







## Safety Data Sheet L-LACTIC ACID

Section 1	Chemical product and company identification
<p><b>Product Name:</b> L-(+)-Lactic acid  <b>Catalog Codes:</b> SLL1918  <b>CAS No.:</b> 79-33-4  <b>EINECS No.:</b> 201-196-2  <b>EC:</b> 270  <b>RTECS:</b> OD3100000  <b>TSCA:</b> TSCA 8(b) inventory: L-(+)-Lactic acid  <b>CI No.:</b> Not available.  <b>Synonym:</b> (S)-2-Hydroxypropionic acid; (S)-2-Hydroxypropanoic acid; (S)-(+)-Lactic Acid; L-(+)-Lactic Acid  <b>Chemical Name:</b> L-Lactic Acid  <b>Chemical Formula:</b> C<sub>3</sub>H<sub>6</sub>O<sub>3</sub>  <b>Recommended Use:</b> L-lactic acid is used in food, coatings and inks, textile and leather industry, agrochemicals, polymer industry, metal industry.  <b>Restriction Use:</b> Not applicable  <b>Contact Information:</b>  <b>Qingdao Abel Technology Co., Ltd.</b>            B1101, Coastal Garden Plaza, 158, Wuyishan Road, Qingdao Development Zone 266555            Qingdao City, Shandong Province, China  <b>International Sales:</b> +86-532-86990832  <b>E-mail:</b> sales@abelcn.com  <b>For emergency phone:</b> +86-532-80981952</p>	

Section 2	Hazards identification
<p><b>Hazards Classification:</b>  <b>Label Elements:</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">     </div> <p><b>Flammable liquids:</b> Symbol Flame.            Flammable liquid and vapour. Store in a well-ventilated place. Keep cool. Keep away from heat/sparks/open flames/hot surfaces.-No smoking. In case of fire: Use water for extinction.  <b>Corrosive to metals:</b> Symbol Corrosion.            May be corrosive to metals. Store in corrosive resistant/...container with a resistant inner liner. Keep only in original container. Absorb spillage to material damage.  <b>Acute toxicity:</b> Symbol Exclamation mark.            May be harmful if swallowed(oral). Call a POISON CENTER or doctor/physician if you feel unwell.            May be harmful in contact with skin(dermal). Call a POISON CENTER or doctor/physician if you feel unwell.            May be harmful if inhaled. IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.</p>	

**Skin corrosion/irritation:** Symbol Corrosion.

May causes mild skin irritation in case of skin contact. If skin irritation occurs: Get medical advice/attention

**Serous eye damage/eye irritation:** Symbol Corrosion

May causes eye irritation in case of eye contact. Wash ... thoroughly after handling. 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.

**Respiratory sensitizer:** Symbol Exclamation mark.

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Avoid breathing spray and in case of inadequate ventilation wear respiratory protection. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

**Skin sensitizer:** Symbol Exclamation mark.

May cause an allergic skin reaction. Avoid breathing spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Germ cell mutagenicity:** No date available - no classification proposed.

**Carcinogenicity:** No date available - no classification proposed.

**Toxic to reproduction:** No date available - no classification proposed .

**Effect on or via lactation:** No date available - no classification proposed.

**Specific target organ toxicity following single exposure:** Symbol Exclamation mark.

May cause damage to organs. Avoid breathing spray, and use or in only outdoors in a well-ventilated area. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Specific target organ toxicity following repeated exposure:** Symbol Health hazard.

May cause damage to respiratory. Avoid breathing spray. Get medical advice/attention if you feel unwell.

**Aspiration hazard:** Symbol Health hazard.

May be harmful if swallowed and enters airways. IF SWALLOWED: Do NOT induce vomiting, and immediately call a POISON CENTER or doctor/physician.

**Acute hazards to the aquatic environment:** No symbol.

Harmful to aquatic life. Avoid release to the environment.

**Long-term hazards to the aquatic environment:** No symbol.

May cause long lasting harmful effect to aquatic life. Avoid release to the environment.

**Hazard to the ozone layer:** No date available - no classification proposed .

Section 3	Composition/information on ingredients		
<b>Composition:</b>			
Chemical name	CAS No.	EINECS No.	% by weight
L(+)-lactic acid	79-33-4	201-196-2	80.0-90.0
Water	7732-18-5	231-791-2	20.0-10.0

Section 4	First aid measures
<b>Inhalation:</b>	
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.	
<b>Serious inhalation:</b>	
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt	

or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Get immediate medical attention.

**Skin contact:**

Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.

**Serious skin contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Get medical attention.

**Eye contact:**

IF IN EYES: Rinse cautiously with water for several minutes. Do not use an eye ointment. Remove contact lenses, if present and easy to do. Continue rinsing. IF eye irritation persists: Get medical advice /attention.

**Serious eye contact:** No information found

**Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Call a POISON CENTER or doctor/physician if symptoms appear.

**Serious ingestion:** No information found.

Section 5	Fire-fighting measures
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**Flammability of the product:** May be flammable at high temperature.

**Auto-ignition temperature:** Not available.

**Flash point:** >112°C(open cup).

**Flammable limits:** Not available.

**Suitable extinguishing media:**

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Specific hazards arising from the products:**

It produces toxic fumes of carbon oxides (CO, CO<sub>2</sub>) if burning.

