

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Trade name : Cationic Pregelatinised Starch

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

Use of the substance/mixture : Product for water treatments

1.3. Details of the supplier of the safety data sheet

ALQUERA CIENCIA SL
C/ Vilar de Donas 9
28050 Madrid (Spain)
Tel. +34 620 88 75 97
info@alquera.com

1.4. Emergency telephone number

Emergency number : +34 620 88 7597
9:00-13:00 h 15:00-17:00 h (GMT + 1)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

No labelling applicable

2.3. Other hazards

Other hazards which do not result in classification : Spills will produce extremely slippery surfaces in case of contact with water.

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

Comments : Cationic pregelatinised starch (CAS 56780-58-6)
This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH Annex II

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Do not perform any action that poses a risk if proper training is not held. Use the personal protective equipment necessary in the circumstances prevailing in the place of intervention.
First-aid measures after inhalation	: In case of trouble go to the open air.
First-aid measures after skin contact	: Flush with plenty of water and soap.
First-aid measures after eye contact	: Rinse thoroughly with plenty of water, also under eyelids, at least for 15 minutes. Get medical assistance. It is necessary having a safety shower in the work area.
First-aid measures after ingestion	: Do not induce vomiting. Rinse mouth. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: No acute effects are expected, except for an allergic reaction to any of the individual product ingredients.
Symptoms/effects after inhalation	: None expected.
Symptoms/effects after skin contact	: None expected.
Symptoms/effects after eye contact	: None expected.
Symptoms/effects after ingestion	: Gastrointestinal discomfort. Repeated ingestion of the product is considered highly unlikely route of exposure if working in adequate sanitary and hygiene conditions.
Symptoms/effects upon intravenous administration	: Likely routes of exposure: skin and eye.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Any ingredient in significant proportion according to the criteria laid down in Regulation 1272/2008 is mentioned in paragraph 3.2 of this Safety Data Sheet.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water. Water spray, dry powder, carbon dioxide (CO ₂), foam.
Unsuitable extinguishing media	: None.

5.2. Special hazards arising from the substance or mixture

Explosion hazard	: Dust may form explosive mixture in air. This product is an ST-1 explosion class dust at normal humidity levels. EMI > 30 mJ (at normal humidity levels). Pmax: 9.5 bar. Kst 195 bar m/s.
Hazardous decomposition products in case of fire	: Under fire conditions thermal decomposition may produce carbon oxides (COx).

5.3. Advice for firefighters

Precautionary measures fire	: Fight fire with normal precautions from a reasonable distance.
Protection during firefighting	: Use self-contained breathing apparatus and chemically protective clothing.
Other information	: In contact with water, the products forms slippery surfaces.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Do not step on the spill and avoid contact with water. The affected area, in contact with water, will become extremely slippery. Do not breathe dust. Avoid dust formation.
For non-emergency personnel	
Protective equipment	: Use personal protective equipment. Keep away from people without protection. Slipping hazard if spilled load. Avoid contact with eyes and skin. Do not breathe vapors or spray mist. Personal protective equipment, see section 8.
Emergency procedures	: Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

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For emergency responders

Protective equipment : Wear recommended personal protective equipment.

6.2. Environmental precautions

Avoid the ground to be contaminated, natural water courses and wastewater drainage. If contamination occurs inform the corresponding authorities immediately.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak without risks if possible.
Methods for cleaning up : Clean up with a shovel and then with a brush and dustpan, avoid any rest of the product to remain in the spill area. Finally flush with pressured water and check the cleaning operation efficiency, otherwise the affected area will become extremely slippery.

6.4. Reference to other sections

See Section 8 to have information related to most appropriate personal protection equipment.
See Section 13 to have information related to waste management.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid dust formation. Use local exhaust if dusting occurs. We recommend handling the product in a well ventilated area. Ensure you have a safety shower and eye wash fountain available.
Handling temperature : 5 – 30 °C
Hygiene measures : Use normal personal hygiene and housekeeping measures when handling any chemical product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in cool, dry, ventilated places, away from the sun, heat and sources of ignition. Avoid temperatures below 0°C and above 40°C Keep the product in its original containers tightly closed and away from incompatible material. Avoid static discharges.
Incompatible products : As a general rule we recommend avoiding the contact with strong chemical reagents, such as acids, bases, reductors and oxidizers.
Storage temperature : 0 – 40 °C
Heat and ignition sources : Keep away from ignition sources.

7.3. Specific end use(s)

For all the expected uses of the product the indications given above are considered appropriate.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Use local exhaust systems if dusty atmospheres occur, otherwise general ventilation is sufficient.

Personal protection equipment

Eye and face protection

Eye protection			
Type	Field of application	Characteristics	Standard
Safety glasses		With side shields	EN 166

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Skin protection

Skin and body protection:

Use your standard work clothes. In case of long contact with the product and risk of splash of its dissolutions use full waterproof suit

Hand protection:

Use latex gloves, or natural rubber gloves

Respiratory protection

Respiratory protection:

Use a complete face filter mask (mouth, nose and eyes) with a filter for particles

Environmental exposure controls

Environmental exposure controls:

Avoid spills that contaminate the underground, surface water streams and sewer system.

Consumer exposure controls:

Wash your hands and anybody area that has resulted exposed to the product before drinking, eating, using the services and end of the work period.

