

## SAFETY DATA SHEET Lycagel™ VS 720.

### SECTION 1 : Identification

#### 1.1 Product identifier:

**Product name:** Lycagel™ VS 720.  
**Chemical name:** Hydroxypropyl starch  
**CAS-No.:** 9049-76-7  
**INCI Name:** HYDROXYPROPYL STARCH

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

Identified uses:	Uses advised against:
Pharmaceuticals.Human nutrition	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\\_text/en/](http://www.who.int/gho/phe/chemical_safety/poisons_centres_text/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.
Hydroxypropyl starch	>=85%	9049-76-7

### 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:** 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.

## 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:** Avoid release to 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:** Avoid generation and spreading of dust. See Section 8 of the SDS for Personal Protective Equipment.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep containers tightly closed. Store in original container.

## 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:

<b>Eye/face protection:</b>	Wear dust-resistant safety glasses where there is danger of eye contact. (EN 166)
<b>Skin protection:</b>	
<b>Hand Protection:</b>	Wear gloves are recommended for prolonged use.
<b>Other:</b>	Wear suitable protective clothing.
<b>Respiratory Protection:</b>	In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter (type P1). (EN 143)
<b>Hygiene measures:</b>	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:

<b>Physical State:</b>	solid
<b>Form:</b>	Powder
<b>Color:</b>	Off-white
<b>Odor:</b>	Odorless
<b>pH:</b>	4.5 - 8 at 20 %
<b>Melting Point:</b>	No data available.
<b>Boiling Point:</b>	Not Applicable
<b>Flash Point:</b>	Not Applicable
<b>Vapor pressure:</b>	Not Applicable
<b>Vapor density (air=1):</b>	Not Applicable
<b>Relative density:</b>	~ 0.5 - 0.6
<b>Solubility in Water:</b>	Insoluble in water at 20 °C

**Explosive properties:** - INERIS -Data from similar product.

<b>Ignition Temperature:</b>	~ 440 °C (Godbert-Greenwald) MIT in Cloud. ~ 321 °C product in deposit. > 400 °C 5 mm layer (Glowing Temperature).
<b>MIE (Minimum Ignition Energy):</b>	> 1,000 mJ (Hartmann) Very low sensitivity to ignition by an electrostatic phenomenon.
<b>dP/dtmax (Maximum Rate of explosion Pressure rise):</b>	~ 91 bar/s (EN 14034-2)
<b>Pmax (Maximum Explosion OverPressure) ±10%:</b>	~ 5.4 bar (EN 14034-1)
<b>Kst value (±20%):</b>	~ 25 barm/s (EN 14034-2)
<b>Dust Explosion Class:</b>	st 1 (VDI 3673)
<b>Volume resistivity:</b>	> 10 <sup>9</sup> Ω.m (IEC 61241-2-2 / Group IIIB non-conductive dust.)
<b>Moisture:</b>	~ 6.7 % (ISO 589)
<b>Mv (Median value):</b>	~ 270 µm (NFX 11-666)
<b>Other Data:</b>	LEL (Lower Explosion limit) : 30-60 g/m3

## 9.2 Other information:

## SECTION 10: Stability and reactivity

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

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects:

#### Acute toxicity :

Test / Substance	Species	Type / Result	Exposure	Remarks
Hydroxypropyl starch	Rat	LD50 - Oral >10000mg/kg Not classified		- Literature Reference -

**Skin irritation. :** No data available.

**Serious eye irritation :** No data available.

**Sensitization :** No data available.

#### Repeated dose toxicity :

Test / Substance	Species	Result	Exposure	Remarks
Hydroxypropyl starch	Rat	No treatment related effects.	90 day(s)	- Literature Reference -

**Mutagenesis:** No data available.

**Carcinogenicity:** No data available.

**Reproductive toxicity:** No data available.

**Remarks:** The ingredients of this product are not classified as carcinogenic by the ACGIH, the CIRC, the OSHA or the NTP.

## SECTION 12: Ecological information

There are no data on the ecotoxicity of this product.

**12.1 Toxicity:** No data available.

**12.2 Persistence and degradability:** No data available.

**12.3 Bioaccumulative potential:** No data available.

**12.4 Mobility in soil:** No data available.

**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. (for example, energy recovery).

**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 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** 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):	Exempted

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:** No data available.

### Abbreviations and acronyms used in the SDS.:

LD50: lethal dose 50%

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.