**Fire hazards in presence of various substances:**

Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

**Explosion hazards in presence of various substances:**

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

**Special remarks on fire hazards:**

As with most organic solids, fire is possible at elevated temperatures

**Special remarks on explosion hazards:** Not available.

**Special protective actions for fire-fighter:** Keep the containers cool with water spray.

Section 6	Accidental release measures
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**Small Spills:**

First to evacuate non-emergency personnel, and isolate the contaminated area. Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Finish cleaning by spreading water on the contaminated surface and dispose of according to local and

regional authority requirements.

**Large Spills:**

Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Prevent spillage from entering drains or water courses. Wear full protective clothing including face mask, face shield and gauntlets. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labeled containers for recycling or salvage. Recycle containers wherever possible. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. If material enters drains, advise emergency services. This material may be suitable for approved landfill. Dispose of only in compliance with local regulations. Launder all contaminated clothing before re-use.

### Section 7 - Handling and Storage

**Precautions:**

This material is classed as UN 3621, class 3: Flammable Liquid. Not to be transported with classes 1 (explosives), 2.1 (Flammable Gases) (nb this applies only when in bulk), 2.3 (Poisonous Gases), 4.2 (Spontaneously Combustible Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides) and 7 (Radioactive Substances), foodstuffs or foodstuff empties. Food Grade products must not be transported with classes 2.3 (Poisonous Gases), 4.2 (Spontaneously Combustible Substances), 6 (Poisonous solids and liquids), 8 (Corrosive solids and liquids) and 7 Radioactive Substances), unless contained in an approved segregation device.

**Storage:**

Not a scheduled Poison. Containers should be closed in order to minimise contamination. Keep away from extreme heat and open flames. Keep away from sources of ignition and make sure the material does not come into contact with products listed under !°Materialsto avoid!± below. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

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 Protection:**

Splash goggles. Lab coat. Dust respirator. Gloves.  
Be sure to use an approved/certified respirator or equivalent.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Dust respirator. Boots. Gloves.  
A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

**Exposure Limits:** No information found

### Section 9 Physical and Chemical Properties

**Physical state and appearance:** Clear viscous or Colorless liquid

**Molecular weight:** 90.08 g/mole

**Odor:** Characteristic

**Odor threshold:** No information found

**PH:** <2.0@ 20°C(10% solution)

**Melting point/freezing point:** 18°C

**Initial boiling Point and boiling range:** 120°C@15mmHg  
**Flash Point:** >112°C(open cup).  
**Evaporation Rate (BuAc=1):** Less than water.  
**Flammability(solid, gas):** No information found  
**Upper/lower flammability or explosive limits:** No information found  
**Vapor Pressure:** No information found  
**Vapor Density (Air=1):** 3.11  
**Relative Density:** 1.18 to 1.23g/cm<sup>3</sup> @ 20°C  
**Solubility:** Miscible with water  
**Partiton coefficient: n-octanol/water:** No information found  
**Auto-ignition temperature:** No information found  
**Decomposition temperature:** No information found  
**Viscosity:** 45-60mPa.s@25°C  
**Water /oil Dist. Coeff.:** The product is more soluble in water; log(oil/water)=-0.6  
**Ionicity (in water )::** 0.01183 (c=1M)

### Section 10 - Stability and Reactivity

**Stability:** The product is stable.  
**Instability Temperature:** No information found.  
**Conditions of Instability:** No information found.  
**Incompatibility with various substances:** Reactive with oxidizing agents.  
**Conditions to Avoid:** Dust generation, moisture, excess heat. strong oxidizing agents.  
**Corrosivity:** Non-corrosive in presence of glass.  
**Special Remarks on Reactivity:** No information found.  
**Special Remarks on Corrosivity:** No information found.  
**Polymerization:** May polymerise spontaneously. If uncontrolled, this may lead to dangerous situations.

### Section 11 - Toxicological Information

**Routes of Entry:** Eye contact .  
**Toxicity to Animals:**  
 LD50: >3543mg/kg oral rat, >4875mg/kg oral mouse; >2000mg/kg dermal rabbit  
 LC50: Not available.  
**Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant, permeator), of inhalation.  
**Special Remarks on Chronic Effects on Humans:** No information found  
**Special Remarks on other Toxic Effects on Humans:** No information found

### Section 12 - Ecological Information

**Ecotoxicity:** Not available.  
**BOD<sub>5</sub> and COD:** Not available.  
**Products of Biodegradation:** No information found.  
**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.  
**Special Remarks on the Products of Biodegradation:** Not available.  
**Aquatic Toxicity:** May cause long-term adverse effects in the aquatic environment.

### Section 13 - Disposal Considerations

**Waste Disposal:**  
 Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.  
**RCRA U-Series:** None listed.

#### Section 14 - Transport Information

**DOT Classification:** N/A Keep away from children.  
**Identification:** Not applicable.  
**Special Provisions for Transport:** Not applicable.

#### Section 15 - Regulatory Information

**Other Regulations:** Not available.  
**Other Classifications:**  
**WHMIS (Canada):** Not available. (Canada).  
**DSCL (EEC):** Not available.  
**HMIS (U.S.A.):**  
Health Hazard:1  
Fire Hazard:1  
Reactivity: 0  
Personal Protection: G  
**National Fire Protection Association (U.S.A.):**  
Health: 0  
Flammability: 1  
Reactivity: 0  
**Specific hazard:** Not available.

#### Section 16 - Additional Information

**Other Special Considerations:** No information found  
**Revision Information:**  
**MSDS Creation date:** June 1, 2006, **Revision date:** January 1, 2007  
**EMERGENCY CONTACT:** +86-532-86990832

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