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

**Trade name**
FUTERRO D-LACTIDE

**SDS number**
PRUB-PLA04

**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
Risk of serious damage to eyes,
loss of vision: lactic acid

Ingestion
Risk of irritation of respiratory system
May cause gastrointestinal irritation, nausea, vomiting and diarrhoea

Adverse environmental effects
the product is inherently biodegradable

3. Composition / information on ingredients

chemical name 3,6-dimethyl-1,4-dioxane-2,5-dione
Synonym D-Lactide
Concentration (%) > 99 %
CAS number CAS: 10326-41-7
EINECS or ELINCS number EINECS: 233-713-2
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

Technical measures
stop the fire spreading.
call the fire brigade immediately.
evacuate non-essential personnel
6. Accidental release measures

Personal precautions
Avoid contact with skin and eyes and inhalation.
refer to points 8 and 13

After spillage / leakage
recovery of 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 soil

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.

Incompatible materials
avoid contact with strong oxidizing materials , water

SPECIFIC USE(S)
no information available

refer to point 8

FUTERRO
23 Place d'Escanaffles
B-7760 Escanaffles
BELGIUM
phone : + 32(0)69.45.22.76 - fax : + 32(0)69.45.22.97
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

9. Physical and chemical properties

GENERAL INFORMATION

Appearance crystals
Safety data sheet

FUTERRO D-LACTIDE

Product : PRUB-PLA04
Version (en) nr : 2.00

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/m³) no information available
Density, mass at 20°C (kg/m³) 1340
Solubility in water at 20°C (mg/l) soluble
pH value (concentrated product) 7
Viscosity (mm²/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

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
cracked products: aldehydes, ketones

Hazardous properties

hygroscopic
May polymerize on exposure to temperature rise

11. Toxicological information

ACUTE TOXICITY
## Ingestion

- Rat, oral LD50 (mg/kg): \( > 5 \)
- Skin contact: irritant
- Rabbit dermal LD50 (mg/kg): \( > 2000 \)

### LOCAL EFFECT

#### Inhalation

Dust may cause irritation of the 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 mucus.
- Risk of serious damage to eyes, loss of vision

### 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 the environment is very low.

#### 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 of by means of sinks, drains or into the immediate environment.

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**FUTERRO**

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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.

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

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Safety data sheet

FUTERRO D-LACTIDE

Product : PRUB-PLA04

Version (en) nr : 2.00

R Phrase(s) used

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


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.