



SAFETY DATA SHEET

80%

LACTIC ACID

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name: Lactic Acid
Product No.: LAC
CAS-No.: 79-33-4
EC No.: 201-196-2
REACH: 01-2119474164-39
Synonym: 2-Hydroxypropanoic acid, Milk acid
Chemical Formula: $C_3H_6O_3$

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: In many food products usually serves as either as a pH regulator, as a preservative or as a flavoring agent,
As an acidity regulator,
Is effective in preventing the spoilage of vegetabels,
As an excellent acidification agent for many dairy products,
As a natural sourdough acid,
As an enhance savory flavors,
In pharmaceutical technology,
As a valuable component in biomaterials,
As a natural anti-bacterial agent in disinfecting products,
In the industrial processes,
As an additive in animal nutrition. It has health promoting properties,
As a humectant, or moisturizer, in some cosmetics,
As a mordant, a chemical that helps fabrics accept dyes, in textiles,
It is also used in tanning leather,
In the manufacturing of lacquers and inks.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification 67/548/EEC: Xi; R37/38, R41

Classification – EC 1272/2008: Skin Corrosion/irritation; Category 2 (H315)
Serious eye damage/eye irritation; Category 1 (H318)

2.2. LABEL ELEMENTS



SIGNAL WORDS

Danger

RISK PHRASES

R37/38 Irritating to respiratory system and skin
R41 Risk of serious damage to eyes

HAZARD PHRASES

H315 Causes skin irritation
H318 Causes serious eye damage

PROTECTION PHRASES

P264 Wash exposed skin thoroughly after handling
P280 Wear protective gloves/protective clothing/eye protection/face protection
P302+P352 IF ON SKIN: Wash with plenty of water



P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a doctor/ physician
P332+P313	If skin irritation occurs: Get medical advice/attention
P337+P313	If eye irritation persists get medical advice/attention
P362	Take off contaminated clothing

SAFETY PHRASES

S24	Avoid contact with skin
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S37/39	Wear suitable gloves and eye/face protection

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**67/548/EEC/1999/45/EC****Composition information – main constituents**

Substance name	Mol. Formula	REACH	Typical conc. (%w/w)	EINECS No.	CAS-No.	Classification
Lactic Acid	C ₃ H ₆ O ₃	01-2119474164-39	80%	201-196-2	79-33-4	Xi; R37/38, R41

EC 1272/2008**Composition information – main constituents**

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SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

First-aid measures general: Consult a physician when you feel unwell. Show this safety data sheet to the doctor in attendance.

Inhalation: If exposed to excessive levels, remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical attention if any discomfort continues. Do not induce vomiting.

Skin contact: Immediately flush skin with plenty of water and wash contact area with mild soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation persists.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice, if irritation persists.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Inhalation: Coughing.

Ingestion: May cause gastrointestinal complaints, nausea, diarrhoea.

Skin contact: There may be mild irritation at the site of contact.

Eye contact: Risk of serious damage to eyes.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Adjust extinguishing media to the surrounding fire. Use alcohol resistant foam, dry powder, carbon dioxide or water spray.

Unsuitable extinguishing media: Do not use water jet.



5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO₂), Pyrolysis products, toxic.

5.3. ADVICE FOR FIRE-FIGHTERS

Wear full protective clothing must be worn in case of fire and self-contained positive pressure breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear suitable protective equipment (splash goggles, protective suit, boots, gloves and self-contained breathing apparatus) to prevent any contamination of skin, eyes and personal clothing. Ensure adequate ventilation of the working area. Avoid contact with skin and eyes. Avoid breathing vapours, mist or gas. Avoid formation of dust. Keep unprotected persons away. Evacuate personnel to a safe area.

For personal protection see section 8.1.

6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Do not allow to enter sewers/ surface or ground water. Do not allow to enter into soil/subsoil. Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Pick up and arrange disposal without creating dust. Sweep up and shovel. Absorb with liquid-binding material (sand, diatomaceous earth). Ventilate area and wash spill site after material pickup is complete. Dispose of in accordance with current laws and regulations.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust. Do not inhale dust/smoke/mist. Ensure adequate ventilation of the working area. Wear personal protective equipment. Avoid contact with eyes and skin. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products. Remove contaminated clothing and shoes. Wash clothing before re-using. Avoid the formation or spread of mists in the air.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep in a cool, dry, well ventilated area. Keep in original tightly closed containers. Do not store together with acids, bases and oxidising agents. Keep away from food and drink. Keep away from moisture, heat, direct sunlight and other sources of ignition. Avoid dust generation.