Do not eat, drink or smoke during use.

Other information:

You should always have a safety shower and eyewash in the area where the product is handled. Be aware of your exposure to products used in your workplace and act responsibly to avoid contaminating other areas. Try to develop good health habits, check with your company responsible for help.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Yellowish white.
Appearance	: White-yellowish flake solid.
Molecular mass	: Low molecular weight.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: 400 – 450 °C
Auto-ignition temperature	: Not self-igniting
Decomposition temperature	: Not available
pH	: 7 – 9 (4% solution)
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: 300 – 1200 cP (4% solution)
Solubility	: Water soluble. Solution concentration will be limited by its own viscosity.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: $\approx 0.3 \text{ g/cm}^3$
Relative density	: Not available
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product has no hazardous reactivity beyond that specified in paragraph 10.5.

10.2. Chemical stability

Stable under normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known.

10.4. Conditions to avoid

None for safety reasons. For keeping the original properties of the product follow the recommendations given in Section 7.

10.5. Incompatible materials

Strong oxidizers may cause exothermic reactions. Strong acids. Strong bases. As a general rule we recommend avoiding the contact with strong chemical reagents, such as acids, bases, reductors and oxidizers.

10.6. Hazardous decomposition products

Thermal decomposition products (in case of fire) are indicated in Section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: No data available.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Additional information	: The product is not toxic, however it is a non-food product and ingestion should be avoided.

Cationic Pregelatinised Starch	
LD50 oral rat	6600 mg/kg (Published data)
LD50 dermal rat	Not available.
LC50 Inhalation - Rat	Not tested.

Skin corrosion/irritation	: Causes mild skin irritation. Exposure: 300 µg intermittently for 72 h. pH: 7 – 9 (4% solution)
Serious eye damage/irritation	: No data available. pH: 7 – 9 (4% solution)
Respiratory or skin sensitisation	: No data available. This product is not expected to be sensitizing.
Germ cell mutagenicity	: No data available. The product does not contain any components in a concentration equal to or greater than 0.1% that have been found to be mutagenic.
Carcinogenicity	: Classification A4 (Not classified as a human carcinogen) by ACGIH. Classified Group 3 (cannot be classified as carcinogenic to humans) by IARC.
Reproductive toxicity	: No information available. The product does not contain any components in a concentration equal to or greater than 0.1% that have been found to be toxic to reproductive function.
STOT-single exposure	: No information available
STOT-repeated exposure	: No information available
Aspiration hazard	: No aspiration hazard is expected in normal use.

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties	: No data available
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Other information

- Potential adverse human health effects and symptoms : No symptoms expected if the product is properly handled, No effects whatsoever related to exposure to the product are known, Through our experience and according to the information available, the product is not harmful to health if handled correctly according to the recommendations given.
- Other information : The most likely routes of exposure are skin and/or eye contact.

SECTION 12: Ecological information

12.1. Toxicity

- Hazardous to the aquatic environment, short-term (acute) : No data available.
- Hazardous to the aquatic environment, long-term (chronic) : No data available.

Cationic Pregelatinised Starch	
LC50 - Fish [1]	No data available.
EC50 - Crustacea [1]	No data available.
EC50 72h - Algae [1]	No data available.

12.2. Persistence and degradability

Cationic Pregelatinised Starch	
Persistence and degradability	Readily biodegradable based on the degree of starch substitution ($DS \leq 0.1$). . Studies carried out in aquatic environment (ISO 14851 / OECD 301 F) and terrestrial environment, "Compost" (ISO 14855-1).
Biochemical oxygen demand (BOD)	$\approx 0.7 \text{ g O}_2/\text{g substance}$
Chemical oxygen demand (COD)	$\approx 1.1 \text{ g O}_2/\text{g substance}$

12.3. Bioaccumulative potential

Cationic Pregelatinised Starch	
Bioaccumulative potential	The product is not expected to bioaccumulate.

12.4. Mobility in soil

Cationic Pregelatinised Starch	
Ecology - soil	No information available.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

- Adverse effects on the environment caused by endocrine disrupting properties : No data available.

12.7. Other adverse effects

- Other adverse effects : Do not allow product to enter ground water, surface water or sewers. Damage to the ecosystem due to pH changes. After neutralisation and dilution, no losses are expected.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: If this product must be disposed as a waste the final user must do it accordingly with the European, national and local regulations. Use only authorised companies. Dispose of contents/container in accordance with licensed collector's sorting instructions. Furthermore, the user must consider the possible national/local regulations.
Additional information	: Keep the same recommendations provided in Sections 7 and 8 of this MSDS.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: Not applicable
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IMDG

Transport hazard class(es) (IMDG)	: Not applicable
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IATA

Transport hazard class(es) (IATA)	: Not applicable
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ADN

Transport hazard class(es) (ADN)	: Not applicable
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RID

Transport hazard class(es) (RID)	: Not applicable
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14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

14.5. Environmental hazards

Other information	: No supplementary information available
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14.6. Special precautions for user

Overland transport

Not applicable

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Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

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

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes		
Section	Changed item	Comments
	Revision date	Modified
	Supersedes	Modified
	Issue date	Modified

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Indication of changes		
Section	Changed item	Comments
1.1	Name	Added
1.1	Trade name	Modified
9	Appearance	Modified

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.