

SAFETY DATA SHEET

KLEPTOSE® / BETA CYCLODEXTRINE

SECTION 1 : Identification

1.1 Product identifier:

Product name: KLEPTOSE® / BETA CYCLODEXTRINE - E459

Synonyms: Betadex is a nonreducing cyclic compound composed of seven alpha-(1-4)linked D-glucopyranosyl units.

Chemical name: Cycloheptapentylose

CAS-No.: 7585-39-9

EC No.: 231-493-2

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

Identified uses:	Uses advised against:
Formulation and Packaging.; Intermediate.; Fabrics, textiles and apparel.; Paper treatment.; Paint; Chemical Additive; Food.; Pharmaceuticals.; Processing aid.	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: Dust may form an explosive mixture in the atmosphere.

SECTION 3: Composition/information on ingredients

3.1 Substance:

Chemical name	Concentration	CAS-No.
Cycloheptapentylose	>84%	7585-39-9

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. If irritation occurs, get medical assistance.
Skin contact:	Wash with soap and water. Get medical attention if symptoms occur.
Ingestion:	Drink plenty of water. Do not induce vomiting. Get medical attention if symptoms occur.

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.
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SECTION 5: Firefighting measures

5.1 Extinguishing media:

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

5.2 Special hazards arising from the substance or mixture: Fire or excessive heat may produce hazardous decomposition products. Dust may form an explosive mixture in the atmosphere. See Section 10.

5.3 Advice for firefighters:

Special Fire Fighting Procedures:	Prevent dust cloud. Do not use water jet as an extinguisher, as this will spread the fire.
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:

Static electricity and formation of sparks must be prevented. See Section 8 of the SDS for Personal Protective Equipment.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a dry place. Store at room temperature. Store in original tightly closed container. Avoid conditions which create dust.

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:

Ventilate as needed to control airborne dust. Use explosion-proof ventilation equipment if airborne dust levels are high.

8.3 Individual protection measures, such as personal protective equipment:**Eye/face protection:**

Wear dust-resistant safety glasses where there is danger of eye contact. (EN 166)

Skin protection:**Hand Protection:**

Rubber gloves are recommended.

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). (EN 143)

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
Water, moisture:	~ 11 %
Color:	White
Odor:	Odorless
pH:	~ 5,4 at 1 %
Melting Point:	Not detectable (EU.A1) No data available.
Boiling Point:	Not Applicable
Flash Point:	Not Applicable
Flammability (solid, gas):	No. (EU.A10)
Vapor pressure:	Not Applicable
Vapor density (air=1):	Not Applicable
Relative density:	~ 0,67
Solubility in Water:	~ 18 g/l at 20 °C

Partition coefficient (n-octanol/water):	-9,06 (Calculated)
Decomposition Temperature:	~ 290 °C
Explosive properties: - CHILWORTH -Data from similar product.	
(*) : measured value	
Ignition Temperature:	~ 420 °C (EN 50281-2-1) MIT in Cloud. > 400 °C (EN 50281-2-1) 5 mm layer (Glowing Temperature).
MIE (Minimum Ignition Energy):	100 - 200 mJ (EN 13821 (Without Inductance, <63 µm).) Sensitive to ignition by an electrostatic phenomenon.
dP/dtmax (Maximum Rate of explosion Pressure rise):	~ 397 bar/s (EN 14034-2)
Pmax (Maximum Explosion OverPressure) ±10%:	~ 8,1 bar (EN 14034-1)
Kst value (±20%):	~ 108 barm/s (EN 14034-2)
Dust Explosion Class:	st 1 (VDI 3673)
Volume resistivity:	> 10 ⁹ Ω.m (IEC 61241-2-2 / Group IIIB non-conductive dust.)
Moisture:	~ 9,63 % (ISO 589)
Particle characteristics:	~ 6,73 µm (NFX 11-666)
Other Data:	LEL (Lower Explosion limit) : 30-60 g/m3

9.2 Other information:

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

SECTION 10: Stability and reactivity

10.1 Reactivity:	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 Dioxide. Carbon Monoxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

Acute toxicity :

