



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name Lactic Acid 88%
CAS # Mixture
Product use Food Additive / Specialty chemical
Manufacturer SODROX Chemicals Ltd.
7040 Wellington Road 124, R.R. #6
Guelph, ON N1H 6J3 CA
Business Phone: 519-837-2330
Fax: 519-837-3300
Emergency Phone: 1-800-363-6824

2. Hazards Identification

Emergency overview DANGER
CAUSES EYE BURNS. CAUSES SKIN BURNS.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes Causes chemical burns. May cause blindness.

Skin May cause chemical burns. Causes chemical burns.

Inhalation May cause respiratory tract irritation.

Ingestion May cause chemical burns to mouth, throat and stomach.

Target organs Eyes. Skin. Mucous membranes.

Chronic effects Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.

Signs and symptoms The product may cause burns to eyes, skin and mucous membranes.

OSHA Regulatory Status This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential environmental effects See section 12.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Lactic Acid	79-33-4	60 - 100

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

Skin contact Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

General advice If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties Not flammable by WHMIS/OSHA criteria.

Extinguishing media

Suitable extinguishing media Dry chemical. Carbon dioxide. Alcohol foam. Foam.

Unsuitable extinguishing media Not available

Protection of firefighters

Specific hazards arising from the chemical Not available

Protective equipment for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products May include and are not limited to: Oxides of carbon.

Explosion data

Sensitivity to mechanical impact Not available

Sensitivity to static discharge Not available

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas.

Methods for containment

Stop leak if you can do so without risk.

Methods for cleaning up

Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use.

7. Handling and Storage

Handling

DANGER -- CORROSIVE
Use good industrial hygiene practices in handling this material.
Do not get in eyes, on skin or on clothing.
Wash thoroughly after handling.

Storage

Keep out of the reach of children.
Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limits

Ingredient(s)

Exposure Limits

Lactic Acid

ACGIH-TLV

Not established

OSHA-PEL

Not established

Engineering controls

Not normally required if good ventilation is maintained.

Personal protective equipment

Eye / face protection Wear chemical goggles.

Hand protection Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection As required by employer code. Rubber apron recommended.

Respiratory protection Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

General hygiene considerations Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance

Liquid

Color

Colourless / Yellow / Light brown

Form

Liquid

Odor

Characteristic

Odor threshold	Not available
Physical state	Liquid
pH	< 2
Melting point	Not available
Freezing point	Not available
Boiling point	230.00 °F (110 °C) (40% solution)
Pour point	Not available
Evaporation rate	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability limits in air, upper, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	1.2
Octanol/water coefficient	Not available
Solubility (H2O)	Complete
Viscosity	5 - 60 MPa.s @25°C (50-90% solution)
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	Reacts vigorously with alkaline material. This product may react with reducing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Bases. Reducing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Lactic Acid	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Lactic Acid	1810 mg/kg guinea pig; 3543 mg/kg rat; 4875 mg/kg mouse

Effects of acute exposure

Eye	Causes chemical burns. May cause blindness.
Skin	May cause chemical burns. Causes chemical burns.
Inhalation	May cause respiratory tract irritation.
Ingestion	May cause chemical burns to mouth, throat and stomach.
Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.
Name of Toxicologically Synergistic Products	Not available

12. Ecological Information

Ecotoxicity	Components of this product have been identified as having potential environmental concerns.	
Ecotoxicity - Freshwater Algae - Acute Toxicity Data		
Lactic Acid	79-33-4	70 Hr EC50 Pseudokirchneriella subcapitata: 3.5 mg/L
Ecotoxicity - Freshwater Fish - Acute Toxicity Data		
Lactic Acid	79-33-4	96 Hr LC50 Brachydanio rerio: 320 mg/L [semi-static]; 96 Hr LC50 Lepomis macrochirus: 100-180 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 100-180 mg/L [static]
Ecotoxicity - Water Flea - Acute Toxicity Data		
Lactic Acid	79-33-4	48 Hr EC50 Daphnia magna: 240 mg/L; 48 Hr EC50 Daphnia magna: 180 - 320 mg/L [Static]
Persistence / degradability	Not available	
Bioaccumulation / accumulation	Not available	
Mobility in environmental media	Not available	
Environmental effects	Not available	
Aquatic toxicity	Not available	
Partition coefficient	Not available	
Chemical fate information	Not available	
Other adverse effects	Not available	

13. Disposal Considerations

Disposal instructions	Review federal, state/provincial, and local government requirements prior to disposal.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (LACTIC ACID)
Hazard class	8
UN number	UN3265
Packing group	II
Additional information:	
Special provisions	B2, IB2, T11, TP2, TP27
Packaging exceptions	154
ERG number	153



Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (LACTIC ACID)
Hazard class	8
UN number	UN3265
Packing group	II
Additional information:	
Special provisions	16



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS status Controlled

WHMIS classification Class E - Corrosive Material

WHMIS labeling



Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Not available

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Inventory name

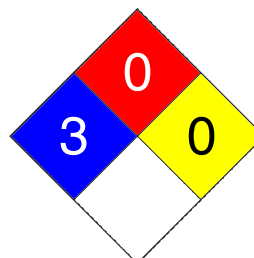
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 3
Flammability	0
Physical Hazard	0
Personal Protection	X



Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Prepared by

Dell Tech Laboratories Ltd. (519) 858-5021

Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

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