

## FUTERRO POLYLACTIC ACID OLIGOMERS



**WARNING :**  
**FOR STACKING**  
**PALLETS, SEE**  
**SECTION 7**

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

Trade name	FUTERRO POLYLACTIC ACID OLIGOMERS
SDS number	PRUB-PLA03
Chemical name	Polylactique acide
<b>MATERIAL USE</b>	raw material ( Pre-polymers )
<b>RESPONSIBLE FOR PLACING ON THE MARKET</b>	
Trade name of the firm	see below this page. Email address: Petrochemicals.felr-sds@total.com ( Safety data sheet )
<b>EMERGENCY NUMBER</b>	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	none to our knowledge low risk for temperatures below 150 °C
Symptoms related to use	
Inhalation	fine dust may cause irritation of respiratory system and mucous. if heated to more than 150°C, the product may form vapours or fumes which may cause irritation of respiratory tract and cause coughing and sensation of shortness of breath.
Skin contact	may be irritating in contact with hot material, may cause severe thermal burns
Eye contact	fine dust may cause irritation to ocular mucous.
Ingestion	in case of ingestion of small quantities, no important effect observed. in case of ingestion of larger amounts: abdominal pain, diarrhoea, ...
Adverse environmental effects	the product is inherently biodegradable
Adverse physicochemical effects	combustible if exposed to flames. flowing product can create electrical charge, resulting sparks may ignite dust or cause an explosion in some concentration ranges.

### 3. Composition / information on ingredients

chemical name	Polylactique acide
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## FUTERRO POLYLACTIC ACID OLIGOMERS

Concentration (%)	> 98 %
CAS number	CAS: 9051-89-2
EINECS or ELINCS number	the product is a polymer, following the European regulation, registration on the EINECS (European Inventory of Existing Commercial Chemical Substances) inventory is not required.
<b>Substances presenting a health hazard</b>	none to our knowledge

### 4. First-aid measures

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

Route of exposure

Inhalation	exposure to spray, fumes and vapours produced by heated or burned product: bring patient into fresh air seek medical advice.
Skin contact	in case of irritation caused by fine dust: wash with copious volumes of water, until the irritation disappears. exposure to splashing of hot product: treat the affected part with cold water (by spraying or immersion). no attempt should be made to detach molten product adhering to the skin or to remove clothing attached with molten material, the injured body part would risk being pulled out; usually the layer detaches itself after a few days.
Eye contact	in case of severe burns, seek hospital treatment in case of irritation caused by fine dust: wash with copious volumes of water, until the irritation disappears. Get medical advice (ophthalmologist) exposure to splashing of hot product: treat the eyes with cold water.
Ingestion	in case of severe burns, seek hospital treatment do not induce vomiting. seek medical advice immediately.

### 5. Fire - fighting measures

Technical measures	stop the fire spreading. call the fire brigade immediately. evacuate non-essential personnel
Extinguishing media	
Suitable	for minor fires : carbon dioxide (CO <sub>2</sub> ) or powder , water 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 exposure hazards	dust may form an explosive mixture with air, ignited by sparks or sources of ignition.
Special peril	complete combustion, with an excess of oxygen forms: carbon dioxide (CO <sub>2</sub> ) and water vapour. partial combustion, forms also: carbon monoxide (CO), soot and cracked products: aldehydes, ketones

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Protective equipment for firefighters

wear suitable breathing equipment, in case of risk of exposure to vapour or fumes.

### 6. Accidental release measures

refer to points 8 and 13

After spillage / leakage  
on soil

granules spilled on the floor can cause a risk of slipping on smooth surfaces.

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

prevent the spilled material from spreading.

the product has a density > 1000 kg/m<sup>3</sup>, it sinks in water.

refer to a specialist for waste disposal in a safe manner in accordance with local or national regulations.

### 7. Handling and storage

#### HANDLING

Technical measures

all pneumatic transport equipment must be electrically earthed.

avoid dust accumulation by use of filters in the pneumatic transport equipment.

#### STORAGE

Storage conditions

store at ambient temperature and at atmospheric pressure in original packaging (plastic or cardboard boxes) or in silo made of appropriate material (aluminium, stainless steel, ...).

do not store near highly flammable materials.

store away from heating source. avoid static electricity build up with connection to earth.

store in dry, well-ventilated area.

Storage of pallets

prolonged storage preferably out of the sun or other sources of radiation

two pallets may be stacked on flooring in sound condition.

however, when the pictorial warning as shown on the top of the safety data sheet is affixed to the pallet, the pallet must never be placed either on top of or below another pallet.