Test / Substance	Species	Type / Result	Exposure	Remarks
OECD 401	Rat	LD50 - Oral >5000mg/kg Not classified	24 h	- REACH data -
OECD 402	Rat	LD50 - Dermal >2000mg/kg Not classified	24 h	- REACH data -
OECD 403	Rat	LC50 - Inhalation > 4,9 mg/l Not classified	4 h	- REACH data -
OECD 401	Mouse	LD50 - Oral >3000mg/kg Not classified	24 h	- REACH data -

Skin irritation. :

Test / Substance	Species	Result	Exposure	Remarks
OECD 404	Rabbit	Not Irritating	24 h	- REACH data -

Serious eye irritation :

Test / Substance	Species	Result	Exposure	Remarks
OECD 405	Rabbit	Not Irritating	48 h	- REACH data -
OECD 405	Rabbit	Slightly irritating.	168 h	- REACH data -

Sensitization :

Test / Substance	Type	Species	Result	Remarks
OECD 406	In vivo	Guinea Pig	Non-Sensitising	- REACH data -

Repeated dose toxicity :

Test / Substance	Species	Result	Exposure	Remarks
OECD 408	Rat	NOAEL - > 600 mg/kg Negative	13 Week(s).	- REACH data -
OECD 452	Rat	NOAEL - > 600 mg/kg Negative	26 Week(s).	- REACH data -

Mutagenesis :

Test / Substance	Type	Species	Result	Remarks
OECD 473	In vitro	Human lymphocytes.	Negative	- REACH data -
OECD 471 (Ames)	In vitro	S. typhimurium	Negative	- REACH data -
OECD 476	In vitro	Fibroblasts.	Negative	- REACH data -
OECD 474	In vivo	Mouse	Negative	- REACH data -

Carcinogenicity :

Test / Substance	Species	Route of Exposure / Exposure	Result	Remarks
OECD 451	Rat	Oral 130 Week(s).	Negative	- REACH data -

Reproductive toxicity :

Test / Substance	Species	Route of Exposure / Exposure	Result	Remarks
OECD 416	Rat	Oral	Negative	- REACH data -
OECD 414	Rat	Oral 7 - 16 day(s)	Negative NOAEL : 600 mg/kg	- REACH data -

SECTION 12: Ecological information

12.1 Toxicity:

Acute toxicity:

Test / Substance	Species	Type/Result	Exposure	Remarks
OECD 203	Common Carp	LC50 : 7561 mg/l Not classified	96 h	- REACH data -
OECD 202	Daphnia magna	LC50 : > 100 mg/l Not classified	48 h	- REACH data -
OECD 201	Desmodesmus subspicatus	LC50 : > 100 mg/l Not classified	72 h	- REACH data -
Other Guideline.	Pseudomonas putida	EC50 : > 10 000 mg/l Not classified	16 h	- REACH data -

Chronic Toxicity: No data available.

12.2 Persistence and degradability:

Test / Substance	Result	Remarks
OECD 301f	75 % / 28 d The product is readily biodegradable.	- REACH data -

12.3 Bioaccumulative potential: The product is not bioaccumulating.

12.4 Mobility in soil:

Test / Substance	Medium	Organic Carbon Partition Coefficient (Koc)	Remarks
Scientific evaluation.		(Log : -9,45)	This material is readily biodegraded and is not likely to bioconcentrate. - REACH data -

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

	ADR/RID	IATA	IMDG	ADN
14.1 UN number:				
14.2 UN proper shipping name:				
14.3 Transport hazard class(es):				
14.4 Packing group:				
Other information:	NC	NC	NC	NC

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.
Thailand. Existing Chemicals Inventory from FDA (TECI):	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:

REACH registration dossier:
<https://echa.europa.eu/en/registration-dossier/-/registered-dossier/1942>

Other information:

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

Abbreviations and acronyms used in the SDS.:

CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50 : lethal concentration 50%
EC50 : The effective concentration of substance that causes 50% of the maximum response.
LD50: lethal dose 50%
NOEL : No Observable Effect Level
NOAEL : No Observed Adverse Effect Level
OECD : Organisation for Economic Cooperation and Development
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.