

SAFETY DATA SHEET

LYCADEX® PF / DEXTROSE MONOHYDRATE

SECTION 1 : Identification

1.1 Product identifier:

Product name: LYCADEX® PF / DEXTROSE MONOHYDRATE

Chemical name: D-Glucose, Hydrate

CAS-No.: 77938-63-7, 14431-43-7, 50-99-7

EC No.: 616-580-9

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

Identified uses:	Uses advised against:
Food.; Pharmaceuticals.; Industrial.	No data available.

1.3 Details of the supplier of the safety data sheet:

Supplier:

ROQUETTE FRERES
1 Rue de la Haute Loge
62136 LESTREM - France

Telephone: +33 3 21 63 36 00

Fax: +33 3 21 63 38 50

E-mail: sds@roquette.com

1.4 Emergency telephone number:

World directory of poisons centres : http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

The product has not been classified as dangerous according to GHS.

2.2 Label elements: Not applicable

2.3 Other hazards: May form explosible dust-air mixture if dispersed in the air

SECTION 3: Composition/information on ingredients

3.1 Substance:

Chemical name	Concentration	CAS-No.
D-Glucose, Hydrate	>=91%	77938-63-7, 14431-43-7, 50-99-7

SECTION 4: First aid measures

4.1 Description of first aid measures:

Inhalation: Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Eye contact: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Skin contact:	Wash with soap and water.
Ingestion:	Product not hazardous when ingested.
4.2 Most important symptoms and effects, both acute and delayed:	Dust may irritate the eyes and the respiratory system.
4.3 Indication of any immediate medical attention and special treatment needed:	
Treatment:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:	Water spray.
Unsuitable extinguishing media:	Dry chemicals or foams.

5.2 Special hazards arising from the substance or mixture:	Fire or excessive heat may produce hazardous decomposition products. Combustible dusts : may form an explosible mixture in the air. See Section 10.
---	--

5.3 Advice for firefighters:

Special Fire Fighting Procedures:	Prevent dust cloud.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment.
6.2 Environmental precautions:	Not regarded as dangerous for the environment.
6.3 Methods and material for containment and cleaning up:	Remove material, as much as possible, using mechanical equipment. Prevent dust cloud. Collect and dispose of spillage as indicated in section 13 of the SDS.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	See Section 8 of the SDS for Personal Protective Equipment.
7.2 Conditions for safe storage, including any incompatibilities:	Avoid contact with oxidizing agents. Store in a dry place. Store at room temperature.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

Occupational exposure limits:

This product does not contain any components >1% with specific occupational exposure limits.

8.2 Appropriate engineering controls:

Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust.

8.3 Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear dust-proof safety goggles where there is a risk of eyes contact.

Skin protection:

Hand Protection: No specific precautions.

Other: Wear suitable protective clothing.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter (type P1).

Hygiene measures: Handle the product in accordance with the good hygiene practices and safety instructions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical State:	solid
Form:	Powder
Color:	White
Odor:	Odorless
pH:	~ 4,3 at 50 % w/w in water
Melting Point:	~ 83 °C
Boiling Point:	Not Applicable
Flash Point:	Not Applicable
Vapor pressure:	Not Applicable
Vapor density (air=1):	Not Applicable
Relative density:	~ 0,63
Solubility in Water:	~ 1 000 g/l at 20 °C
Partition coefficient (n-octanol/water):	-3,24 - Literature Reference -

Explosive properties: - INERIS -

Ignition Temperature:	~ 420 °C (EN 50281-2-1 / ASTM E1491) ~ 320 °C product in deposit.
MIE (Minimum Ignition Energy):	> 1 200 mJ (EN 13821 / ASTM E2019, Without Inductance) Very insensitive to the risk of inflammation by an electrostatic discharge.
dP/dtmax (Maximum Rate of explosion Pressure rise):	~ 270 bar/s (EN 14034-2 / ASTM E1226)
Pmax (Maximum Explosion OverPressure) ±10%:	~ 2,7 bar (EN 14034-1 / ASTM E1226)
Kst value (±20%):	~ 73 barm/s (EN 14034-2 / ASTM E1226)
Dust Explosion Class:	st 1 (VDI 3673)
Volume resistivity:	> 10 ⁹ Ω.m (IEC 61241-2-2 / Group IIIB non-conductive dust.)
Moisture:	~ 8,5 % (ISO 589)
Mv (Median value):	~ 143 µm (ISO 13320)
Other Data:	BZ (Combustion class) : 2 (VDI 2263-1) MEC (Minimum Explosible Concentration) : 30-60 g/m3 (EN 14034-3 / ASTM E1515)

9.2 Other information:

Conductivity: ~ 1,3 µS/cm (at 50%)

The data reported in this section does not take the place of specifications.

