

LACTIC ACID (DL)(88%) SYNTHETIC

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 02/26/2015 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
 Trade name : LACTIC ACID (DL)(88%) SYNTHETIC
 CAS No : 50-21-5
 Product code : AB08008
 Formula : C3H6O3

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Laboratory use/Manufacturing component/Research
 Use of the substance/mixture : Food industry: additive

1.3. Details of the supplier of the safety data sheet

AmericanBio, Inc.
 15 Erie Dr.
 Natick, MA 01760 - USA
 T 800.443.0600 - F 508.655.2754
info@americanbio.com - www.americanbio.com

1.4. Emergency telephone number

Emergency number : 855.835.2572 (U.S.) :: 760.602.8703 (Outside U.S.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Not classified

2.2. Label elements

GHS-US labeling

No labeling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	Product identifier	%	Classification (GHS-US)
LACTIC ACID (DL)(88%) SYNTHETIC (Main constituent)	(CAS No) 50-21-5	100	Not classified

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Assure fresh air breathing. Allow the victim to rest.

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First-aid measures after skin contact	: Wash immediately with lots of water. Take victim to a doctor if irritation persists. In case of burns: Consult a doctor/medical service. Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give chemical antidote. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/injuries after inhalation	: AFTER INHALATION OF DUST: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
Symptoms/injuries after skin contact	: Tingling/irritation of the skin. AFTER CONTACT WITH WATER: Caustic burns/corrosion of the skin.
Symptoms/injuries after eye contact	: Corrosion of the eye tissue.
Symptoms/injuries after ingestion	: AFTER ABSORPTION OF HIGH QUANTITIES: Nausea. Vomiting. Burns to the gastric/intestinal mucosa.
Chronic symptoms	: No effects known.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

suitable extinguishing media	: Water. Water spray. Alcohol-resistant foam. Polymer foam. ABC powder. Carbon dioxide. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: No unsuitable extinguishing media known. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD. Insufficient data available on direct fire hazard (flashpoint > 100°C).
Explosion hazard	: DIRECT EXPLOSION HAZARD. No direct explosion hazard.
Reactivity	: Upon combustion: CO and CO ₂ are formed. May polymerize. Reacts violently with (some) acids/bases, (strong) oxidizers and (strong) reducers.

5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Face-shield. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. See "Material-Handling" to select protective clothing.
Emergency procedures	: Mark the danger area. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill.
- Methods for cleaning up : Cover the solid spill with sand, earth, vermiculite or powdered limestone/sodium bicarbonate. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling. On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. Keep container closed when not in use.
- Incompatible products : Strong bases. strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
- Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. (strong) bases. metals. water/moisture.
- Storage area : Store in a dry area. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: stainless steel. synthetic material. glass. MATERIAL TO AVOID: steel. lead. iron. nickel. bronze. aluminium. copper.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

- Personal protective equipment : Avoid all unnecessary exposure.
- Materials for protective clothing : GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: butyl rubber. natural rubber. neoprene. nitrile rubber. polyurethane. PVC. viton. GIVE LESS RESISTANCE: chloroprene rubber. PVA. GIVE POOR RESISTANCE: No data available.
- Hand protection : Gloves. Wear protective gloves.
- Eye protection : Face shield. In case of dust production: protective goggles. Chemical goggles or safety glasses.
- Skin and body protection : Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing.
- Respiratory protection : Dust production: dust mask with filter type P2. Wear approved mask.
- Other information : When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Crystalline solid.
- Molecular mass : 90.08 g/mol
- Color : White.

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Odor	: Mild odour.
Odor threshold	: 2.5 ppm 9 mg/m ³
pH	: 2.3 (1 %)
pH solution	: 1 %
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 53 °C
Freezing point	: No data available
Boiling point	: 217 °C (3 hPa)
Flash point	: > 110 °C
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 1.2
Density	: 1249 kg/m ³
Solubility	: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in glycerol. Water: Complete Ethanol: Complete Ether: Complete Acetone: Complete
Log Pow	: -0.6 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 20 °C)
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content	: 0 %
Other properties	: Hygroscopic. Slightly volatile. Substance has acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and CO₂ are formed. May polymerize. Reacts violently with (some) acids/bases, (strong) oxidizers and (strong) reducers.

