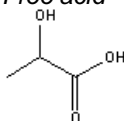


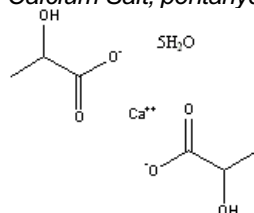
## Lactic Acid

### Structure:

Free acid



Calcium Salt, pentahydrate



| Form                        | Molecular Formula  | Molecular Weight | CAS #       |
|-----------------------------|--|------------------|-------------|
| DL isoform, free acid       | C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>                       | 90.1             | 50-21-5     |
| DL isoform, Lithium salt    | C <sub>3</sub> H <sub>5</sub> O <sub>3</sub> Li                    | 96.01            | 16891-53-5  |
| DL isoform, Sodium salt     | C <sub>3</sub> H <sub>5</sub> O <sub>3</sub> Na                    | 112.1            | 72-17-3     |
| L(+) isoform, free acid     | C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>                       | 90.1             | 79-33-4     |
| L(+) isoform, calcium salt  | C <sub>6</sub> H <sub>10</sub> O <sub>6</sub> Ca·5H <sub>2</sub> O | 308.3            | 814-80-2    |
| L(+) isoform, Hemizinc salt | C <sub>3</sub> H <sub>5</sub> O <sub>3</sub> ·½Zn                  | 121.8            | 103404-76-8 |
| L(+) isoform, Lithium salt  | C <sub>3</sub> H <sub>5</sub> O <sub>3</sub> Li                    | 96.01            | 867-55-0    |
| L(+) isoform, Sodium salt   | C <sub>3</sub> H <sub>5</sub> O <sub>3</sub> Na                    | 112.1            | 312-85-6    |

**Synonym:** Hydroxypropionic acid

**Physical Description:** White crystalline powder to liquid

### Solubility:

*Free Acid:* Soluble in water. L(+) is slightly more water soluble than the racemic DL mixture; Slightly soluble in ethanol.

*Calcium Salt:* Soluble in water; practically insoluble in ethanol

*Lithium Salt:* Soluble in water

*Sodium Salt:* Soluble in water; miscible with ethanol

*Zinc Salt:* Soluble in hot water (100 mg/4 ml-clear, colorless solution)

**Description:** A fermentation acid from milk or carbohydrates.

### Availability:

| Catalog Number | Description   | Size                                |
|----------------|---|-------------------------------------|
| 152532         | Lactic Acid, ACS Reagent Grade (mixture of D and L), 85-90%               | 100 g<br>1 kg                       |
| 100824         | DL-Lactic Acid, Lithium Salt, purity approximately 99%                    | 500 g<br>1 kg<br>5 kg               |
| 101106         | DL-Lactic Acid, Sodium Salt, 60% solution by weight                       | 500 g<br>1 kg<br>5 kg               |
| 194691         | DL-Lactic Acid, Sodium Salt, 60% solution by weight, cell culture reagent | 100 ml<br>500 ml                    |
| 190228         | L-(+)-Lactic Acid, free acid, purity approximately 98%                    | 1 g<br>5 g<br>10 g<br>25 g<br>100 g |
| 151529         | L-(+)-Lactic Acid, free acid, technical                                   | 250 g                               |

|        |   |  |
|--------|---|--|
|        | grade, purity approximately 80%                                     | 500 g<br>1 kg                          |
| 153931 | L-Lactic Acid, Calcium Salt, Pentahydrate, purity approximately 95% | 5 g<br>10 g<br>50 g<br>100 g           |
| 193898 | L-(+)-Lactic Acid, Hemizinc Salt, purity approximately 98%          | 10 g                                   |
| 102134 | L-(+)-Lactic Acid, Lithium Salt, purity approximately 98-100%       | 10 g<br>25 g<br>100 g<br>500 g<br>1 kg |
| 100779 | L-(+)-Lactic Acid, Sodium Salt, 40% solution by weight              | 50 g<br>100 g<br>500 g<br>1 kg         |

**References:**

1. *Merck Index*, **12th Ed.**, No. 5349.
2. Eggert, F.M. and Germain, J.P., *Histochemistry*, **v. 59**, 215 (1970).
3. Urban, P., et al., *Biochemistry*, **v. 27**, 7365 (1988).