



Safety Data Sheet

Prepared in accordance with Commission Regulation (EU) 2020/878

Revision Date: 25-01-2024

This document replaces SDS dated: 01-01-2024

HI-SET 369

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

1.1 Product identifier:

Product Name: HI-SET 369
industrial starch modified

Other means of identification:

Chemical family: Modified Starch
UFI Number:
REACH Registration Number: The components which is subject to EU REACH registration requirements has been registered and the tonnage is covered when the product is imported into the EU by Ingredion EMEA legal entities.

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

Relevant identified use: Corrugating adhesive
Uses advised against: Not Available

1.3 Details of the supplier of the safety data sheet:

The relevant Ingredion EMEA Company which invoices for the Product – please see Section 16
e-mail address of competent person responsible for the SDS: Regulatory.emea@ingredion.com

1.4 Emergency telephone number: EMERGENCY TELEPHONE: +1 703-741-5970 / 1-800-424-9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 (CLP): Not classified as hazardous in accordance with CLP

2.2 Label elements:

Hazard pictograms: No hazard symbols required

Signal word: No Signal Word needed.

Hazard statements: No Hazard Statement needed.

Precautionary statements: No Precautionary Statement needed.

Safety Data Sheet

Prepared in accordance with Commission Regulation (EU) 2020/878

Revision Date: 25-01-2024
 This document replaces SDS dated: 01-01-2024

HI-SET 369

Supplemental Hazard information (EU): No Supplemental Hazard Information available

ADDITIONAL INFORMATION: Not applicable

2.3 Other hazards: This product can produce a nuisance dust which should be maintained below a time weighted average of 10 mg/m³.
 This substance/mixture contains no components considered to be an endocrine-disrupting substance at levels of 0.1% or higher.
 Not expected to be PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances:
 Not applicable

3.2 Mixtures:

Substance Name	Concentration (% by weight)	CAS No.	EC No. REACH Registration No.	Classification according to Regulation (EC) No 1272/2008 (CLP)	M-factor	SCL	ATE	Nanofor m Material
This product is not classified as hazardous								

For full text of H-statements, see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures:

Inhalation: Remove to fresh air. Get medical attention if irritation persists.
 Eye Contact: Remove particles by irrigating with eye wash solution or clean water, holding the eyelids apart. If symptoms develop, obtain medical attention.

HI-SET 369

Skin Contact:	Wash skin with soap and water.
Ingestion:	None required.
Self protection of the first aider:	No data available
4.2 Most important symptoms and effects, both acute and delayed:	Possible physical irritant from dust particles. Particulates may scratch eye surfaces and cause mechanical irritation.
4.3 Indication of any immediate medical attention and special treatment needed:	No further first aid information is available.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:	Dry Chemical., Carbon dioxide (CO ₂)., Water Fog., Foam.
Unsuitable extinguishing media:	None known.

5.2 Special hazards arising from the substance or mixture:

Hazardous combustion products:	Minimum ignition temperature of dust cloud- approx. 390 C. Minimum explosive concentration- approx. 80 mg/l. Minimum energy to ignite cloud by electrical spark- approx. 0.10 joules. This product does not undergo spontaneous decomposition. Typical combustion products are carbon monoxide, carbon dioxide, nitrogen and water.
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5.3 Advice for firefighters:

No special procedures are required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Non-emergency personnel:	Non-emergency personnel should be kept clear of the area.
Emergency responders:	Use personal protective equipment as required.

6.2 Environmental precautions:

Not available

6.3 Methods and material for containment and cleaning up:

Normal precautions for "nuisance dust" should be observed. Avoid prolonged inhalation of dust. Sweep up or vacuum up and place in suitable container for disposal.

6.4 Reference to other sections:

See section 8 for appropriate personal protective equipment. See section 2 and 7 for additional information on hazards and precautionary measures.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

As with all chemicals, good industrial hygiene practices should be followed

Safety Data Sheet

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Revision Date: 25-01-2024
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HI-SET 369

when handling this material.

7.1.1 Recommendations for safe handling:

Prevent handling of incompatible substance or mixtures. Take measures to prevent fire as well as aerosol and dust generation.

