

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

- Trade name NATERNAL C 14 S
- CAS-No. 65497-29-2

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance/Mixture**

- Thickener for cosmetic formulations

Remarks

- This product may rapidly contribute towards a highly hazardous environment within a confined space (e.g. Within ISO tanks, reactors, silos, etc.).
- Risk assessments should be conducted prior to handling this product / material.

1.3 Details of the supplier of the safety data sheet**Company**

Solvay (Zhangjiagang) Specialty Chemicals Co., Ltd.
68 Fengnan Road, Fenghuang Town, Zhangjiagang, Jiangsu Province, China, 215613
TEL: 0512 55606190 (Domestic) +86 512 55606196 (Overseas)
FAX: 0512 55606248 (Domestic) +86 512 55606247 (Overseas)

E-mail address

For questions about SDS content: manager.sds@syensqo.com
For all other topics use: www.syensqo.com/en/form/documentation

1.4 Emergency telephone number

400 120 6011 (toll-free, access from China only)
NRCC
CHINA (DOMESTIC ONLY): +86 532 8388 9090 (Qingdao)
MULTI LINGUAL EMERGENCY NUMBER (24/7)
Europe/Latin America/Africa: +44 1235 239 670 (UK)
Middle East/Africa speaking Arabic: +44 1235 239 671 (UK)
Asia Pacific : +65 3158 1074 (Singapore)
China : 400 120 6011 (toll-free, access from China only)
North America : +1 800 424 9300

SECTION 2: Hazards identification**2.1 Emergency overview**

Appearance	Form:	Fine powder
	Physical state:	solid (20 °C)
	Colour:	light yellow
	Odour	bean like
Very toxic to aquatic life with long lasting effects.		

2.2 Classification of the substance or mixture**GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)**

Short-term (acute) aquatic hazard, Category 1
Long-term (chronic) aquatic hazard, Category 1

H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

2.3 Label elements**GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)****Hazardous products which must be listed on the label**

- CAS-No. 65497-29-2 Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

Pictogram**Signal word**

- Warning

Hazard statements

- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements**General**

- None

Prevention

- P273 Avoid release to the environment.

Response

- P391 Collect spillage.

Storage

- None

Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

2.4 Physical and chemical hazards

- Not classified based on available information.

2.5 Health hazards

- Not classified based on available information.

2.6 Environmental hazards

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

2.7 Other hazards which do not result in classification

- Potential dust explosion hazard.
- Finely divided particles may form explosive mixtures in air.
- Dust suspended in air may ignite with static discharge, sparks or flame.
- Electrostatic charges may be generated as a result of flow, stirring, etc.
- Electrostatic charges may build up by swirling, pneumatic transport, pouring, etc.
- Exposure to dust generated during the handling or use of the product may cause temporary mechanical irritation to the eyes, skin and respiratory tract.

SECTION 3: Composition/information on ingredients

3.1 Substance

Information on Components and Impurities

Chemical name	CAS-No.	Identification number	GHS Classification	Concentration [%]
Galactomannan 2-hydroxypropyltrimethylammonium chloride ether	65497-29-2	Not applicable	Short-term (acute) aquatic hazard, Category 1; H400 Long-term (chronic) aquatic hazard, Category 1; H410	$\geq 90 - < 95$
1-Propanaminium, 2,3-dihydroxy-N,N,N-trimethyl-, chloride	34004-36-9	Not applicable	Acute toxicity, Category 5; H313	$\geq 1 - < 5$

For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixture

- Not applicable, this product is a substance.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

- First aider needs to protect himself.
- Rescuers should wear PPE during rescue and decontamination of victims.
- When symptoms persist or in all cases of doubt seek medical advice.

In case of inhalation

- Move to fresh air.
- Keep at rest.
- Consult a physician if necessary.

In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with soap and plenty of water.
- Use a mild soap if available.
- Get medical attention immediately if symptoms occur.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a physician

In case of ingestion

- Do not induce vomiting without medical advice.
- Rinse mouth with water.
- Do not give anything to drink.
- Keep at rest.
- Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

- no data available

4.3 Indication of any immediate medical attention and special treatment needed**Notes to physician**

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

- Extinguishing media - small fires
- Multi-purpose powders
- Water mist
- Alcohol-Resistant Fluorine Free Foams
- Extinguishing media - large fires
- Water mist
- Alcohol-Resistant Fluorine Free Foams

Unsuitable extinguishing media

- Do not use a solid water stream as it may scatter and spread fire.
- High pressure inert gas, e.g. carbon dioxide jet.
- (Avoid dispersal of dust in the air)

5.2 Special hazards arising from the substance or mixture**Specific hazards during firefighting**

- Risk of dust explosion.
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
- The pressure in sealed containers can increase under the influence of heat.
- Hazardous decomposition products formed under fire conditions.
- High concentrations of toxic or harmful products may remain in the residual liquid once the fire has been extinguished.

