

MATERIAL SAFETY DATA SHEET

NFPA	HMIS	Personal Protective Equipment						
	<table border="1"> <tr> <td>Health Hazard</td> <td>1</td> </tr> <tr> <td>Fire Hazard</td> <td>1</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> </table>	Health Hazard	1	Fire Hazard	1	Reactivity	0	<p style="text-align: center;">See Section 8.</p>
Health Hazard	1							
Fire Hazard	1							
Reactivity	0							

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
Product code:	E3002
Product Name:	ECTOINE
Chemical Name:	(S)-2-Methyl-1,4,5,6-tetrahydropyrimidine-4-carboxylic acid
Synonyms:	4-Pyrimidinecarboxylic acid, 3,4,5,6-tetrahydro-2-methyl-, (4S)- (CA INDEX NAME) 4-Pyrimidinecarboxylic acid, 1,4,5,6-tetrahydro-2-methyl-, (4S)- (9CI) 4-Pyrimidinecarboxylic acid, 1,4,5,6-tetrahydro-2-methyl-, (S)- Ectoin Ectoin Pyrostatin B Pyrostatine B RonaCare
Recommended use:	Sunscreen agent Skin care products
CAS #:	96702-03-3
Formula:	C6-H10-N2-O2
RTECS #	Not available
CI#:	Not available
Supplier:	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
Emergency Telephone Number:	CHEMTREC: 1-800-424-9300
Contact Person:	Martin LaBenz (West Coast)
Contact Person:	Chris Terpak (East Coast)

2. HAZARDS IDENTIFICATION

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EMERGENCY OVERVIEW

May cause skin and eye irritation
May cause irritation of respiratory tract

Odor:
No information available

Physical state:
Solid.

Appearance:
Powder.

Color:
White. Off-white.

OSHA Regulatory Status

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 1910.1200)

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Potential Health Effects:

Skin Contact:

May cause skin irritation.

Eye Contact:

May cause eye irritation.

Inhalation:

May cause irritation of respiratory tract.

Ingestion:

May cause digestive (gastrointestinal) tract irritation.

Chronic Potential Health Effects:

Target Organs: No information available

Carcinogen Status: No information available

Mutagenic Effects: No information available

Teratogenic Effects: No information available

Aggravated Medical Conditions: No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
ECTOINE	96702-03-3	100

4. FIRST AID MEASURES

General Advice:	Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)
Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.
Eye Contact:	Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
Notes to Physician:	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flashpoint (°C/°F):	No information available.
Lower Explosion Limit (%):	No information available
Upper Explosion Limit (%):	No information available
Autoignition Temperature (°C/°F):	No information available

Suitable Extinguishing Media:	Carbon dioxide (CO ₂). Dry powder. Water spray mist or foam. Alcohol-resistant foam.
Unsuitable Extinguishing Media:	No information available.
Hazardous Combustion Products:	Carbon oxides, Nitrogen oxides
Specific hazards:	May be combustible at high temperatures.
Special Protective Equipment for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
Specific Methods:	No information available.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

Environmental Precautions:

Do not let product enter drains

Methods for Cleaning Up:

Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapours/dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Products:

Oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protective Equipment

- Eye protection:** Safety glasses. Safety glasses with side-shields.
- Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.
- Respiratory protection:** Effective dust mask. Wear respirator with dust filter..
- Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands and face before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

National occupational exposure limits

United States

U.S Occupational Exposure Limits: Not determined

Canada

Canada Occupational Exposure Limits: Not determined

Australia and Mexico

Occupational Exposure Limits for Australia and Mexico: Not determined

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state: Solid	Appearance: Powder.	Color: White. Off-white.
Odor: No information available	Taste No information available	Molecular weight: 142.16
Flash point (°C) : Not determined	Lower Explosion Limit (%): No information available	Upper Explosion Limit (%): No information available
Autoignition Temperature (°C/°F): No information available	pH: No information available	Boiling point/range(°C/°F): No information available
Melting point/range(°C/°F): No information available	Decomposition temperature(°C/°F): 280 °C/536 °F	Specific gravity: No information available
Density (g/cm3): 1.568	Bulk density: No information available	Vapor pressure @ 20°C (kPa): No information available
Vapor density: No information available	Evaporation rate: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): <-3	Miscibility: No information available

Solubility:
Soluble in Water

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions
Conditions to avoid:	Heat. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Materials to avoid:	Strong oxidising agents.
Hazardous decomposition products:	Carbon monoxide. Carbon dioxide. Nitrogen oxides (NOx).
Possibility of Hazardous Reactions:	No information available
Polymerization:	Hazardous polymerisation does not occur
Corrosivity:	No information available
Special Remarks on Corrosivity:	No information available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

ECTOINE - 96702-03-3

LD50/oral/rat = >2000 mg/kg

LD50/oral/mouse = No information available

LD50/dermal/rabbit = Not determined
LD50/dermal/rat = >2000 mg/kg
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available

Product Information

LC50/inhalation/rat = No information available
LC50/Inhalation/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = >2000 mg/kg
LD50/oral/rat = >2000 mg/kg
LD50/oral/mouse = No information available

Local Effects

Skin irritation: May cause skin irritation.
Eye irritation: Contact with eyes may cause irritation.
Inhalation: May cause irritation of respiratory tract.
Ingestion: May cause digestive (gastrointestinal) tract irritation. Health injuries are not known or expected under normal use.
Sensitization: No information available

Chronic Toxicity

Chronic Toxicity No information available
Carcinogenic effects: No information available
Mutagenic Effects: No information available
Reproductive Effects: No information available
Teratogenic Effects: No information available
Target Organs: No information available

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals: Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

Ecotoxicity effects: Information given is based on data on the components and the ecotoxicology of similar products

Aquatic toxicity:

ECTOINE - 96702-03-3

Freshwater Algae Data: Desmodesmus subspicatus EC50: >100 mg/l 72 h

Freshwater Fish Species Data: Danio rerio LC50: >100 mg/l 96 h

Water Flea Data: Daphnia magna EC50: > 100 mg/l 48 h

Mobility: No information available
Persistence and degradability: No information available
Bioaccumulative potential: No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
ECTOINE	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: None
Subsidiary Risk: Not applicable
Marine Pollutant: No data available
ERG No: No information available
DOT RQ (lbs): No information available
Transport Regulation Logo:

TDG (Canada)

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

ADR

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available

Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
MFAG: No information available
Maximum Quantity: No information available

RID

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available

ICAO

UN-No: Not regulated
Hazard Class: No information available
Proper Shipping Name: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

IATA

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
ECTOINE	Not Listed	Not present	Not present	Not present	Not present	Not present	Not present

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
ECTOINE	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
ECTOINE	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
ECTOINE	Not Applicable	Not Applicable

Canada

WHMIS hazard class:
Non-controlled

Inventory

Components	Canada (DSL)	Canada (NDSL)
ECTOINE	Not Listed	Not Listed

EU Classification

R -phrase(s)
not determined

S -phrase(s)
none

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
Not dangerous

16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1-2004 standards.

Revision date: 02-Mar-2010***

Reason for revision: Not applicable

Additional advice: Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

Prepared by: Health & Safety

Literature reference: No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.