, 98%) (6645-46-1)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
L-CARNITINE:HCL (DIMETHYL-D6, 98%)	6645-46-1	Not present	-	

### 15.2. International regulations

#### CANADA

L-CARNITINE:HCL (DIMETHYL-D6, 98%) (6645-46-1)
Not listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

L-CARNITINE:HCL (DIMETHYL-D6, 98%) (6645-46-1)
CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

### 15.3. US State regulations

L-CARNITINE:HCL (DIMETHYL-D6, 98%) (6645-46-1)	
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

## SECTION 16: Other information

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: 03/31/2023

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 H-phrases	
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Safety Data Sheet (SDS), USA

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