Hazardous combustion products:

- Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
- Nitrogen oxides (NOx)
- Chlorinated compounds

5.3 Advice for firefighters

Special protective equipment for firefighters

- Wear full protective clothing and self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing.

Specific fire fighting methods

- Stay upwind.
- Fight fire remotely due to the risk of explosion.
- Do not use a solid water stream as it may scatter and spread fire.
- Cool down the containers/equipment exposed to heat with a water spray. Ensure that there is NO direct contact between the water and the product.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information

- Evacuate personnel to safe areas.
- Avoid dust formation.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- Never approach containers which have been exposed to fire, without cooling them sufficiently.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Avoid inhalation, ingestion and contact with skin and eyes.
- Wear chemical resistant personal protective equipment.
- Wear suitable gloves.
- Wear suitable protective clothing.
- Wear respiratory protection.
- Wear as appropriate:
 - Faceshield or an appropriate full face protection.
 - Tightly fitting safety goggles.
 - Complete suit protecting against chemicals
- In the case of dust or aerosol formation use respirator with an approved filter.
- In the case of vapour formation use a respirator with an approved filter.
- Eliminate all ignition sources if safe to do so.
- Stop leak if safe to do so.
- If spillage occurs on the public highway, indicate the danger and notify the authorities (police, fire brigade).
- Isolate spill or leak area in a radius of at least 50 meters.
- For further information refer to section 8 "Exposure controls/personal protection".

6.2 Environmental precautions

- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by bunding.
- The product should not be allowed to enter drains, water courses or the soil.
- Local authorities should be advised if significant spillages cannot be contained.
- If the product contaminates rivers and lakes or drains inform respective authorities.
- If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal.

6.3 Methods and materials for containment and cleaning up

- No sparking tools should be used.
- Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
- Stop leak if safe to do so.
- Dam up with sand or inert earth (do not use combustible materials).
- Shovel or sweep up.
- Keep in suitable, closed containers for disposal.
- Never return spills in original containers for re-use.
- Wash non-recoverable remainder with large amounts of water.
- Clean contaminated surface thoroughly.
- Recover the cleaning water for subsequent disposal.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of as hazardous waste in compliance with local and national regulations.

Additional advice

- No conditions to be specially mentioned.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Handle in accordance with good industrial hygiene and safety practice.
- Risk assessments, along with appropriate identification and implementation of the corresponding risk controls, are to be conducted by competent person(s) on the intended work processes involving this product.
- This product may rapidly contribute towards a highly hazardous environment within a confined space (e.g. Within ISO tanks, reactors, silos, etc.).
- The product must only be handled by specifically trained employees.
- Provide sufficient air exchange and/or exhaust in work rooms.
- Vapour extraction at source.
- Do not use in areas without adequate ventilation.
- Extracted air must not be allowed to return to the workplace.
- The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.

- Use explosion-proof electrical/ ventilating/ lighting equipment.
- Take precautionary measures against static discharges.
- Ground/bond container and receiving equipment.
- Ensure all equipment is electrically grounded before beginning transfer operations.
- Use only non-sparking tools.
- Advice on safe handling
- Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
- Provide for appropriate exhaust ventilation and dust collection at machinery.
- Dust must be extracted directly at the point of origin.
- Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
- Wear personal protective equipment.
- Wear suitable protective clothing.
- May cause mechanical irritation of the eyes, skin, nose and throat.
- For personal protection, see section 8.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Use clean, well-maintained personal protection equipment.
- Regular cleaning of equipment, work area and clothing.
- When using do not eat, drink or smoke.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash hands before breaks and immediately after handling the product.
- Contaminated work clothing should not be allowed out of the workplace.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.
- The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.
- Air sampling and / or biological monitoring of the substances shown in Section 8.1 are to be conducted using methods accepted by local competent authorities responsible for workplace safety and health.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Take appropriate measures to prevent static discharges, which may include thorough electrical interconnecting, grounding of equipment, and/or conveyance under inert gas.
- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Keep in a bunded area.
- The floor of the storage area should be impermeable and designed to form a water-tight basin.
- Keep locked up or in an area accessible only to qualified or authorised persons.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from incompatible materials to be indicated by the manufacturer.
- Keep away from: Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: Stability-Reactivity).

