

# SAFETY DATA SHEET FOR CHEMICAL PRODUCTS

## D-lactide

Compiled according to GB/T 16483, GB/T 17519

Version: 3.1

Revision date: 2022/10/11

Initial preparation date: 2016/9/9

### SECTION 1 Chemical product and company identification

<b>Chemical name (Chinese Name)</b>	: D - 丙交酯
<b>Chemical name (English name)</b>	: D-lactide
<b>Name</b>	: D-lactide
<b>Trade name</b>	: Lumilact® D Polymer Grade
<b>IUPAC name</b>	: (3R,6R)-3,6-dimethyl-1,4-dioxane-2,5-dione
<b>Name of company</b>	: TotalEnergies Corbion BV
Title	: Supplier
Address	: The Netherlands Gorinchem Stadhuisplein 70
Zip code	: 4203 NS
Fax	: +31 183 695 600
Tel.	: +31 183 695 695
E-mail	: pla@totalenergies-corbion.com
Emergency number	: +44 1865 407333 (CareChem24) Operating hours 24 hours, 7 days a week
<b>Recommended use</b>	: Polymers

### SECTION 2 Hazards identification

#### Emergency overview


Powder. Flakes. Odourless. Causes serious eye irritation. Treat symptomatically. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Dust explosion hazard in air. When mixed with air and exposed to an ignition source, dust may burn in the open air or explode if confined. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection"

#### GHS classification

Physical hazards	: Flammable solids Not classified : Pyrophoric solids Not classified : Self-heating substances and mixtures Not classified : Oxidizing solids Not classified
Health hazards	: Acute toxicity (Oral) Not classified : Serious eye damage/eye irritation, Category 2
Environmental hazards	: Hazardous to the aquatic environment – Acute hazard Not classified : Hazardous to the aquatic environment – Chronic hazard Not classified

Other hazards not mentioned above are Not applicable or No data is available.

#### Label elements

Hazard pictograms (GHS CN)	: 
Signal word (GHS CN)	: Warning

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Hazard statements (GHS : H319 - Causes serious eye irritation.  
CN)

### Precautionary statements (GHS CN)

Prevention precautionary : P264 - Wash hands, forearms and face thoroughly after  
statements handling.  
P280 - Wear protective gloves/protective clothing/eye  
protection/face protection.

Response Precautionary : P305+P351+P338 - IF IN EYES: Rinse cautiously with water  
Statements for several minutes. Remove contact lenses, if present and  
easy to do. Continue rinsing.  
P337+P313 - If eye irritation persists: Get medical  
advice/attention.

### Physical and chemical hazards

No additional information available

### Health hazards

Causes serious eye irritation

Symptoms/effects after : Burning sensation, Itching, Redness, Tears  
eye contact

Symptoms/effects after : Dust from this product may cause irritation to the respiratory  
inhalation tract

### Environmental hazards

No additional information available

### Other hazards

Warning

Potential dust explosion hazard

Dust may form explosive mixture in air

## SECTION 3 Composition/information on ingredients

Product form : Substance.

Name	CAS-No.	Concentration (Conc. (% w/w))
1,4-Dioxane-2,5-dione, 3,6-dimethyl-, (3R-cis)-	13076-17-0	> 98

## SECTION 4 First aid measures

### Emergency

First-aid measures : Get medical advice/attention if you feel unwell.  
general

First-aid measures after : Remove person to fresh air and keep comfortable for  
inhalation breathing.

First-aid measures after : Wash skin with plenty of water  
skin contact

First-aid measures after : Rinse cautiously with water for several minutes.  
eye contact Remove contact lenses, if present and easy to do. Continue  
rinsing.

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First-aid measures after ingestion : If eye irritation persists: Get medical advice/attention.  
: Rinse mouth.  
: Call a poison center or a doctor if you feel unwell

### Most Important Symptoms/Effects

Burning sensation  
Itching  
Redness  
Tears  
Dust from this product may cause irritation to the respiratory tract

### Personal Protection in First Aid and Measures

For further information refer to section 8: "Exposure controls/personal protection".

