

SAFETY DATA SHEET

Preparation Date: 3/24/2015

Revision Date: 1/12/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: L1010
Product Name: LACTIC ACID, RACEMIC, USP

Other means of identification

Synonyms: 2-Hydroxypropanoic Acid; 2-Hydroxypropionic Acid; Racemic lactic acid; Ordinary lactic acid; Propanoic acid, 2-hydroxy-; DL-Lactic Acid; (+-)-Lactic Acid; Lactic Acid is a mixture of Lactic Acid (C3H6O3) and Lactic Acid Lactate (C6H10O5)

CAS #: 50-21-5
RTECS # OD2800000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage
 May be corrosive to metals



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful if swallowed

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Keep only in original container

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

Absorb spillage to prevent material damage

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Store in corrosive resistant/ .? container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Lactic Acid Racemic	50-21-5	100

4. FIRST AID MEASURES

First aid measures

General Advice:

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact:

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Eye Contact:

Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Product code: L1010

Product name: LACTIC ACID,
RACEMIC, USP

2 / 12

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed

Symptoms Severe skin and eye irritation or burns
May cause eye injury
May cause irreversible eye damage
Causes digestive (gastrointestinal) tract irritation
May cause gastrointestinal (digestive) tract burns
Can burn mouth, throat, and stomach

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO₂). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon oxides

Hazardous Combustion Products: No information available.

Specific hazards: May be combustible at high temperatures. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated.

Special Protective Actions for Firefighters

Specific Methods: No information available.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not get water inside containers.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Dilute with water. Neutralize with Sodium carbonate or Sodium bicarbonate. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

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

Safe Handling Advice

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

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Hygroscopic. Protect from moisture. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. May corrode metallic surfaces. Do not store in uncoated metallic containers. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents
Bases
Metals
Reducing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Lactic Acid Racemic	50-21-5	None	None	None	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Lactic Acid Racemic	50-21-5	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Lactic Acid Racemic	50-21-5	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles or Face-shield

Skin and body protection: Chemical resistant apron
Long sleeved clothing
Gloves

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Liquid

Appearance:

Syrupy. Viscous.

Color:

Colorless. Light yellow.

Odor:

Slight. Acrid.

Taste

Acrid.

Formula:

C₃H₆O₃

Molecular/Formula weight:

90.10

Flammability:

No information available

Flashpoint (°C/°F):

112.78°C/235°F

Flash Point Tested according to:

Closed cup

Autoignition Temperature (°C/°F):

No information available

Lower Explosion Limit (%):

No information available

Upper Explosion Limit (%):

No information available

Melting point/range(°C/°F):

16.8°C/62.2°F

Decomposition temperature(°C/°F):

No information available

Boiling point/range(°C/°F):

122°C/251.6°F @ 14-15 mmHg

Bulk density:

No information available

Density (g/cm³):

No information available

Specific gravity:

pH:

Product code: L1010

Product name: LACTIC ACID,
RACEMIC, USP

5 / 12

1.249 @ 15°C
1.2 @ 20°C

No information available

Vapor pressure @ 20°C (kPa):
0 kPa @ 25°C

Evaporation rate:
No information available

Vapor density:
No information available

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
-0.7

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Partially soluble in diethyl ether
Practically insoluble in Chloroform
Practically insoluble in Petroleum Ether
Practically insoluble in carbon disulfide
Soluble in Alcohol
Soluble in cold water
Soluble in Furfurool
Soluble in hot water

10. STABILITY AND REACTIVITY

Reactivity

Reactive with alkalis
Reactive with oxidizing agents

Chemical stability

Stability: Hygroscopic. Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials. Exposure to moisture.

Incompatible Materials: Oxidizing agents
Bases
Metals
Reducing agents

Hazardous decomposition products: Carbon oxides.

Other Information

Corrosivity: Slightly corrosive in the presence of aluminum, of copper
Slightly corrosive in presence of stainless steel (304)
Slightly corrosive in presence of stainless steel (316)
Minor corrosive effect on bronze
Severe corrosive effect on Brass

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Eyes. Skin.

Acute Toxicity

Component Information

Lactic Acid Racemic	
CAS-No.	50-21-5

LD50/oral/rat = 3543 mg/kg Oral LD50 Rat
LD50/oral/mouse = 4875 mg/kg
LD50/dermal/rabbit = >2000 mg/kg
LD50/dermal/rat = No information available
LC50/inhalation/rat = >7.940 mg/l 4 hr
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = 1810 mg/kg LD50 oral Guinea pig

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 3543 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 4875 mg/kg

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = > 2000 mg/kg

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = >7.940 mg/l (4-hr.)