Packaging material**Suitable material**

- Plastic materials.
- Coated steels.
- Stainless steel

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

- Contains no substances with occupational exposure limit values above their regulatory reporting threshold.

8.2 Exposure controls

Control measures

Engineering measures

- Risk assessments, along with appropriate identification and implementation of the corresponding risk controls, are to be conducted by competent person(s) on the intended work processes involving this product.
- Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures :
 - Facilities and equipment easily cleanable.
 - Effective exhaust ventilation system.
 - Extract at emission point.
 - Ensure adequate ventilation.
 - Ensure that extracted air cannot be returned to the workplace through the ventilation system.
- Dust must be extracted directly at the point of origin.
- Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual protection measures

Respiratory protection

- Recommended Filter type: Particulates type
- This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation.
- Respirator must be worn if exposed to dust.

Hand protection

- Where there is a risk of contact with hands, use appropriate gloves.
- Gloves must be inspected prior to use.
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Use only personal protective equipment that conforms to international/ national standards (KOSHA, etc.).

Suitable material

- Nitrile rubber
- Neoprene
- butyl-rubber
- PVC

Eye protection

- Tightly fitting safety goggles.
- Faceshield or an appropriate full face protection.

Skin and body protection

- Wear fire resistant and antistatic coveralls
- Workers should wear antistatic footwear.
- Lightweight protective clothing.
- Footwear protecting against chemicals.

- Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Use clean, well-maintained personal protection equipment.
- Regular cleaning of equipment, work area and clothing.
- When using do not eat, drink or smoke.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash hands before breaks and immediately after handling the product.
- Contaminated work clothing should not be allowed out of the workplace.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.
- The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.
- Air sampling and / or biological monitoring of the substances shown in Section 8.1 are to be conducted using methods accepted by local competent authorities responsible for workplace safety and health.

Protective measures

- Emergency equipment immediately accessible, with instructions for use.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards and/or risks that may occur during use.
- The protective equipment must be selected in accordance with current local regulations and in cooperation with the supplier of the protective equipment.

Environmental exposure controls

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Local authorities should be advised if significant spillages cannot be contained.
- If the product contaminates rivers and lakes or drains inform respective authorities.
- If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

<u>Physical state</u>	solid (20 °C)
<u>Form</u>	Fine powder
<u>Colour</u>	light yellow
<u>Odour</u>	bean like
<u>Odour Threshold</u>	No data available
<u>Melting point/freezing point</u>	<u>Melting point/ range:</u> 180 °C Decomposition: yes
<u>Initial boiling point and boiling range</u>	No data available
<u>Flammability (solid, gas)</u>	May form combustible dust concentrations in air

<u>Flammability (liquids)</u>	No data available
<u>Flammability/Explosive limit</u>	<u>Lower flammability/explosion limit:</u> Not applicable
	<u>Upper flammability/explosion limit:</u> Not applicable
<u>Flash point</u>	Not applicable solid for which the melting point is > 100 °C
<u>Auto-ignition temperature</u>	No data available
<u>Decomposition temperature</u>	No data available
<u>pH</u>	9.0 - 11.0 (1 %) Aqueous solution
<u>Viscosity</u>	No data available
<u>Solubility</u>	<u>Water solubility:</u> soluble
	<u>Solubility in other solvents:</u> non-polar solvents: insoluble
<u>Partition coefficient: n-octanol/water</u>	No data available
<u>Vapour pressure</u>	No data available
<u>Density</u>	Not applicable
	<u>Bulk density:</u> 700 kg/m3
<u>Relative density</u>	No data available
<u>Relative vapor density</u>	No data available
<u>Particle characteristics</u>	No data available
<u>Evaporation rate (Butylacetate = 1)</u>	No data available
9.2 Other information	
<u>Oxidizing properties</u>	Not considered as oxidizing, Structure-activity relationship (SAR)
<u>Dust deflagration index (Kst)</u>	
<u>Minimum ignition energy</u>	> 1,000 mJ Information given is based on data obtained from similar substances.

SECTION 10: Stability and reactivity

10.1 Reactivity

- Stable at normal ambient temperature and pressure.

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- Under certain conditions, small dust-particles from the product may form flammable and explosive mixtures with the air.

