

# SAFETY DATA SHEET

SDS No. 5010-21295

Revised date April 7, 2025

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## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Phos-TiO Lactic Acid  
NAME OF SUPPLIER : GL Sciences Inc.  
ADDRESS : 22-1 Nishishinjuku 6-chome Shinjuku-ku Tokyo 163-1130, Japan  
CHARGE SECTION : International Sales Section  
TELEPHONE No. : +81-3-5323-6620  
FACSIMILE No. : +81-3-5323-6621  
PRODUCT No. : 5010-21295、5010-  
SDS No. : 5010-21295  
Research use only.

## 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Skin corrosion/irritation : Category 1  
Eye damage/irritation : Category 1

HAZARD SYMBOL :



SIGNAL WORD : Warning

HAZARD STATEMENTS :

H314 Cause severe skin burns and eye damage

H318 Cause serious eye damage

PRECAUTIONARY STATEMENTS :

[Prevention]

P260 Do not breathing fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

P310 Immediately call a POISON CENTER or doctor.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN or hair: Take off immediately all contaminated clothing. Rinse skin with water.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

[Storage]

P405 Store locked up.

[Disposal]

P501 Dispose of contents/container in accordance with all applicable regulations.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE / MIXTURE : Substance  
CHEMICAL NAME : Lactic Acid  
SYNONYMS : 2-hydroxypropaonic acid  
CONTENT : 99% Note: These values are not product specifications.  
FORMULA WEIGHT : 90.08  
CHEMICAL FORMULA : CH<sub>3</sub>CH(OH)COOH  
CAS RN : 50-21-5  
TSCA INVENTORY : Listed  
EINECS No : 200-018-0

4. FIRST AID MEASURES

- GENERAL ADVICE : Consult a physician. Show this safety data sheet to the doctor in attendance. Use personal protective equipment.
- INHALATION : Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.
- SKIN CONTACT : Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.
- EYE CONTACT : Remove any contact lenses at once. Flush eyes well with flooding large amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.
- INGESTION : Rinse mouth, give plenty of water to dilute the substance. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
- MOST IMPORTANT SYMPTOMS AND EFFECTS : Symptoms include burning, cough, sore throat, shortness of breath, airway irritation, redness of skin and eyes, pain, severe burns, skin irritation, eye corrosiveness, abdominal pain, stomach cramps, vomiting.

5. FIRE FIGHTING MEASURES

- EXTINGUISHING MEDIA : Powder, foam (alcohol foam), carbon dioxide, water spray.
- DISABLED EXTINGUISHING MEDIA : Straight stream.
- FIRE & EXPLOSION HAZARDS : Toxic, irritating, fumes or smoke may be emitted.
- SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS : Firemen should wear normal protective equipment(full bunker gear) and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- PERSONAL PRECAUTIONS : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid raising mist or gas and avoid contact with skin and eyes.
- ENVIRONMENTAL PRECAUTIONS : Prevent spills from entering sewers, watercourses or low areas.
- METHODS FOR CLEAN UP : Do not touch spilled material without suitable protection. After material is completely wiped up, wash the spill site with soap and water and ventilate the area. Pull all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose contaminated clothing.

7. HANDLING AND STORAGE

- HANDLING : Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Handle this product with suitable protection.  
After using this product, dispose of contents/container in accordance with all applicable regulations and appropriate ways.
- STORAGE : Store away from sunlight, heat and all ignition sources in well-ventilated dry place. Keep container tightly closed.
- INCOMPATIBLE PRODUCTS : Strong bases

8. EXPOSURE CONTROL/PERSONAL PROTECTION

- ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.
- VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Recommended
- PERSONAL PROTECTION
  - RESPIRATORY PROTECTION : Safety mask(Use respirators approved under appropriate government standards and follow all regulations.)
  - HAND PROTECTION : Protective gloves
  - EYE PROTECTION : Safety glasses(goggles)
  - SKIN PROTECTION : Protective clothing
- CONTROL PARAMETERS
  - ACGIH : No data available
  - OSHA PEL : No data available
  - NIOSH REL : No data available

**9. PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE	: Liquid
COLOUR	: Colorless, clear to slightly yellow
ODOR	: Characteristic, slightly irritating odor.
MELTING POINT / FREEZING POINT	: 16.8 °C
BOILING POINT OR INITIAL BOILING POINT AND BOILING RANGE	: 216.6 °C(1013 mbar)
FLAMMABILITY	: Flammable
LOWER AND UPPER EXPLOSION LIMIT / FLAMMABILITY LIMIT	: No data available
FLASH POINT	: 110 °C
AUTO-IGNITION TEMPERATURE	: No data available
DECOMPOSITION TEMPERATURE	: No data available
pH	: approx. 1.2
KINEMATIC VISCOSITY	: No data available
SOLUBILITY	
Water	: Miscible
Organic solvent	: Miscible in Alcohol, glycerol and furfural
PARTITION COEFFICIENT	
n-octanol/water (log value)	: log Pow: -0.62
VAPOUR PRESSURE	: 0.00308 mmHg (20 °C)
DENSITY AND/OR RELATIVE DENSITY	: 1.2
RELATIVE VAPOUR DENSITY	: No data available
PARTICLE CHARACTERISTICS	: Not applicable