7.1.2 Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Safe storage conditions:

Keep container closed when not in use.

Special Sensitivity:

No special sensitivity.

Static Sensitivity:

Yes

Other precautions:

Use care to minimise dust generation in normal use conditions.

Avoid dispersing the powder in the air. Prevent build-up of powder on surfaces.

Mechanical handling of the powder on inadequately grounded equipment can result in static electrical discharges.

Materials to Avoid/Chemical Incompatibility:

None known.

7.3 Specific end use(s):

Corrugating adhesive

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

Substance Name	United Kingdom - Workplace Exposure Limits (WELs) - TWAs	United Kingdom - Workplace Exposure Limits (WELs) - STELs	United Kingdom - Biological Monitoring Guidance Values
No data available			

This product can produce a nuisance dust which should be maintained below a time weighted average of 10 mg/m³.

DNEL: None known

PNEC: None known.

8.2 Exposure controls:

Appropriate engineering controls: General.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Safety glasses recommended.

Revision Date: 25-01-2024
This document replaces SDS dated: 01-01-2024

HI-SET 369

Skin protection:	Skin protection may be required depending on product temperature.
Hand protection:	Gloves are not normally required for foreseeable conditions of use.
Respiratory protection:	Use approved dust mask.
Thermal hazards:	Not available
Environmental exposure controls:	Avoid runoff into storm sewers and ditches that lead to waterways.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Pure Substance or Mixture:	Substance.
Physical state:	Powder.
Colour:	white
Odour and odour threshold:	Starch odour.
pH:	Not available
pH in (1%) Solution:	Approximately 5.5
Melting point/freezing point:	
Melting Point:	Not available
Freezing point:	Not available
Boiling point or initial boiling point and boiling range:	Not available
Flash point:	Not applicable
Evaporation Rate:	Not applicable
Flammability:	No
Upper/lower flammability or explosive limits:	
Upper flammability or explosive limits:	Not available
Lower flammability or explosive limits:	Not available
Vapour pressure:	Not available
Vapour density:	Not available
Density and/or relative density:	1.5
Solubility:	Insoluble
Partition coefficient n-octanol/water (log value):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not applicable
Volatiles:	None
Volatile Organic Chemicals:	Not applicable
Kinematic viscosity:	Not available

HI-SET 369

Particle characteristics: Not applicable
9.2 Other information:
Molecular Weight: > 10000

SECTION 10: Stability and Reactivity

10.1 Reactivity: Not expected to be reactive
10.2 Chemical stability: Stable
10.3 Possibility of hazardous reactions: Hazardous polymerization will not occur.
10.4 Conditions to avoid: None known.
10.5 Incompatible materials: None known.
10.6 Hazardous decomposition products: This product does not undergo spontaneous decomposition. Typical combustion products are carbon monoxide, carbon dioxide, nitrogen and water.

SECTION 11: Toxicological information

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

Information on possible routes of exposure: Ingestion, Inhalation, Skin Contact, Eye Contact
Target Organs Potentially Affected By Exposure: Not applicable.
Early onset symptoms related to exposure: No data available
Toxic Effects: This product is considered as being non-toxic. Use of good industrial hygiene practices is recommended.
Exposure levels and health effects:
Acute toxicity:
Ingestion Toxicity: Based on available data, the GHS classification criteria are not met.
Acute toxicity - Dermal: Based on available data, the GHS classification criteria are not met.
Inhalation Toxicity: Based on available data, the GHS classification criteria are not met.
Skin corrosion/irritation: Low order of toxicity. Unlikely to cause harmful effects under recommended conditions of handling and use.
Serious eye damage/irritation: Based on available data, the GHS classification criteria are not met.
Respiratory sensitisation: Based on available data, the GHS classification criteria are not met.
Skin sensitisation: Based on available data, the GHS classification criteria are not met.

