

Safety data sheet

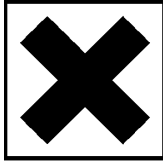
FUTERRO L-LACTIDE

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Product :
PRUB-PLA02

Version (en) nr : 3.00

Revised : 15/10/2009
Supersedes : 26/05/2008



Xi : Irritant

1. Identification of the substance / preparation and of the company / undertaking

Trade name	FUTERRO L-LACTIDE
SDS number	PRUB-PLA02
Chemical name	3,6-dimethyl-1,4-dioxane-2,5-dione
MATERIAL USE	raw material

RESPONSIBLE FOR PLACING ON THE MARKET

Trade name of the firm see below this page.

EMERGENCY NUMBER

FUTERRO : + 32 (0)69 45 22 76
info@futerro.com

Official advisory body

The UK National Poisons Emergency number is 0870 600 6266
(Outside the UK: +44 870 600 6266)
NB: these services are only available to health professionals
IRL: The National Poisons Information Centre
PO Box 1297, Beaumont Hospital, Beaumont Road
Dublin 9.
Telephone: +353 (01) 837 9966 / +353 (01) 809 2568

2. Hazards identification

Main hazards	irritant the product reacts with water. hydrolysis in water produces: lactic acid Corrosive
Symptoms related to use	
Inhalation	fine dust may cause irritation of respiratory system and mucous. exposure to spray, fumes and vapours produced by heated or burned product: irritation of respiratory system.
Skin contact	prolonged or frequent contacts may cause skin irritation. in contact with hot material, may cause severe thermal burns
Eye contact	Irritating to eyes



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Ingestion	Risk of serious damage to eyes , loss of vision : lactic acid
Adverse environmental effects	Risk of irritation of respiratory system May cause gastrointestinal irritation, nausea, vomiting and diarrhoea the product is inherently biodegradable

3. Composition / information on ingredients

chemical name	3,6-dimethyl-1,4-dioxane-2,5-dione
Synonym	L-Lactide
Concentration (%)	> 99 %
CAS number	CAS: 4511-42-6
EINECS or ELINCS number	EINECS: 224-832-0
Symbol(s)	Xi
R Phrase(s)	37/38-41
R Phrase(s) used	some of the components of this preparation are classified following the European directives and have risk phrases (R), but only their code are indicated in this rubric. you may find the full text of them in rubric 16.

4. First-aid measures

IN CASE OF HEAVY OR PERSISTENT DISTURBANCES, CALL A DOCTOR OR SEEK MEDICAL ADVICE URGENTLY

Route of exposure

Inhalation	bring patient into fresh air if necessary, give oxygen if breathing has stopped: administer artificial respiration. seek medical advice.
Skin contact	after contact with skin, wash immediately with plenty of soap and water
Eye contact	flush immediately with plenty of water, holding the eyelids open (> 20') Get medical advice (ophthalmologist)
Ingestion	do not induce vomiting. seek medical advice.

5. Fire - fighting measures

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Technical measures	stop the fire spreading. call the fire brigade immediately. evacuate non-essential personnel
Extinguishing media	
Suitable	for minor fires : carbon dioxide (CO ₂) or powder for more extensive fires : foam. water spray (mist) to cool the surfaces exposed to the fire.
Not to be used	do not use water jets (stick jets) for extinguishing fire since they could help to spread the flames
Special peril	complete combustion, with an excess of oxygen forms: carbon dioxide (CO ₂) and water vapour. partial combustion, forms also: carbon monoxide (CO), soot and cracked products: aldehydes, ketones
Protective equipment for firefighters	wear suitable breathing equipment, in case of risk of exposure to vapour or fumes.

6. Accidental release measures

Personal precautions refer to points 8 and 13	Avoid contact with skin and eyes and inhalation.
After spillage / leakage on soil	recover the spilled product by sweeping or suction; put it in containers to facilitate its disposal. dispose safely in accordance with local or national regulations.
on water	the product is water soluble. refer to a specialist for waste disposal in a safe manner in accordance with local or national regulations.

7. Handling and storage

HANDLING	Avoid contact with skin and eyes and inhalation.
Technical measures	all pneumatic transport equipment must be electrically earthed. avoid dust accumulation by use of filters in the pneumatic transport equipment.
STOCKAGE	
Storage conditions	store at ambient temperature (< 20 °C) store away from heating source. avoid static electricity build up with connection to earth. store in dry, well-ventilated area.

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Incompatible materials

avoid contact with strong oxidizing materials , water

SPECIFIC USE(S)

no information available

refer to point 8

8. Exposure controls / personal protection

Exposure controls

OCCUPATIONAL EXPOSURE LIMIT

respirable dust particles:

US (ACGIH-2007): TLV- 8h TWA: 3 mg/m³

UK: HSE EH40/2005:

Long-term exposure limit (8-hour TWA reference period) : 4 mg/m³
(Respirable Dust)

IRL(2002): OEL (8h): 4 mg/m³ (respirable)

ZA (2006): OEL (8h): 5 mg/m³ (respirable particulate: PNOC)

inhalable dust particles:

US (ACGIH-2007): TLV-8h TWA: 10 mg/m³

UK: HSE EH40/2005:

Long-term exposure limit (8-hour TWA reference period) : 10 mg/m³
(Total Inhalable Dust)

IRL(2002): OEL (8h): 10 mg/m³ (total inhalable)

ZA (2006): OEL (8h): 10 mg/m³ (inhalable particulate: PNOC)

EXPOSURE CONTROLS

Occupational exposure controls

Personal protection

Respiratory protection

in case of risk of overexposure to dust, vapour or fumes (during product processing), it is recommended that a local exhaust system is placed above the conversion equipment (a fume hood) and the working area must be properly ventilated.

wear a suitable anti-dust respirator

recommended filter type : P1

Skin and body protection

where exposure is likely, protective clothing must be worn including gloves

Eye protection

goggles/spectacles

Other personal protection

safety non-slip shoes in areas where spills or leaks can occur.
shower and eye fountain available.