10.4 Conditions to avoid

- Avoid dust formation.
- Prevent the build-up of electrostatic charge.
- Keep away from open flames, hot surfaces and sources of ignition.
- Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

- Strong oxidizing agents.
- hot strong concentrated acids.
- Strong bases

10.6 Hazardous decomposition products

- Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
- Nitrogen oxides (NO_x)
- Chlorinated compounds

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

Rat

Not classified as hazardous for acute oral toxicity according to GHS.
Expert judgement
Unpublished reports
Unpublished internal reports

Acute inhalation toxicity

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

No data available

Acute dermal toxicity

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

No data available

Acute toxicity (other routes of administration)

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

No data available

Skin corrosion/irritation

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

Rabbit

Not classified as irritating to skin.
Method: Expert judgement
Unpublished internal reports

Serious eye damage/eye irritation

Galactomannan 2-
hydroxypropyltrimethylammonium
chloride ether

Rabbit
slight irritation
Method: Expert judgement
Unpublished internal reports
Product dust may be irritating to eyes, skin and respiratory system.

Respiratory or skin sensitisation

Galactomannan 2-
hydroxypropyltrimethylammonium
chloride ether

Buehler Test - Guinea pig
Method: Expert judgement
Unpublished internal reports
The product is not considered to be sensitizing by skin contact.
Guar gum has been associated with cases of respiratory allergies in some susceptible individuals, as reported in the literature, or may exacerbate an existing allergic condition. However, no cases of respiratory sensitisation have been observed with the manufacture or use of the derivatised guar.

Magnusson and Kligman method - Guinea pig
Method: Expert judgement
Unpublished internal reports
The product is not considered to be sensitizing by skin contact.
Guar gum has been associated with cases of respiratory allergies in some susceptible individuals, as reported in the literature, or may exacerbate an existing allergic condition. However, no cases of respiratory sensitisation have been observed with the manufacture or use of the derivatised guar.

Mutagenicity

Genotoxicity in vitro

Galactomannan 2-
hydroxypropyltrimethylammonium
chloride ether

Ames test
with and without metabolic activation
Method: Expert judgement
Unpublished internal reports
Product is not considered to be genotoxic.

Genotoxicity in vivo

Galactomannan 2-
hydroxypropyltrimethylammonium
chloride ether

No data available

Carcinogenicity

Galactomannan 2-
hydroxypropyltrimethylammonium
chloride ether

No data available

Toxicity for reproduction and development

Toxicity to reproduction/Fertility

Galactomannan 2-
hydroxypropyltrimethylammonium
chloride ether

No data available

Developmental Toxicity/Teratogenicity

Galactomannan 2-
hydroxypropyltrimethylammonium
chloride ether

No data available

STOT

STOT - single exposure

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

Exposure routes: Ingestion
The substance or mixture is not classified as specific target organ toxicant, single exposure.
Internal evaluation.

STOT - repeated exposure

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

No data available

Experience with human exposure

No data available

Aspiration toxicity

No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

LC50 - 96 h : 0.39 - 1.22 mg/l - Oncorhynchus mykiss (rainbow trout) semi-static test

Method: according to a standardised method
Unpublished internal reports
Fresh water

LC50 - 96 h : 0.39 - 1.22 mg/l - Lepomis macrochirus (Bluegill sunfish) static test

Unpublished internal reports
Fresh water

Very toxic to fish.

Acute toxicity to daphnia and other aquatic invertebrates

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

EC50 - 48 h : 100 mg/l - Daphnia magna (Water flea)
Method: according to a standardised method
Freshwater species
Unpublished internal reports
Harmful to aquatic invertebrates.

Toxicity to aquatic plants

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

No data available

Toxicity to microorganisms

No data available

Chronic toxicity to fish

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

No data available

Chronic toxicity to daphnia and other aquatic invertebrates

Galactomannan 2-hydroxypropyltrimethylammonium chloride ether

No data available

M-Factor

Acute aquatic toxicity = 1
 Chronic aquatic toxicity = 1
 (according to the Globally Harmonized System (GHS))

12.2 Persistence and degradability**Abiotic degradation**

No data available

Physical- and photo-chemical elimination

No data available

Biodegradation**Biodegradability**

Ready biodegradability study:
 54.5 % - 28 Days

70.1 % - 60 Days

Method: OECD Test Guideline 301 F
 Chemical oxygen demand
 Inoculum: activated sludge, domestic, non-adapted
 Unpublished internal reports

Degradability assessment

Galactomannan 2-
 hydroxypropyltrimethylammonium
 chloride ether

The product is not considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential**Partition coefficient: n-octanol/water**

No data available

Bioconcentration factor (BCF)

Galactomannan 2-
 hydroxypropyltrimethylammonium
 chloride ether

Not potentially bioaccumulable
 Expert judgement

12.4 Mobility in soil**Adsorption potential (Koc)**

No data available

Known distribution to environmental compartments

No data available

12.5 Results of PBT and vPvB assessment

Galactomannan 2-
 hydroxypropyltrimethylammonium
 chloride ether

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
 This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects**Ecotoxicity assessment****Short-term (acute) aquatic hazard**

Galactomannan 2-
 hydroxypropyltrimethylammonium
 chloride ether

Very toxic to aquatic life.

