Safety Data Sheet

For Compliance with OSHA 29 CFR 1910.1200 and ANSI Z400.1-1998

Section 1: Identification

Product Name Levocarnitine USP
Commercial Name Not available.
Product Use Not available
Restrictions On Use Not available

Product Code 30-1865

Company
PCCA
9901 South Wilcrest
Houston, TX 77099
Phone: 1-800-331-2498
Fax: 1-800-874-5760

In case of emergency contact:
CHEMTREC (24hr) 1-800-424-9300

Section 2: Hazard(s) Identification

OSHA Haz Com: CFR 1910.1200 Serious eye damage/eye irritation Category 2B

Signal Word WARNING

Hazard Statement(s) May cause eye, skin, or respiratory irritaion.

Pictogram(s) or Symbol(s)

Precautionary Statement(s):

Prevention Wash thoroughly after handling.

Response If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage Not available

Disposal Not available.

Section 3: Composition/Information on Ingredients

Substance/Mixture Substance
Components {L-}Camitine USP
% By Weight 100
CAS# 541-15-1
Molecular Weight 161.2 g/mole
Chemical Formula C7H15NO3
Synonym(s) (L)3-Carboxy-2-hydroxy-N,N,N-trime hyl-1-propanaminium hydroxide, inner salt

Mixtures

Name	CAS#	% by Weight	TLV/PEL	LC50/LD50
{L-}Carnitine USP	541-15-1	100	Not available.	Not available.

Section 4: First-Aid Measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin Contact Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye Contact Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

Symptoms/Effects

Acute Pharmacologically active material. Occupational exposure may cause physiological effects.

Delayed Pharmacologically active material. Occupational exposure may cause physiological effects.

Immediate Medical Attention

Provide general supportive measures and treat symptomatically. Treatment of levocarnitine overdose may include the following: Levocarnitine can be removed from the plasma via hemodialysis. For seizures, administer a benzodiazepine IV. Consider phenobarbital if seizures recur. Monitor for hypotension, dysrthythmias, respiratory depression, and need for endotracheal intubation. Evaluate for hypoglycemia, electrolyte disturbances, and hypoxia.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media

Water. Foam. Dry chemical or CO2. Use fire-extinguishing media appropriate for surrounding materials

Unsuitable Extinguishing Media

Not available

Products of Combustion

No unusual fire or explosion hazards noted

Firefighters Special Equipment and Precautions

Wear suitable protective equipment Use water spray to cool unopened containers. As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing Use standard firefighting procedures and consider the hazards of other involved materials

Section 6: Accidental Release Measures

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Avoid inhalation of dust from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Methods and materials for containment and cleaning up: Avoid the generation of dusts during clean-up. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Handling: As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Select and use containment devices and personal protective equipment based on a risk assessment of material potency and exposure potential Storage: Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

Section 8: Exposure Controls/Personal Protection

Exposure Limits Not available.

Engineering Controls For laboratory operations, use local exhaust ventilation or a ventilated enclosure for high energy operations such as particle sizing. Control exposures to below the occupational exposure level (if available). Select and use containment devices and personal protective equipment based on a risk assessment of exposure potential. Cover all containers for solutions and slurries while being transferred.

Personal Protection	Eye/face protection: Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available. Skin protection Hand protection: Wear nitrile or other impervious gloves if skin contact is possible. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent. Other: Train employees in proper gowning and degowning practices. Wear lab coat. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use. Do not wear protective garments in common areas (e.g., cafeterias) or out-of-doors. Respiratory protection: Respirators are generally not required for laboratory operations. Use a tight-fitting full-face respirator with HEPA filters for spill cleanup. Choose respiratory protection appropriate to the task and the level of existing engineering controls. Thermal hazards: Wear appropriate thermal protective clothing, when necessary. General hygiene considerations: Handling practices in this SDS are recommendations for laboratory use of reference standards. Procedures for any other uses or quantities should be determined after an appropriate assessment.

Section 9: Physical and Chemical Properties

Appearance	White powder. Solid.
Odor	Odorless
Odor Threshold	Not available

Melting Point	386.6 - 388.4 °F (197 - 198 °	**pH**	in aqueous solution 5.5 - 9.5 Solut
Freezing Point	Not available	**Vapor Pressure**	< 0.0000001 kPa (77 °F (25 °C))
Boiling Point/Range	Not available.	**Vapor Density**	Not available.
Decomposition temperature	Not available	**Viscosity**	Not available.
Partition Coefficient: n-octanol/water	Not available	**Evaporation Rate**	Not available
Flash Point	Not available.	**Autoignition temperature**	Not available
Flammability	May be combustible at high	**Flammability or Explosive Limits:**	
		Lower	Not available
		Upper	Not available

Solubility(ies)	Freely soluble in water
Other	Acetone: Practically insoluble. Benzene: Practically insoluble. Ethanol: Freely soluble. Ether: Practically insoluble. Chemical family Amino acid derivative. Molecular formula C7H15NO3 Molecular weight 161.2

Section 10: Stability and Reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability	Stable at normal conditions
Hazardous Polymerization	No dangerous reaction known under conditions of normal use.
Conditions to Avoid	Contact with incompatible materials
Incompatible Materials	Strong oxidizing agents.
Hazardous Decomposition Products	Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions. NOx

Section 11: Toxicological Information

RTECS BP2980000

Acute Toxicity
Acute Oral: LD50 Mouse > 19.2 g/kg, Rat 6890 mg/kg

Skin Corrosion/Irritation
Not available

Serious Eye Damage/Irritation
Causes eye irritation.

Respiratory or Skin Sensitization
Not available

Germ Cell Mutagenicity
Not available

Carcinogenicity
Not available

Reproductive Toxicity
Not available

Routes of Entry
Eye

Symptoms Related to Exposure
Gastrointestinal disturbances. Taste changes. Seizures. Headache. Dizziness. Numbness or tingling of skin

Potential Health Effects
Not available.

Target Organ(s) Not available

Section 12: Ecological Information

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistance and Degradability
Not available

Bioaccumulative Potential
Not available

Mobility in Soil
Not available

Other Adverse Effects
Not available

Section 13: Disposal Considerations

Waste Disposal
Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Disposal of Container
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner

Other Considerations
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Section 14: Transport Information

DOT Classification
Not a DOT controlled material (United States). This material is not classified dangerous good according to international transportation regulations (ADR/RID-IMDG-ICAO/IATA).

Section 15: Regulatory Information

Regulations
Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: NONE Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: NONE;Pensylvania Right-To-Know, Hazardous substance List, Hazardous Substances and Special hazardous Substances on the list must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: NONE Massachusetts Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: NONE Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are: NONE

Other

WHMIS Not controlled under WHMIS (Canada). (Canada);DSCL (EEC) R36/38- Irritating to eyes and skin.;Gloves.;Lab coat.;Dust respirator. Be sure to use an approved/certified respirator or equivalent.;Splash goggles.

Section 16: Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall i be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if i has been advised of the possibility of such damages.