**10. STABILITY AND REACTIVITY**

REACTIVITY	: Stable under recommended storage conditions.
CHEMICAL STABILITY	: Combustible.
CONDITION TO AVOID	: Sunlight, heat, open flames, high temperature
INCOMPATIBLE MATERIALS	: Strong oxidizers, strong bases
HAZARDOUS DECOMPOSITION PRODUCTS	: Toxic Hume (CO, CO <sub>2</sub> )

**11. TOXICOLOGICAL INFORMATION**

ACUTE TOXICITY -oral-	: LD50=3,730 mg/kg(JFCFA344,1974)
ACUTE TOXICITY -dermal-	: No data available. There is a report with L form that rabbit LD50>2,000 mg / kg (SIDS (2008)).
ACUTE TOXICITY -inhalation: Vapors-	: No data available. There is a report with L form that 4h (aerosol, rat) LD50 > 7.94 mg / L (SIDS (2008)).
SKIN CORROSION/IRRITATION	: This is classified in Category 1 due to its pH value, 1.2. There is a report that no irritation in rabbit using this 80% solution including NaOH. In addition, there is skin irritation in rabbit using 80% L form solution (USEPA/HPV, 2002).
EYE DAMAGE/EYE IRRITATION	: This is classified in Category 1 due to its pH value, 1.2 (USEPA/HPV, 2002). In the test case of applying this 750 µg to rabbit eyes, its result was reported to be severe as 8 grade (most severe grade is 10)(RTECS, 2010).
RESPIRATORY SENSITIZATION	: No data available
SKIN SENSITIZATION	: As a result of the maximization test with Guinea pigs, it was concluded that there was no sensitization (USEPA/HPV(200), HSDB(2006)).
GERM CELL MUTAGENICITY	: There is no data of in vivo test. As in vitro tests, results are; Negative in the Ames test (NTP DB ID: A10575(1997)), Positive in the chromosomal aberration test (false positive due to low pH)(Mutat Res., 240, 195-202(1990)), Negative in the chromosomal aberration test of CHO cells(SIDS(2008)).
CARCINOGENICITY	: Regarding Calcium lactate, it has been reported that there was no evidence of carcinogenicity in a two-year drinking water test with rat(SIDS(2008)).

REPRODUCTIVE TOXICITY : In a study of oral administration (570 mg / kg / day) during organogenesis for pregnant mice, it was reported that there was no effect on maternal and offspring development (SIDS(2008)). However, details are unknown, and the effects on sexual function and fertility are also unknown.

SPECIFIC TARGET ORGAN TOXICITY - Single exposure -

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SPECIFIC TARGET ORGAN TOXICITY - Repeated exposure -

: It was reported that 1 of 5 rats died at 650 mg / kg within 24 hours, 2 of 5 rats died at 1,300 mg / kg within 24 hours. And re-administered the same dose to surviving rats, dyspnea, runny nose, vomiting and abdominal distension were appeared in 2 rats (1,300 mg / kg group) then died, but the details were unknown (HSDB(2006)). In the test of Acute toxicity of L form (LD50=3543 - 4936 mg / kg), symptoms were appeared such as lethargy, ataxia, collapse and irregular breathing (USEPA/HPV(2002)).

ASPIRATION TOXICITY : No data available

## 12. ECOLOGICAL INFORMATION

ECOTOXICITY : Fish (Blue gill) LC50=130 mg / L / 96hr (SIDS(2011))

BIODEGRADABILITY : Not water-insoluble (BOD=76%)(Existing inspection, 1993)

BIOACCUMULATION POTENTIAL : No data available

MOBILITY IN SOIL : No data available

OTHER ADVERSE EFFECTS : Not listed in Montreal Protocol list.

## 13. DISPOSAL INFORMATION

Dispose in a hazardous-waste site in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environment agency for specific rules).

## 14. TRANSPORT INFORMATION

### International Regulations

Marine regulatory information : Comply the provisions of IMO.

UN Number : 3265

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

Class : 8

Packing Group : III

Marine Pollutant : Not applicable

Aviation regulatory information : Comply the provisions of ICAO/IATA.

UN Number : 3265

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

Class : 8

Packing Group : III

Emergency Response Guide Number : 154

## 15. REGULATORY INFORMATION

This SDS has been prepared in accordance with Japanese laws and regulations and has not been prepared based on research into the local laws and regulations of each country.

## 16. OTHER INFORMATION

### NOTICE:

The information contained in the SDS description is applicable exclusively to the chemical substance identified herein and for its intended use as an analytical reference standard or reagent and to the unit quantity intended for that purpose. The information does not relate to, and may not be appropriate for, any application or larger quantity of the substance described. Our products are intended for the use by individuals possessing sufficient technical skill and qualification on use the material potential hazardous chemical. Accordingly, no representation or warranty, express or implied, with respect to merchantability and fitness for a particular purpose is made with respect to the information contained herein.

### Attention:

This product in terms of chemical identity and the unit amount provide is intended for use in chemical analysis and not for human consumption, nor any other purpose.