Long-term (chronic) aquatic hazard

Galactomannan 2-
 hydroxypropyltrimethylammonium
 chloride ether

Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal**

- Dispose of as hazardous waste in compliance with local and national regulations.

Prohibition

- Do not discharge directly into the environment.
- Do not dispose of with domestic refuse.

Advice on cleaning and disposal of packaging

- Empty remaining contents.
- Clean using steam.
- Monitor the residual vapours.
- Dispose of rinse water in accordance with local and national regulations.
- Containers that cannot be cleaned must be treated as waste.
- Dispose of contents/ container to an approved waste disposal plant.
- Dispose of in accordance with local regulations.
- In accordance with IMDG regulations, containers or tankers, which have not been cleaned or deodorized and which previously contained a hazardous product, must either be labelled or have hazard signs.
- In accordance with RID/ADR regulations containers or tankers, which have not been cleaned or deodorized and which previously contained a hazardous product, must either be labelled or have hazard signs.
- Where possible recycling is preferred to disposal or incineration.
- The recycled material must be completely dry and free of pollutants.

Prohibition

- Do NOT dispose of untreated packaging with industrial waste.
- Do not dispose of with domestic refuse.

SECTION 14: Transport information**CN DG**

14.1 UN number	UN 3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Guar gum, 2-hydroxy-3-(trimethylammonio)propyl ether, chloride)
14.3 Transport hazard class	9
Label(s):	9
14.4 Packing group	
Packing group	III
14.5 Environmental hazards	YES
14.6 Special precautions for user	

For personal protection, see section 8.

IMDG

14.1 UN number	UN 3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Guar gum, 2-hydroxy-3-(trimethylammonio)propyl ether, chloride)
IMDG Code segregation group	Ammonium compounds (SGG2)
14.3 Transport hazard class	9
Label(s):	9
14.4 Packing group	
Packing group	III
14.5 Environmental hazards	YES
Marine pollutant	
14.6 Special precautions for user	
EmS	F-A , S-F
For personal protection, see section 8.	
14.7 Transport in bulk vessels according to IMO instruments	
No data available	

IATA

14.1 UN number	UN 3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Guar gum, 2-hydroxy-3-(trimethylammonio)propyl ether, chloride)
14.3 Transport hazard class	9
Label(s):	9
14.4 Packing group	
Packing group	III
14.5 Environmental hazards	YES
14.6 Special precautions for user	
Packing instruction (cargo aircraft)	956
Max net qty/pkg	400.00 kg
Packing instruction (passenger aircraft)	956
Max net qty/pkg	400.00 kg

For personal protection, see section 8.

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Following last version of regulations are applicable for the chemical classification, SDS and label:**

- General Rule for classification and hazard communication of chemicals, GB 13690
- Rules for classification and labelling of chemicals, GB30000.2~GB30000.29
- General rules for preparation of precautionary label for chemicals, GB 15258

- Safety data sheet for chemical products—Content and order of sections, GB/T 16483
- Decree No. 591 of the State Council of the People's Republic of China: Regulations on the Control over Safety of Hazardous Chemicals
- List of dangerous goods GB12268
- Classification and code of dangerous goods GB6944

Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- One or more components not listed on inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Syensqo legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.
Korea. Act on Registration and Evaluation of Chemicals	- When purchased from a Syensqo legal entity based in Korea, this product is compliant with "Act on Registration and Evaluation of Chemicals" (AREC or K-REACH, Article 10) as all its components are either excluded, exempt, and/or (pre)registered. When purchased from a legal entity outside of Korea, please contact your local representative for additional information.

SECTION 16: Other information**Full text of H-Statements**

- H313: May be harmful in contact with skin.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.

Key or legend to abbreviations and acronyms used in the safety data sheet

- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Instructions for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- GHS/CLP/SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

Further information

- Distribute new edition to clients

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.