Safety Data Sheet

Prepared in accordance with Commission Regulation (EU) 2020/878

Revision Date: 25-01-2024
 This document replaces SDS dated: 01-01-2024

HI-SET 369

Germ cell mutagenicity:	Based on available data, the GHS classification criteria are not met.
Reproductive Toxicity:	Based on available data, the GHS classification criteria are not met.
Carcinogenicity:	Based on available data, the GHS classification criteria are not met.
Specific Target Organ Toxicity (STOT)-single exposure:	Based on available data, the GHS classification criteria are not met.
Specific Target Organ Toxicity (STOT) -repeated exposure:	Based on available data, the GHS classification criteria are not met.
Aspiration hazard:	Based on available data, the GHS classification criteria are not met.
Endocrine disrupting properties:	None of the components have endocrine disrupting properties.

Numerical measures of toxicity (such as acute toxicity estimates):

Substance Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
There is no known toxicity data available for the components or the product.			

SECTION 12: Ecological information

12.1 Toxicity: Low, but has a BOD contribution.

Ecological Toxicity Data:

Substance Name	CAS No.	Aquatic LC50 Fish	Aquatic ERC50 Algae	Aquatic EC50 Crustacea
No data available				

12.2 Persistence and degradability:	No data available
12.3 Bioaccumulative potential:	Low (degrades too rapidly)
12.4 Mobility in soil:	Unknown
12.5 Results of PBT and vPvB assessment:	Not expected to be PBT or vPvB.
12.6 Endocrine disrupting properties:	None known.
12.7 Other adverse effects:	Contributes to effluent BOD.

SECTION 13: Disposal considerations

13.1 Waste treatment methods: Waste disposal should be in accordance with existing Community, National and local regulations.

Safety Data Sheet

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Revision Date: 25-01-2024
 This document replaces SDS dated: 01-01-2024

HI-SET 369

Empty container warnings: Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

SECTION 14: Transport Information

14.1 UN number: Not applicable
14.2 UN proper shipping name: Not Applicable
14.3 Transport hazard class(es): Not Applicable
14.4 Packing group: Not Applicable
Toxic Inhalation Hazard Zone: No data available

14.5. Environmental hazards: No data available
14.7 Maritime transport in bulk according to IMO instruments: No data available
14.6 Special precautions for user: Consult IMO regulations before transporting in bulk by ocean.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Substance Name	EINECS	SVHC
No data available		

15.2 Chemical Safety Assessment: No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Revision Date: 01-25-2024
Indication of changes: None Known
Abbreviations and acronyms: CAS = Chemical Abstract Service
 DNEL= Derivative No Effect Level
 EC= European Community
 EINECS = European Inventory of Existing Chemical Substances
 MSHA = Mine Safety Health Administration
 NIOSH = National Institute of Occupational Safety & Health
 OEL = Occupational Exposure Limit
 PBT= Persistent, Bioaccumulative, Toxic
 PNEC= Predicted No Effect Concentration



Safety Data Sheet

Prepared in accordance with Commission Regulation (EU) 2020/878

Revision Date: 25-01-2024

This document replaces SDS dated: 01-01-2024

HI-SET 369

SCOEL= Scientific Committee on Occupational Exposure Limits

TLV = Threshold Limit Value

TWA= Time Weighted Average

vPvB= Very Persistent, Very Bioaccumulative

Wt.% = Weight Percent

References and sources of data:

Classification according to Regulation (EC) 1272/2008 (CLP), as amended and Regulation (EC) 1907/2006 (REACH), as amended

Hazard statements:

No Hazard Statement needed.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Not available	Not available

Precautionary statements:

No Precautionary Statement needed.

Products are manufactured in accordance with EU Law, unless expressly agreed to otherwise, in writing, by the relevant Ingredion company referred to below. The information on the safety data sheets is provided for the purposes of a general health and safety assessment by an industrial user (the "User"). Reference should also be made by the User, to any other specific relevant local or national health, safety, environmental or other applicable legislation, including any import or export regulations relevant to the country in which the User operates - the User will need to check this information for itself. The information provided by the relevant Ingredion company referred to below, does not constitute indication of suitability for specific uses, nor is it legal advice given to the User.

This document is issued on behalf of the Ingredion EMEA Company which is the Supplier invoicing for the Product. The respective details of each of the relevant Supplier companies are as follows:

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Safety Data Sheet

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Revision Date: 25-01-2024

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HI-SET 369

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