N.B. :here the term pallet includes both the pallet and its load.

when pallets are stored in racks, it should be checked whether the pallet is fit for stacking in the concerned racks

Incompatible materials

avoid contact with strong oxidizing materials , water

#### SPECIFIC USE(S)

refer to point 8

no information available

### 8. Exposure controls / personal protection

Exposure controls

## FUTERRO POLYLACTIC ACID OLIGOMERS

### OCCUPATIONAL EXPOSURE LIMIT

respirable dust particles:  
 US (ACGIH-2007): TLV- 8h TWA: 3 mg/m<sup>3</sup>  
 UK: HSE EH40/2005:  
 Long-term exposure limit (8-hour TWA reference period) : 4 mg/m<sup>3</sup> (Respirable Dust)  
 IRL(2002): OEL (8h): 4 mg/m<sup>3</sup> (respirable)  
 ZA (2006): OEL (8h): 5 mg/m<sup>3</sup> (respirable particulate: PNOC)  
 inhalable dust particles:  
 US (ACGIH-2007): TLV-8h TWA: 10 mg/m<sup>3</sup>  
 UK: HSE EH40/2005:  
 Long-term exposure limit (8-hour TWA reference period) : 10 mg/m<sup>3</sup> (Total Inhalable Dust)  
 IRL(2002): OEL (8h): 10 mg/m<sup>3</sup> (total inhalable)  
 ZA (2006): OEL (8h): 10 mg/m<sup>3</sup> (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 goggles/spectacles

Eye protection

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

pellets from a diameter of 2 to 5 mm

Physical state at 20°C

solid

Colour

transparent , translucent , white opaque

Odour

odourless

### IMPORTANT HEALTH, SAFETY AND ENVIRONMENTAL INFORMATION

Change in physical state at 1013 hPa

Melting range (°C)

20 to 180

Softening point (°C)

55 to 65

Flash point (ASTM D 1929)(°C)

> 250

Decomposition point (°C)

> 220

Auto-ignition temperature (°C)

> 250

Explosion limits (kg/m<sup>3</sup>)

Lower

0.015 ( for polymer dust < 63 µm )

Vapour pressure at 20°C (hPa)

none

**FUTERRO**

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## FUTERRO POLYLACTIC ACID OLIGOMERS

Density, mass at 20°C (kg/m <sup>3</sup> )	1200 to 1300
Solubility in water at 20°C (mg/l)	insoluble
pH value (concentrated product)	not applicable
Viscosity (mm <sup>2</sup> /s)	not applicable
<b>OTHER INFORMATION</b>	no information available

### 10. Stability and reactivity

Stability	stable under normal operating conditions of storage, handling and use
Hazardous reactions	dust may form an explosive mixture with air, ignited by sparks or sources of ignition.
<b>CONDITIONS TO AVOID</b>	avoid contact with strong oxidizing materials , water avoid proximity or contact with flames or sparks it is recommended not to heat at a temperature higher than 230 °C
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	complete combustion, with an excess of oxygen forms: carbon dioxide (CO <sub>2</sub> ) and water vapour. partial combustion, forms also: carbon monoxide (CO), soot and cracked products: aldehydes, ketones
Advice to prevent explosion	avoid dust accumulation by use of filters in the pneumatic transport equipment. thoroughly ventilate the working place. all conductive materials must be electrically earthed.

### 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, ...

#### LOCAL EFFECT

##### Inhalation

dust may cause irritation of respiratory system.  
if heated to more than 150°C, the product may form vapours or fumes which may cause irritation of respiratory tract and cause coughing and sensation of shortness of breath.

##### Skin contact

may be irritating  
in contact with hot material, may cause severe thermal burns  
thermal decomposition products are produced at elevated temperatures and these may be irritating

##### Eye contact

fine dust may cause irritation to ocular mucous.  
splashing of molten droplets causes ocular tissue burns.  
thermal decomposition products are produced at elevated temperatures and these may be irritating

#### SENSITIZATION

##### Skin contact

following the available information, not regarded as a sensitizer

#### 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.
<b>MOBILITY</b>	

## FUTERRO POLYLACTIC ACID OLIGOMERS

water / air  
soil and sediments

there is a slow loss by evaporation  
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

### ECOTOXICITY

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

72 hours-IC50-Algae (mg/l)

> 1100 mg/l

## 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

Symbol(s) EC

Not classified according to EEC directives 67/548/EEC (dangerous substances) and 1999/45/EC (dangerous preparations).

**Germany**

Wassergefährdungsklasse

NWG: non-hazardous to waters

Registration

the product is a polymer, following the European regulation, registration on the EINECS (European Inventory of Existing Commercial Chemical Substances) inventory is not required.

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

listed on the Canadian DSL (Domestic Substances List) inventory.

listed on the Japanese ENCS (Existing & New Chemical Substances) inventory.

listed on the Korean ECL (Existing Chemical List) inventory.

listed on the People's Republic of China register: CRC-SEPA (Chemical Registration Center for Chinese State Environmental Protection Administration)

## 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

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Further information

no information available

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Supersedes : / /

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.