SECTION 10: Stability and reactivity

10.1 Reactivity:	Strong oxidizing agents.
10.2 Chemical stability:	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions:	No hazardous reactions under ordinary conditions of use and storage.
10.4 Conditions to avoid:	Prevent dust cloud. Dust clouds may be explosive under certain conditions. Avoid dust close to ignition sources.
10.5 Incompatible materials:	Strong oxidizing substances.
10.6 Hazardous decomposition products:	Carbon Monoxide. Carbon Dioxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects:
Acute toxicity :

Test / Substance	Species	Type / Result	Exposure	Remarks
OECD 423 Similar substance	Mouse	LD50 - Oral >2000mg/kg Not classified		- Literature Reference -

Skin irritation :

Test / Substance	Species	Result	Exposure	Remarks
OECD 431 Similar substance	Human	In vitro Not Irritating	1 h	- Literature Reference -

Serious eye irritation :

Test / Substance	Species	Result	Exposure	Remarks
OECD 437 Similar substance	Bovine cornea.	Not Irritating	4 h	- Literature Reference -
OECD 405 Similar substance	Rabbit	Not Irritating	72 h	- Literature Reference -

Sensitization :

Test / Substance	Type	Species	Result	Remarks
OECD 429 Similar substance	In vivo	Mouse	Non-Sensitising	- Literature Reference -

Repeated dose toxicity :

Test / Substance	Species	Result	Exposure	Remarks
OECD 453 Similar substance	Rat	No treatment related effects.	52 Week(s).	- Literature Reference -

Mutagenesis :

Test / Substance	Type	Species	Result	Remarks
OECD 473 Similar substance	In vitro	Hamster	Negative	
OECD 471 (Ames) Similar substance	In vitro	S. typhimurium	Negative	
OECD 474 Similar substance	In vivo	Mouse	Negative	

Carcinogenicity :

Test / Substance	Species	Route of Exposure / Exposure	Result	Remarks
OECD 453 Similar substance	Rat	Oral 2 Year(s)	No treatment related effects.	- Literature Reference -

Reproductive toxicity :

Test / Substance	Species	Route of Exposure / Exposure	Result	Remarks
OECD 416 Similar substance	Rat	Oral 12 Week(s).	No treatment related effects.	
OECD 414 Similar substance	Hamster	Oral 14 day(s)	No treatment related effects. NOAEL : 1 200 mg/kg	- Literature Reference -

SECTION 12: Ecological information

12.1 Toxicity:

Acute toxicity:

Test / Substance	Species	Type/Result	Exposure	Remarks
OECD 203 Similar substance	Common Carp	LC50 : > 100 mg/l Not classified	96 h	- Literature Reference -
OECD 202 Similar substance	Daphnia magna	LC50 : > 100 mg/l Not classified	48 h	- Literature Reference -
OECD 201 Similar substance	Pseudokirchneriella subcapitata	LC50 : > 100 mg/l Not classified	72 h	- Literature Reference -

Chronic Toxicity: No data available.

12.2 Persistence and degradability:

Test / Substance	Result	Remarks
OECD 301b Similar substance	73 - 81 % / 28 d The product is readily biodegradable.	- Literature Reference -

12.3 Bioaccumulative potential:

Test / Substance	Log Pow (n-Octanol/Water Partition Coefficient)	Bioconcentration Factor (BCF) / Bioaccumulation	Remarks
Glucose	-3,24	~ 3	Potential to bioaccumulate is low.

12.4 Mobility in soil:

Test / Substance	Medium	Organic Carbon Partition Coefficient (Koc)	Remarks
QSAR Glucose		~ 10	This material is readily biodegraded and is not likely to bioconcentrate.

12.5 Other adverse effects: None known.

SECTION 13: Disposal considerations

13.1 Disposal methods:

Product: Dispose of waste in an appropriate authorized treatment facility in accordance with regulations in force and product characteristics at time of disposal.

Packaging material: Single use packaging. Collect for salvage or disposal.

SECTION 14: Transport information

14.1 - 14.4 This material is not subject to transport regulations (IMDG, ICAO/IATA, ADR/RID, ADN).

14.5 Environmental hazards: Not regulated.

14.6 Special precautions for user: No special precautions.

14.7 Maritime transport in bulk according to IMO instruments: Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

International Inventories :

Australia. Inventory of Chemical Substances (AICS):	Listed.
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL):	Listed.
China. Inventory of Existing Chemical Substances (IECSC):	Listed.
EU. European Inventory of Existing Commercial Chemical Substances (EINECS):	Listed.
Japan. Inventory of Existing & New Chemical Substances (ENCS):	Listed.
Japan. Industrial Safety & Health Law (ISHL):	Listed.
Korea. Existing Chemicals Inventory (KECI):	Listed.
Mexico. National Inventory of Chemical Substances (INSQ):	Listed.
New Zealand. Inventory of Chemicals (NZIoC):	Listed.
Philippines. Inventory of Chemicals and Chemical Substances (PICCS):	Listed.
Taiwan. Existing Chemicals Inventory (TCSI):	Listed.
US. Toxic Substances Control Act (TSCA):	Listed.
Vietnam. National Chemical Inventory:	Listed.

This Safety Data Sheet is in conformity with appendix 4 of the GHS (Globally Harmonised System of Classification and Labelling of Chemicals).

SECTION 16: Other information

Revision Information: Not relevant.

Key literature references and sources for data: ECHA registered substances database.
HSDB Database.

Other information: Updated version of this document is available at :<https://www.roquette.com/site-search#documents>

Abbreviations and acronyms used in the SDS.:

LC50 : lethal concentration 50%

LD50: lethal dose 50%

NOAEL : No Observed Adverse Effect Level

CAS: Chemical Abstracts Service (division of the American Chemical Society)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

Disclaimer:

The information provided in this Safety Data Sheet (SDS) relates only to the specific product designated and may not be applicable when such product is used in combination with other materials or in any process. It is the responsibility of the user to be aware of and to follow the regulations applying to our product for its possession, handling and use.

The information given is designed only as a guidance and is not to be considered a warranty or quality specification.

All information and instructions provided in this SDS are based on the current state of our knowledge at the latest revision date indicated.