### Notes for the doctor

Other medical advice or treatment : Treat symptomatically

## SECTION 5 Fire fighting measures

### Extinguishing media

Suitable extinguishing media : Water spray  
: Dry powder  
: Foam  
Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire

### Special hazard

Hazardous decomposition products in case of fire : Under fire conditions, hazardous fumes will be present: Carbon dioxide, Carbon monoxide  
Explosion hazard : Dust can form an explosive mixture with air

### Advice for firefighters and protective measures

Firefighting instructions : Evacuate personnel to a safe area  
: Use water spray or fog for cooling exposed containers  
: Move containers from fire area if it can be done without personal risk  
: Prevent fire fighting water from entering the environment  
Protection during firefighting : Do not attempt to take action without suitable protective equipment  
: Self-contained breathing apparatus  
: Complete protective clothing

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

General measures : No additional information available  
Personal Precautions, Protective Equipment and Emergency Procedures : No additional information available

### For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment  
Emergency procedures : Ventilate spillage area

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Avoid contact with skin and eyes  
Avoid dust formation  
Do not touch or walk on the spilled product  
Evacuate unnecessary personnel  
Do not breathe dust

### For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment  
For further information refer to section 8: "Exposure controls/personal protection"

**Environmental precautions** : Avoid release to the environment

### Methods and Equipment for Containment and Cleaning up

Methods for cleaning : Shovel or sweep up and put in a closed container for disposal  
Avoid dust formation  
Use non-sparking tools  
Flush contaminated areas with plenty of water  
Never return spills in original containers for possible later re-use

For containment : Stop leak without risks if possible  
Avoid creating or spreading dust

### Prevention Measures for Secondary Accidents

Prevention Measures for Secondary Accidents : No additional information available

Other information : Dispose of materials or solid residues at an authorized site

## SECTION 7 Handling and storage

### Handling

Precautions for safe handling : Ensure good ventilation of the work station  
Avoid contact with skin and eyes  
Wear personal protective equipment  
Handle under inert gas. Protect from moisture.

Hygiene measures : Do not eat, drink or smoke when using this product.  
Always wash hands after handling the product  
Wash contaminated clothing before reuse.  
Avoid contact with skin, eyes and clothing  
Do not breathe dust  
Use good housekeeping practices during storage, transfer, handling, to avoid excessive dust accumulation

Local and general ventilation : No additional information available

Additional hazards when processed : Dust may form flammable and explosive mixture with air

### Storage

Storage conditions : Keep container tightly closed in a cool, well-ventilated place  
Protect from moisture

Material used in packaging/containers : No additional information available

Incompatible materials : Water, humidity.

Storage area : Store according to local legislation

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### SECTION 8 Exposure controls / Personal protection equipment

#### Occupational Exposure Limits

No additional information available

#### Biological limit values

No additional information available

#### Monitoring methods

No additional information available

**Appropriate engineering controls** : Ensure good ventilation of the work station  
Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment.

#### Personal protective equipment

Environmental exposure controls : Avoid release to the environment.

Other information : Handle in accordance with good industrial hygiene and safety procedures  
Do not eat, drink or smoke when using this product.  
Always wash hands after handling the product  
Use good housekeeping practices during storage, transfer, handling, to avoid excessive dust accumulation  
Avoid contact with skin, eyes and clothing  
Wash contaminated clothing before reuse  
Do not breathe dust.

Hand protection : Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Protective gloves.	Butyl rubber.	6 (> 480 minutes).	0.5		EN 374.

Eye protection : Safety glasses with side shields

Type	Field of application	Characteristics	Standard
Safety glasses with side shields.	Dust.		EN 166.

Skin and body protection : Wear suitable protective clothing

Type	Standard
Long sleeved protective clothing.	

Respiratory protection : No respiratory protection needed under normal use conditions  
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

Device	Filter type	Condition	Standard
Dust mask.	(FFP2).	Dust protection.	EN 149.
Half-face mask (DIN EN 140).	Type A/P2.	Vapour protection.	EN 140.

Personal protective equipment symbol(s)

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### SECTION 9 Physical and chemical properties

Physical state	: Solid
Appearance	: Powder. Flakes
Colour	: White
Odour	: Odourless
pH	: No data available
Melting point	: 97 °C
Freezing point	: Not applicable
Boiling point	: 266 °C
Flash point	: 150 °C
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Density	: 1.33 g/cm <sup>3</sup>
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: Not applicable
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Radioactive	: No
Explosive properties	: Dust explosion hazard in air
Dust deflagration index	: 188 bar·m/s
Dust explosion category	: St 1 - Weak explosion

### SECTION 10 Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	: Stable under normal conditions
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use When mixed with air and exposed to an ignition source, dust may burn in the open air or explode if confined
Conditions to avoid	: Protect from moisture. Avoid raising powdered materials into airborne dust, creating an explosion hazard
Incompatible materials	: Water, humidity
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced



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**Other properties** : No additional information available

### SECTION 11 Toxicological information

#### Acute toxicity

Acute toxicity (oral) : Not classified.  
Acute toxicity (dermal) : No data available  
Acute toxicity (inhalation) : No data available

1,4-Dioxane-2,5-dione, 3,6-dimethyl-, (3R-cis)-	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 423 method)
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402 method)
LC50 Inhalation - Rat (Dust/Mist)	> 7.94 mg/l/4h (OECD 403 method)

#### Skin corrosion/irritation

Skin corrosion/irritation : No data available

#### Serious eye damage/irritation

Serious eye damage/irritation : Causes serious eye irritation.

#### Respiratory or skin sensitisation

Respiratory or skin sensitisation : No data available

#### Germ cell mutagenicity

Germ cell mutagenicity : No data available

#### Carcinogenicity

Carcinogenicity : No data available

#### Reproductive toxicity

Reproductive toxicity : No data available

#### STOT-single exposure

STOT-single exposure : No data available

#### STOT-repeated exposure

STOT-repeated exposure : No data available

#### Aspiration hazard

Aspiration hazard : No data available

D-lactide	
Viscosity, kinematic	Not applicable
Density	1.33 g/cm <sup>3</sup>

### SECTION 12 Ecological information

#### Ecotoxicity

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- Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
- Hazardous to the aquatic environment, short-term (acute) : Not classified.
- Hazardous to the aquatic environment, long-term (chronic) : Not classified.

1,4-Dioxane-2,5-dione, 3,6-dimethyl-, (3R-cis)-	
EC50 - Crustacea [1]	130 mg/l (OECD 202 method)
ErC50 algae	2800 mg/l

### Persistence and degradability

1,4-Dioxane-2,5-dione, 3,6-dimethyl-, (3R-cis)-	
Persistence and degradability	Readily biodegradable

### Bioaccumulative potential

1,4-Dioxane-2,5-dione, 3,6-dimethyl-, (3R-cis)-	
Bioaccumulative potential	Bioaccumulation unlikely
Partition coefficient n-octanol/water (Log Pow)	0.4 (OECD 117 method)

### Mobility in soil

1,4-Dioxane-2,5-dione, 3,6-dimethyl-, (3R-cis)-	
Ecology - soil	Bioaccumulation unlikely
Partition coefficient n-octanol/water (Log Pow)	0.4 (OECD 117 method)

### Other adverse effects

- Classification procedure (Ozone) : No data available

### Results of PBT and vPvB assessment

- PBT : This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
- vPvB : This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## SECTION 13 Disposal considerations

- Waste treatment methods** : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Contaminated container and packaging** : No additional information available
- Additional information** : No additional information available
- Product/Packaging disposal recommendations** : Dispose in a safe manner in accordance with local/national regulations  
Do not re-use empty containers without proper cleaning or reconditioning
- Regional legislation (waste)** : Dispose in a safe manner in accordance with local/national regulations



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### SECTION 14 Transport information

Overland transport (JT/T 617)	Transport by sea	Air transport
<b>UN number</b>		
Not regulated	Not regulated	Not regulated
<b>Proper shipping name</b>		
Not regulated	Not regulated	Not regulated
<b>Transport document description</b>		
Not regulated	Not regulated	Not regulated
<b>Transport hazard class(es)</b>		
Not regulated	Not regulated	Not regulated
Not regulated	Not regulated	Not regulated
<b>Packing group</b>		
Not regulated	Not regulated	Not regulated
<b>Environmental hazards</b>		
Not regulated	Not regulated	Not regulated

#### Special transport precautions

Overland transport (JT/T 617)

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

### SECTION 15 Regulatory information

#### Regulations on the Safe Management of Hazardous Chemicals (Decree 591 of the State Council)

**Catalogue of Hazardous Chemicals (2015)** : Contains Hazardous Chemical(s)  
1,4-Dioxane-2,5-dione, 3,6-dimethyl-, (3R-cis)-  
Considered as Hazardous Chemical(s)

### SECTION 16 Other information

#### Abbreviations and acronyms

ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
COD	Chemical oxygen demand (COD)

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DMEL	Derived Minimal Effect level
DOT	Department of Transportation (DOT)
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
EPA	EPA (Environmental Protection Agency)
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
N.O.S.	Not Otherwise Specified

**Training advice** : Training staff on good practice

### Indication of changes

Address

Logo

TotalEnergies Corbion SDS CN (GB/T 17519-2013)

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