10.2. Chemical stability

Hygroscopic. Unstable on exposure to air. Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
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LACTIC ACID (DL)(88%) SYNTHETIC (f)50-21-5	
LD50 oral rat	3543 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
Skin corrosion/irritation	: Not classified pH: 2.3 (1 %)
Serious eye damage/irritation	: Not classified pH: 2.3 (1 %)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: AFTER INHALATION OF DUST: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
Symptoms/injuries after skin contact	: Tingling/irritation of the skin. AFTER CONTACT WITH WATER: Caustic burns/corrosion of the skin.
Symptoms/injuries after eye contact	: Corrosion of the eye tissue.
Symptoms/injuries after ingestion	: AFTER ABSORPTION OF HIGH QUANTITIES: Nausea. Vomiting. Burns to the gastric/intestinal mucosa.
Chronic symptoms	: No effects known.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Classification concerning the environment: not applicable.
Ecology - air	: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 (48h): 100 - 1000 mg/l). Not harmful to algae (EC50 >1000 mg/l). pH shift. Not harmful to activated sludge.

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LC50 fish 1	320 mg/l (96 h; Brachydanio rerio; Nominal concentration)
EC50 Daphnia 1	250 mg/l (48 h; Daphnia magna; Nominal concentration)
EC50 other aquatic organisms 1	200 mg/l (Protozoa; Other isomer)
Threshold limit algae 1	1.9 g/l (70 h; Selenastrum capricornutum; Growth rate)
Threshold limit algae 2	3.5 g/l (70 h; Selenastrum capricornutum; Growth rate)

12.2. Persistence and degradability

LACTIC ACID (DL)(88%) SYNTHETIC (50-21-5)	
Persistence and degradability	Readily biodegradable in water. Not established.
Biochemical oxygen demand (BOD)	0.45 g O ₂ /g substance
Chemical oxygen demand (COD)	0.9 g O ₂ /g substance
ThOD	1.066 g O ₂ /g substance
BOD (% of ThOD)	0.22 - 0.59 % ThOD

12.3. Bioaccumulative potential

LACTIC ACID (DL)(88%) SYNTHETIC (50-21-5)	
Log Pow	-0.6 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 20 °C)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

12.4. Mobility in soil

No additional information available

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12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove for physico-chemical/biological treatment. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Dispose in a safe manner in accordance with local/national regulations.

Additional information : LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

No dangerous good in sense of transport regulations

Additional information

Other information : No supplementary information available.

ADR

Transport document description : UN 3261, 8, III, (E)
Packing group (ADR) : III
Class (ADR) : 8 - Corrosive substances
Hazard identification number (Kemler No.) : 80
Classification code (ADR) : C4
Danger labels (ADR) : 8 - Corrosive substances



Orange plates : An orange rectangular label with a black border. It is divided into two horizontal sections. The top section contains the number '80' in black, and the bottom section contains the number '3261' in black.

Tunnel restriction code : E

Transport by sea

UN-No. (IMDG) : 3261
Class (IMDG) : 8 - Corrosive substances
EmS-No. (1) : F-A
EmS-No. (2) : S-B

Air transport

UN-No.(IATA) : 3261
Class (IATA) : 8 - Corrosives
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

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15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Met. Corr. 1 H290

Skin Irrit. 2 H315

Eye Dam. 1 H318

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Xi; R41

Xi; R38

Full text of R-phrases: see section 16

15.2.2. National regulations

No additional information available

15.3. US State regulations

No additional information available

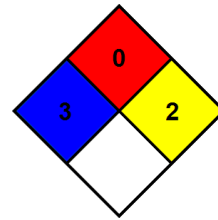
SECTION 16: Other information

Other information : None.

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.



SDS US (GHS HazCom 2012)

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