7.3. SPECIFIC END USE(S)

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values (Lactic Acid):

CAS NO	Exposure limit	Value	Name of Agent
79-33-4	TWA – 8 Hrs	no data available	no data available
79-33-4	STEL – 15 Min	no data available	no data available

Engineering controls:

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of the working day.



EYE PROTECTION



FACE SHIELD



RESPIRATOR



PROTECTION WEAR



HAND PROTECTION



- Protective equipment:** Use protective tightly fitting safety goggle (European standard - EN 166), face shield, gloves (European standard - EN 374) and long sleeved clothing to prevent skin, body and eyes exposure.
- Respiratory equipment:** Respiratory protection necessary at aerosol or mist formation. Particle filter class P3S (EN143). If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Skin and body protection:** Wear appropriate protective gloves and clothing to prevent skin exposure. Wear impervious protective clothing; including long sleeved shirt and pants, boots, lab coat, apron or coveralls, as appropriate, to minimize skin contact. Wear appropriate protective work gloves when handling material to prevent skin contact. The glove material has to be impermeable and resistant to the product. Protective gloves should be replaced at first signs of wear. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Wash and dry hands.
- Eye/Face protection:** Face shield. Indirectly vented chemical safety goggles are recommended for protection against nuisance dust. Ensure eye bath is to hand.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Colour:	Colourless, light yellow
Odour:	Odourless
Initial boiling point (°C):	No data available
Melting point (°C):	18 °C
Freezing point:	No data available
Relative density:	1.215 g/cm ³
Specific gravity / density:	Not available
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not available
Molecular mass:	90.078 g/mol
Auto-ignition temperature:	Not applicable
Oxidizing properties:	Not available



Decomposition temperature: Not available

Molecular formula: $C_3H_6O_3$

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Lactic Acid is stable under normal conditions of use, storage and transport.

10.2. CHEMICAL STABILITY

This product is stable under normal conditions and under recommended usage and storage.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

When heated can decompose. May liberate toxic gases.

10.4. CONDITIONS TO AVOID

Keep away from food and drink. Keep away from moisture, heat, direct sunlight and other sources of ignition. Avoid dust generation.

10.5. INCOMPATIBLE MATERIALS

May liberate toxic gases. Keep away from incompatibles such as alkali (lye), oxidising agents, strong acids and hydrofluoric acids.

10.6. HAZARDOUS DECOMPOSITION

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO₂), Pyrolysis products, toxic.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

TOXIC DOSE

LD50 Oral – Mouse – 4875 mg/kg

LD50 Oral – Rat – 3730 mg/kg

LD50 Dermal – Rabbit – > 2000 mg/kg

Inhalation:

Coughing.

Ingestion:

May causes gastrointestinal complaints, nausea, diarrhoea.

Skin contact:

There may be mild irritation at the site of contact.

Eye contact:

Risk of serious damage to eyes.



SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Aquatic Toxicity:

Toxicity to freshwater fish: LC50: 320 mg/l, 96h (Brachydanio rerio (zebrafish))

LC50: 130 mg/l, 96h (Lepomis macrochirus (Bluegill))

Toxicity to water flea: EC50: 240 mg/l, 48h (Daphnia magna)

12.2. PERSISTENCE AND DEGRADABILITY

Readily biodegradable.

12.3. BIOACCUMULATIVE POTENTIAL

No data available.

12.4. MOBILITY

No data available.

12.5. RESULTS OF PBT AND vPvB ASSESSMENT

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. OTHER ADVERSE EFFECTS

Do not allow to enter into surface water or drains.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Disposal of lactic acid should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. Should not be released into the environment. Do not discharge into waterways or sewer systems. Mixing with other materials or other alterations to pure product may significantly change the characteristics of the material. Empty packaging can have residues and are subject to proper waste disposal. Do not re-use empty containers. This material and its container must be disposed of as hazardous waste. Dispose of container and unused contents in accordance with applicable member state and local requirements.

Uncleaned packaging: Disposal must be made according to official regulations.



SECTION 14: TRANSPORT INFORMATION

IMDG

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

ADR/RID

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

IATA

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2 CHEMICAL SAFETY ASSESSMENT

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1



without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.

DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.