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Severe skin irritation. May cause burns. It can be absorbed through the skin.

Eye Contact: Causes severe eye irritation and possible burns. May cause conjunctivitis. May cause corneal damage.

Inhalation Causes severe respiratory tract and mucous membrane irritation with possible burns. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Aspiration may lead to pulmonary edema. Other symptoms may include shortness of breath, coughing, and sore throat.

Ingestion May be harmful if swallowed. May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea, and possible burns (in the throat, mouth, and stomach). May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. May also cause shortness of breath and in severe cases may produce cyanosis and vascular collapse.

Aspiration hazard No information available.

Product code: L1010

Product name: LACTIC ACID,
RACEMIC, USP

7 / 12

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity The Registry of Toxic Effects of Chemical Substance (RTECS) notes that during animal testing that the prolonged/repeated administration of Lactic on the skin of rats affected the urinary system and blood.

Sensitization: No information available.

Mutagenic Effects: May affect genetic material
Mutations in microorganisms
Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Lactic Acid Racemic	50-21-5	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: May cause adverse reproductive effects based on animal data

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Product code: L1010

Product name: LACTIC ACID,
RACEMIC, USP

8 / 12

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	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Lactic Acid Racemic	50-21-5	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.(lactic acid)
Hazard Class: 8
Subsidiary Class No information available
Packing group: III
Emergency Response Guide Number 153
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions IB3, T7, TP1, TP28
Symbol(s): [DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.

Description: UN3265, Corrosive liquid, acidic, organic, n.o.s., 8, III

TDG (Canada)

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.(lactic acid)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No Information available
Description: UN3265, Corrosive liquid, acidic, organic, n.o.s., 8, III

ADR

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.(lactic acid)
Hazard Class: 8
Packing Group: III
Subsidiary Risk: No information available
Special Provisions 274
Description: UN3265, Corrosive liquid, acidic, organic, n.o.s., 8, III

IMO / IMDG

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.(lactic acid)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No information available
EMS: F-A
Special Provisions 223, 274
Description UN3265, Corrosive liquid, acidic, organic, n.o.s. (LACTIC ACID RACEMIC), 8, III

RID**Product code:** L1010**Product name:** LACTIC ACID,
RACEMIC, USP**9 / 12**

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.(lactic acid)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Special Provisions 274
Description: UN3265, Corrosive liquid, acidic, organic, n.o.s., 8, III

ICAO

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.(lactic acid)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Description: UN3265, Corrosive liquid, acidic, organic, n.o.s., 8, III
Special Provisions A3

IATA

UN-No: UN3265
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.(lactic acid)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 8L
Special Provisions No information available
Description: UN3265, Corrosive liquid, acidic, organic, n.o.s., 8, III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Lactic Acid Racemic</i>	50-21-5	PresentACTIV E	Present KE-21802	Present	Present (2)-1369	Present	Present	Present 200-018-0

U.S. Regulations

Lactic Acid Racemic

FDA - 21 CFR - Total Food Additives 133.123, 133.124, 133.129, 133.169, 133.173, 133.178, 133.179, 150.141, 150.161, 172.814, 178.1010, 184.1061

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

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (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	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Lactic Acid Racemic	50-21-5	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable	Section 302 Extremely Hazardous Substances	Section 302 Extremely Hazardous Substances and	Section 313 - Chemical Category	Section 313 - Reporting de minimis

		Quantities	and TPQs	RQs		
Lactic Acid Racemic	50-21-5	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Lactic Acid Racemic	50-21-5	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

E Corrosive material

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Lactic Acid Racemic	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Lactic Acid Racemic	50-21-5	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Lactic Acid Racemic	50-21-5	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Lactic Acid Racemic	50-21-5	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Lactic Acid Racemic	50-21-5	No information

EU - CLP (1272/2008)

R-phrases

R38 - Irritating to skin.

R41 - Risk of serious damage to eyes.

S-phrases

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S39 - Wear eye/face protection.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Lactic Acid Racemic	50-21-5		No information	

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

Indication of danger:

Xi - Irritant.

Xi



16. OTHER INFORMATION

Preparation Date: 3/24/2015
Revision Date: 1/12/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) 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 SDS. The physical properties reported in this SDS 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 SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet