



State of the art ingredients · fast friendly service

## LACTIC ACID 88%

\*\*\*\*\*

### 1. IDENTIFICATION OF THE SUBSTANCE

Emergency Telephone: CHEMTREC: 1-800-424-9300 (Spill related emergencies)  
PROSAR: 1-800-241-7439 (Health related emergencies)

Product Name: Lactic Acid 88%  
CAS Registry: 79-33-4  
CAS Registry Name: L(+) Lactic Acid  
Product Use: Food additive, Specialty chemical

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %
L(+) Lactic Acid	79-33-4	>=50

### 3. HAZARDS IDENTIFICATION

Most important hazards  
Irritating to eyes and skin. Risk of serious damage to eyes.

May cause irritation of respiratory tract.  
May cause irritation of the mucous membranes.

Specific hazards Inhalation  
(short and long term) irritation, breathing difficulties,  
headache, dizziness  
(short and long term) irritation of digestive system  
Skin contact (short and long term) irritation  
Eye contact (short and long term) severe irritation, blurred vision  
Ingestion (short and long term) burns, vomiting, gastrointestinal  
disturbance

#### Precautionary Statements

Prevention: Wash face, hands, and all exposed areas of skin after handling.  
Wear protective gloves, clothing, eye, face protection.  
Eyes: IF IN EYES: Rinse carefully with water for several minutes.  
Remove contact lenses, if easy to do. Continue rinsing. Contact  
physician or seek medical attention.  
Skin: IF ON SKIN: Wash with plenty of soap and water. If irritation  
persists contact physician or seek medical attention. Remove  
contaminated clothing and launder before re-use.

11110 Metric Blvd., Ste D · Austin TX 78758

(512) 535::2711 · (512) 535::7362 fax

[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)



## (MSDS) MATERIAL SAFETY DATA SHEET

---

*State of the art ingredients · fast friendly service*

---

### 4. FIRST AID MEASURES

#### General advice

Show this safety data sheet to the doctor in attendance. Keep person warm and at rest. If symptoms persist seek medical advise / attention. Wash all contaminated clothing before re-use.

#### Inhalation

Move to fresh air. If symptoms persist, contact physician.

#### Skin contact

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Obtain medical attention.

#### Eye contact

Flush immediately with plenty of water, also under the eyelids, then remove contacts and continue flushing for at least 15 minutes. Obtain medical attention.

#### Ingestion

Rinse mouth. If symptoms are present contact physician immediately. Never give anything by mouth to an unconscious person.

#### Protection of first-aiders

Wear protective equipment. Avoid contact with skin, eyes, and clothing.

#### Notes to physician

Give oxygen, if needed. Keep victim under observation, symptoms may be delayed. Avoid gastric lavage.

### 5. FIRE-FIGHTING MEASURES

#### Auto ignition temperature

>400 C / 752 F (solution 93% w/w)

#### Suitable extinguishing media

Water, carbon dioxide (CO<sub>2</sub>), foam, dry powder.

#### Extinguishing media which must

Do not use solid water stream which may scatter and spread fire.

#### Specific hazards

Thermal decomposition can lead to release of irritating gases and vapors.

#### Special protective equipment for firefighters

In the event of fire, wear self contained breathing apparatus and protective suit.

#### Specific methods

Standard procedure for chemical fires. Keep containers and surroundings cool with water spray. Cool containers / tanks with water spray.

Flash point N/A

Sensitivity to mechanical impact: NONE

Sensitivity to static discharge: NONE

11110 Metric Blvd., Ste D · Austin TX 78758

(512) 535::2711 · (512) 535::7362 fax

[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)



**(MSDS)**  
**MATERIAL SAFETY DATA SHEET**

---

*State of the art ingredients · fast friendly service*

---

NFPA	Health Hazard 2	Flammability 0	Stability 0	Physical / Chemical Hazard
HMIS	Health Hazard 2	Flammability 0	Physical Hazard 0	Personal Protection B

**6. ACCIDENTAL RELEASE MEASURES**

Personal precautions

Evacuate personnel to safe areas. Do not walk through spilled material. Avoid contact with skin, eyes, clothing. Avoid breathing vapors or mist. Wear protective equipment. Ensure adequate ventilation.

Environmental precautions

Prevent further leakage or spill, if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up

Large Amounts: Prevent further leakage or spill, if safe to do so. Dam up. Dike to collect large spills. Use non combustible material (sand / vermiculite, silica gel, acid binder, universal binder, sawdust) to soak up material and place into suitable container for later disposal. Following containment flush with water and if safe to do so, neutralize with limestone powder, lime, soda ash.

Small amounts: Wipe up with absorbent material (cloth, fleece). After clean up flush with water. Never re-use.

**7. HANDLING AND STORAGE**

Handling: Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid contact with skin, eyes, and clothing. Wear personal protective equipment. Wash hands thoroughly after handling. Do not eat, drink, or smoke when using material.

Storage: Store in accordance with current regulations. Keep container tightly closed. Keep in a dry, cool, and well ventilated place. Incompatible with oxidizing agents.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Engineering Controls

Ensure adequate ventilation, especially in confined areas. Keep at temperatures below 200C / 392F. Ensure eye wash stations and safety showers are close to workstation area.

Exposure Guideline(s)

Contains no substances with occupational exposure limit values.

11110 Metric Blvd., Ste D · Austin TX 78758

(512) 535::2711 · (512) 535::7362 fax

[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)



**(MSDS)**  
**MATERIAL SAFETY DATA SHEET**

***State of the art ingredients · fast friendly service***

**Personal Protective Equipment**

Respiratory protection:	If ventilation is insufficient use suitable respiratory equipment (APF)
Recommended filter type:	A, brown
In case of aerosol formation or mist breathing apparatus required	
Hand protection:	Protective gloves (EN374): butyl rubber; thickness 0.5mm; breakthrough time >8hrs.;
Unsuitable materials:	Natural rubber, nitrile rubber, fluorinated rubber, PVC
Eye protection:	Face-shield, tightly fitting safety goggles with side shield (EN166)
Skin and body protection:	Long sleeved clothing, chemical resistant apron, boots.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Workers must be trained in the proper use and handling of the material as required under applicable regulations. Avoid contact with skin. Do not eat, drink or smoke when working with this material. Wash hands after handling this material and before breaks. Remove and wash contaminated clothing before re-use.
Environmental control:	Material should not be allowed to enter drains, water courses, or soil.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state at 20C:	liquid
Color	colorless/yellow/light brown
Odor	characteristic
pH	<1.2 (at 25C)
Boiling point/range	120 - 130C / 249 - 266F (at 1013 hPa)
Decomposition temperature	>200C / 392F
Auto ignition temperature	>400C / 752F (sol93% w/w)
Flash point	N/A
Explosion limits	N/A
Density	1.2 g/cm <sup>3</sup>
Surface tension	44 - 50 mN/m (at 50 - 90%)
Solubility	
Water solubility:	miscible
Partition coefficient (n-octanol/water)	-0.62
Viscosity, dynamic	5 - 60 mPa.s (at 25C)

**11110 Metric Blvd., Ste D · Austin TX 78758**

**(512) 535::2711 · (512) 535::7362 fax**

**[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)**



(MSDS)  
**MATERIAL SAFETY DATA SHEET**

*State of the art ingredients · fast friendly service*

**10. STABILITY AND REACTIVITY**

Stability

Stable under recommended storage conditions.

Conditions to avoid

Temperatures above 200C / 392F .

Materials to avoid

Oxidizing agents.

Hazardous decomposition products

None under normal use.

Hazardous polymerization

None known.

Hazardous reactions

No information available.

**11. TOXICOLOGICAL INFORMATION**

Acute toxicity

Ingestion

No known effect

Skin Contact

No known effect (LD50 dermal, rbt >2000mg/kg)

Inhalation

No known effect

Chemical Name  
L-(+)-Lactic Acid

LD50 Oral  
3543 mg/kg (Rat Female)  
4936 mg/kg (Rat Male)

LD50 Dermal  
>2000 mg/kg (rabbit)

LC50 Inhalation  
>7.94 mg/L (Rat) 4h

Skin Corrosion/Irritation

Mixture: causes skin irritation

Serious Eye Damage/Irritation

Mixture: causes serious eye damage

Chemical Name  
L-(+)-Lactic Acid

Skin Corrosion/Irritation  
OECD 404, in vivo, Rabbit, 88%sol  
Result: Corrosive

Serious Eye Damage/Irritation  
CEET, ex vivo, 88%sol  
Result: Severe Eye Irritation

Respiratory or skin sensitization

No known effect

Aspiration hazard

No known effect

Chronic toxicity

Carcinogenicity

Contains no ingredient listed as a carcinogen

Germ cell mutagenicity

Not known to cause heritable genetic damage

Reproductive toxicity

Not known to cause birth defects or have a deleterious effect on a developing fetus.  
Not known to adversely effect reproductive functions and/or organs.

STOT-single exposure

No known effect

STOT-repeated exposure

No known effect

**11110 Metric Blvd., Ste D · Austin TX 78758**

**(512) 535::2711 · (512) 535::7362 fax**

**[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)**



**(MSDS)**  
**MATERIAL SAFETY DATA SHEET**

*State of the art ingredients · fast friendly service*

**Local effects**

Irritating to eyes and skin. Risk of serious damage to eyes. Inhalation of mist causes irritation of respiratory system.

**Carcinogen Status**

None.

**Mutagenic Data**

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

**Major effects of exposure Inhalation**

Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough. Inhalation of vapors in high concentration may cause shortness of breath (lung oedema). Chronic exposure may cause dermatitis, gastrointestinal disturbance, coughing.

**Skin contact**

May cause skin irritation. Prolonged skin contact may produce dermatitis.

**Eye contact**

Severe eye irritation. Risk of serious damage to eyes. Liquid causes severe inflammation of conjunctiva and may cause severe damage of the cornea.

**Ingestion**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause stomach perforation

**Further information**

As an important metabolite in man, animals and plants, it is naturally formed and metabolized.

**12. ECOLOGICAL INFORMATION**

**Mobility** Completely soluble

**Ecotoxicity** Contains no substances known to be hazardous to the environment

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Micro-organism	Toxicity to Daphnia and other aquatic invertebrates
L-(+)- Lactic Acid	EC50: <2.8 g/L 72h Pseudokirchnerella subcapitata EC50: 3.5 g/L 72h Pseudokirchnerella subcapitata	LC50: 130 mg/L 96h Oncorhynchus mykiss LC50: 320 mg/L 96h Danio rerio	LC50: >100 mg/L 3h	EC50: 130 mg/L 48h Daphnia magna EC50: 250 mg/L 48h Daphnia magna

**Persistence / degradability**

Readily biodegradable

**Bioaccumulative potential**

Does not bioaccumulate

**11110 Metric Blvd., Ste D · Austin TX 78758**

**(512) 535::2711 · (512) 535::7362 fax**

**[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)**



(MSDS)  
**MATERIAL SAFETY DATA SHEET**

*State of the art ingredients · fast friendly service*

Chemical Name	Log Pow	Bio concentration Factor
L-(+)- Lactic Acid	-0.62	

Mobility in soil                      No information available  
PBT and vPvB                      This substance is not considered to be persistent,  
   bio accumulative and toxic (PBT) or very persistent  
   and very bio accumulative (vPvB)  
Other adverse effects                No information available

Further information  
Natural product.

**13. DISPOSAL CONSIDERATIONS**

Waste disposal methods            Dispose of in accordance with local regulations  
Contaminated packaging           Empty containers should be taken to an approved  
   handling site for local  
   recycling, recovery or waste disposal.

**14. TRANSPORT INFORMATION**

According to: US DOT, IMDG, ICAO/IATA, ADR  
Not classified as dangerous in the meaning of transport regulations.

**15. REGULATORY INFORMATION**

**International Inventories**

Chemical Name	TSCA	DSL/NDSL
L-(+)- Lactic Acid	Listed	Listed

Legend:

TSCA - US Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - CA Domestic Substances List / Non Domestic Substances List

**Federal Regulations**

SARA 311/312 Hazard Categories

Acute Health Hazard	NO
Chronic Health Hazard	NO
Fire Hazard	NO
Sudden Release of Pressure Hazard	NO
Reactive Hazard	NO

Clean Water Act                      This product does not contain any  
   substances regulated as pollutants  
   pursuant to the Clean Water Act  
   (40 CFR 122.21 and 40 CFR 122.42)

**11110 Metric Blvd., Ste D · Austin TX 78758**

**(512) 535::2711 · (512) 535::7362 fax**

**[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)**



(MSDS)  
**MATERIAL SAFETY DATA SHEET**

*State of the art ingredients · fast friendly service*

CERCLA

This material, as supplied, does not contain substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40CFR 302)

**State Regulations**

California Proposition 65

This product does not contain any Proposition 65 chemicals

**US State Right to Know Regulations**

No information available

**International Regulations**

CA

This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR  
E corrosive material

WHMIS Hazard Class

Carcinogen status

OSHA: N, NTP:N, IARC: N  
FDA GRAS

**16. OTHER INFORMATION**

NFPA Ratings (Scale 0-4) 1(health)-0(flammability)-0(reactivity)  
HMIS Rating 2(health)-0(flammability)-0(reactivity)  
B(protective equipment)

CAS-No. 79-33-4 (general)

Further information on the safety assessment of lactic acid and its salts can be obtained in a CFTA Report of June 6th 1997.  
Additional data on the calculated ecotoxicity of lactic acid and its salts and esters can be obtained in a report entitled 'The ecotoxicity and biodegradability of lactic acid, alkyl lactate esters and lactic acid salts' by Bowmer et al.

(Reference: Chemosphere 37: 1317-1333 (1998))

**DISCLAIMER**

11110 Metric Blvd., Ste D · Austin TX 78758  
(512) 535::2711 · (512) 535::7362 fax  
[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)





**(MSDS)**  
**MATERIAL SAFETY DATA SHEET**

---

*State of the art ingredients · fast friendly service*

---

**DISCLAIMER**

Technical information and / or suggestions for use including any formulations and / or procedures are believed to be correct. However this does not constitute a guarantee of the accuracy of the information or suggestions contained herein and confirming tests in your own laboratory and / or facility are recommended.

No statement or suggestion of use should be construed as a recommendation or inducement to violate any regulations and / or requirements or as warranties (express or implied) of its fitness for any particular use and / or purpose and no liability may be assumed. Prospective purchasers are invited to conduct their own test and studies to determine the fitness of Ingredients To Die For products for their particular purposes and specific applications and confirming the information and all instructions and / or procedures directly is recommended. All purchases of products from Ingredients To Die For should be made with the clear understanding that use of any product is at the sole discretion of the customer and that suitability for purpose is at the sole discretion of the customer and should be used only after careful review and understanding of all supportive documentation.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

The information contained in this PDF should not be construed as recommending the use of information contained in the PDF in violation of any patent, or as warranties (express or implied) and no patent liability may be assumed. Prospective retailers are invited to conduct their own research to determine compliance for their particular purpose and specific products or legal council is recommended.

The information contained in this PDF is obtained from current and reliable sources. As the ordinary or otherwise use(s) of this product and / or information is outside the control of Ingredients To Die For, no representation or warranty (express or implied) is made as to the effect(s) of such use(s) (including damage or injury), or the results obtained.

Ingredients To Die For expressly disclaims responsibility as to the ordinary or otherwise use(s). Furthermore, Ingredients To Die For as to the fitness for any use should consider nothing contained herein as a recommendation. The liability of Ingredients To Die For is limited to the value of the goods in case of manufacturer defect and does not include any consequential loss.

11110 Metric Blvd., Ste D · Austin TX 78758  
(512) 535::2711 · (512) 535::7362 fax  
[www.ingredientstodiefor.com](http://www.ingredientstodiefor.com) · [help@ingredientstodiefor.com](mailto:help@ingredientstodiefor.com)