Industrial health measures

avoid contact with skin and eyes.

do not store near food products.

remove all contaminated clothing and remove protective clothing when the work is completed.

Environmental exposure controls

unregulated

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9. Physical and chemical properties

GENERAL INFORMATION

Appearance	crystals
Physical state at 20°C	solid
Colour	white
Odour	odourless

IMPORTANT HEALTH, SAFETY AND ENVIRONMENTAL INFORMATION

Change in physical state at 1013 hPa

Melting point (°C)	98,7
Flash point (ASTM D 1929)(°C)	154
Decomposition point (°C)	no information available
Auto-ignition temperature (°C)	388
Explosion limits (kg/m ³)	no information available
Density, mass at 20°C (kg/m ³)	1340
Solubility in water at 20°C (mg/l)	soluble
pH value (concentrated product)	7
Viscosity (mm ² /s)	not applicable
Molecular weight (kg/kmol)	144

OTHER INFORMATION

no information available

10. Stability and reactivity

Stability	stable under normal operating conditions of storage, handling and use the product reacts with water. hydrolysis in water produces: lactic acid Corrosive
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CONDITIONS TO AVOID

water
avoid contact with strong oxidizing materials
avoid proximity or contact with flames or sparks

HAZARDOUS DECOMPOSITION PRODUCTS

complete combustion, with an excess of oxygen forms: carbon dioxide (CO₂) and water vapour.
partial combustion, forms also: carbon monoxide (CO), soot and

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Hazardous properties

cracked products: aldehydes, ketones
hygroscopic
May polymerize on exposure to temperature rise

11. Toxicological information

ACUTE TOXICITY

Ingestion

in case of ingestion of small quantities, no important effect observed. in case of ingestion of larger amounts: abdominal pain, diarrhoea, ...

Rat, oral LD50 (mg/kg)

> 5

Skin contact

irritant

Rabbit dermal LD50 (mg/kg)

> 2000

LOCAL EFFECT

Inhalation

dust may cause irritation of respiratory system.

Skin contact

may be irritating
thermal decomposition products are produced at elevated temperatures and these may be irritating

Eye contact

Irritating to eyes
fine dust may cause irritation to ocular mucous.
Risk of serious damage to eyes , loss of vision (lactic acid)

SENSITIZATION

Skin contact

following the available information, not regarded as a sensitiser

SPECIFIC EFFECTS

no particular preoccupation for man
(According to available experimental data)

12. Ecological information

Information on ecological effects

avoid losses to the environment whenever possible.

MOBILITY

water / air

the product is water soluble.

soil and sediments

because of its physico-chemical properties, the product has a low soil mobility

PERSISTENCE AND DEGRADABILITY

Biodegradation

the product is inherently biodegradable

BIOACCUMULATIVE POTENTIAL

potential bioaccumulation of the product in environment is very low

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ECOTOXICITY

because of its structure, the product should not be dangerous for aquatic life

13. Disposal considerations

Waste disposal

dispose in a safe manner in accordance with local/national regulations.
authorized disposal
do not dispose off by means of sinks, drains or into the immediate environment

Disposal of contaminated packaging

dispose in a safe manner in accordance with local/national regulations.

14. Transport information

Road (ADR) / Rail (RID)

Not restricted for transport.

UN Number

not applicable

Marine (IMO)

Not restricted for transport.

Air transport (ICAO / IATA)

Not restricted for transport.

15. Regulatory information

Labelling and Classification EC

Classification according to directives 67/548/EEC and 1999/45/EC.

Symbol(s) EC

Xi : Irritant

R Phrase(s)

R 37/38 :Irritating to respiratory system and skin.
R 41 :Risk of serious damage to eyes.

S Phrase(s)

S 24 :Avoid contact with skin.
S 26 :In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 :Wear suitable gloves and eye / face protection.

Germany

Wassergefährdungsklasse

NWG: non-hazardous to waters

Registration

listed on the ASIA-PAC inventory.
listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)- EEC Directive 79/831, sixth Amendment of the directive 67/548 (dangerous substances).
listed on the United States TSCA (Toxic Substances Control Act) inventory
listed on the Japanese ENCS (Existing & New Chemical Substances) inventory.
listed on the Canadian NDSL (Non Domestic Substances List) inventory.

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16. Other information

Training advice	The use of this product requires specific training. The user must receive all product information in order to handle the product safely (personal protection equipment and best practice standards)
Recommended uses	Restricted to professional users
Further information	no information available
R Phrase(s) used	R 37/38 :Irritating to respiratory system and skin. R 41 :Risk of serious damage to eyes.

Safety data sheet conforms to the Regulation (EU) N° 1907/2006

This information applies to the PRODUCT AS SUCH and conforming to specifications of FUTERRO. In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear. The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. However the revision of some data is in progress. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes. The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive. It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product. It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product. (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.

The (*) indicate the changes made with respect to the previous version.