

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

MAIZE STARCH / MODIFIED STARCH

Version 3.0

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MSDS code: MMST100

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : MAIZE STARCH / MODIFIED STARCH

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

Use of the Substance/Mixture : Binding or texturizing agent in food applications.

Uses advised against : At this moment we have not identified any uses advised against

Remarks : This substance is exempt from registration according to Regulation (EC) No. 1907/2006 (REACH).

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK & Ireland
Albion House, Rawdon Park
GB LS19 7XX Leeds Yeadon

Telephone : +44 (0) 113 3879 200

Telefax : +44 (0) 113 3879 280

E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008.

Most important adverse effects

Human Health : See section 11 for toxicological information.

Physical and chemical hazards : See section 9 for physicochemical information.

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Potential environmental effects : See section 12 for environmental information.

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

The product is not labeled as dangerous according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

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

Remarks : No dangerous ingredients according to Regulation (EC) No. 1907/2006

Non-hazardous component

Chemical name	Identification Number	Amount [%]
Acetylated distarch adipate	CAS-No. : 63798-35-6	<= 100

SECTION 4: First aid measures**4.1. Description of first aid measures**

General advice : No special precautions required.

If inhaled : Remove to fresh air. If symptoms persist, call a physician.

In case of skin contact : Wash off with plenty of water. If skin irritation persists, call a physician.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. Remove contact lenses after a few minutes and continue rinsing. If eye irritation persists, consult a specialist.

If swallowed : Rinse mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

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

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Symptoms : See Section 11 for more detailed information on health effects and symptoms.

Effects : Health injuries are not known or expected under normal use. See Section 11 for more detailed information on health effects and symptoms.

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 : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, foam, dry powder or CO₂.

Unsuitable extinguishing media : High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : Avoid dust formation. Dust may form explosive mixture in air.

Hazardous combustion products : Carbon monoxide, Carbon dioxide (CO₂)

5.3. Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Choose protective equipment according to size of fire.

Further advice : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid dust formation.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning : Sweep up and shovel into suitable containers for disposal. Avoid generation of dust during clean-up. Non-sparking tools

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up should be used.

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
 See Section 8 for information on personal protective equipment.
 See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Avoid dust formation.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.

Advice on protection against fire and explosion : Normal measures for preventive fire protection. Keep away from heat and sources of ignition. Avoid dust formation in confined areas. Dust may form explosive mixture in air. Take measures to prevent the build up of electrostatic charge. Ensure all equipment is electrically grounded before beginning transfer operations. No sparking tools should be used.

Dust explosion class : St1

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep in a well-ventilated place.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Incompatible with oxidizing agents.

7.3. Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

MAIZE STARCH / MODIFIED STARCH**Other Occupational Exposure Limit Values**

(Additional) Information : Contains no substances with occupational exposure limit values.

8.2. Exposure controls**Appropriate engineering controls**

Refer to protective measures listed in sections 7 and 8.

Provide for appropriate exhaust ventilation and dust collection at machinery.

Take measures to prevent the build up of electrostatic charge.

Personal protective equipment*Respiratory protection*

Advice : If ventilation is insufficient, suitable respiratory protection must be provided
Required, if exposure limit is exceeded (e.g. OEL).
In the case of dust or aerosol formation use respirator with an approved filter.
Respiratory protection complying with EN 141.

Hand protection

Advice : Protective gloves complying with EN 374.
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.
Protective gloves should be replaced at first signs of wear.

Material : Chemical resistant gloves.

Eye protection

Advice : Safety goggles

Skin and body protection

Advice : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Wear appropriate chemical resistant clothing and boots.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

MAIZE STARCH / MODIFIED STARCH**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Form	:	powder
Colour	:	white to yellow
Odour	:	no data available
Odour Threshold	:	no data available
pH	:	Not applicable
Freezing point	:	no data available
Boiling point	:	no data available
Flash point	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	no data available
Water solubility	:	partly soluble
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	> 170 °C
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Explosivity	:	no data available
Oxidizing properties	:	no data available

9.2. Other information

No further information available.

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SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : No decomposition if stored and applied as directed.

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Dust may form explosive mixture in air. Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Conditions to avoid : Avoid dust formation.

10.5. Incompatible materials

Materials to avoid : Strong oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products : No information available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Data for the product

Acute toxicity

Oral

No harmful effects expected in amounts likely to be ingested by accident.

Inhalation

Inhalation of dust may cause respiratory tract irritation.

Dermal

no data available

Irritation

Skin

no data available

MAIZE STARCH / MODIFIED STARCH**Eyes**

Result : Direct contact with eyes may cause temporary irritation.

Sensitisation

Result : No sensitizing effect known by skin contact.

CMR effects**CMR Properties**

Carcinogenicity : No evidence of carcinogenic effects.

Mutagenicity : Not expected to be mutagenic.

Teratogenicity : Not expected to be a developmental toxicant.

Reproductive toxicity : Not expected to be toxic for reproduction.

Specific Target Organ Toxicity**Single exposure**

Remark : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

Remark : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties**Repeated dose toxicity**

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information**12.1. Toxicity**

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Data for the product

Acute toxicity

Acute aquatic toxicity

Result : The product is not classified as dangerous for the environment. This product has no known ecotoxicological effects.

12.2. Persistence and degradability

12.3. Bioaccumulative potential

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

Result : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Other adverse effects

Data for the product

Additional ecological information

Result : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
- Contaminated packaging : Dispose of contaminated packaging in the same way as the product. In accordance with local and national regulations.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

MAIZE STARCH / MODIFIED STARCH**SECTION 14: Transport information**

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.2. Chemical safety assessment**

no data available

SECTION 16: Other information**Further information**

Key literature references : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.

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Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.