

## 1. Identification of the substance or mixture and of the supplier

**GHS product identifier:**

Stock Number: 06820323  
 Product Name: N-DULGE(TM) 320  
 food starch

**Other means of identification:**

Chemical family: Modified Starch

**Recommendations and restrictions on use of the substance or mixture:**

Recommended use: Food products  
 Restrictions on use: Not Available

**Supplier's details (i.e. name, address, phone number(s)):**

Ingredion (Thailand) Co., Ltd  
 40/14 Moo 12, Bangna-Trad Road,  
 Bangplee, Samutprakarn 10540  
 Thailand  
 Tel: +662-725-0200 (business hours)

**Emergency phone number:**

CHEMTREC - Emergency Telephone (Medical & Transport Incident With Product- 7Days/24 Hours)  
 The global (outside US) number: +1 703-741-5970  
 Australia: +(61)-290372994  
 China: 4001-204937  
 Hong Kong: 800-968-793\*  
 India: 000-800-100-7141\*  
 Indonesia: 001-803-017-9114\*  
 Japan: +(81)-3-4520-9637  
 Malaysia: +(60)-392125794, 1-800-815-308\*  
 New Zealand: +(64)-98010034  
 Philippines: +(63) 2-395-3308, 1-800-1-116-1020\*  
 Singapore: +(65)-31581349, 800-101-2201\*  
 South Korea: +(82) 070-7686-0086, 00-308-13-2549\*  
 Taiwan: +886-2-7741-4207\*, 00801-14-8954\*  
 Thailand: 001-800-13-203-9987\*  
 Vietnam: +(84)-444581938  
 \* Phone numbers for countries marked with an asterisk must be dialed within the country  
 SDS Requests and general information, please contact Local Customer Service: See phone numbers in Section 16

## 2. Hazards identification

**Classification of the chemical in accordance with system of Hazardous Substances B.E. 2555:**

**GHS Hazard Symbols:**

No hazard symbols required

**GHS Classification of the substance or mixture, and national or regional information:**

Hazardous to the aquatic environment - Acute Category 3

**Signal Word:**

No Signal Word needed.

**Hazard Statements:**

Harmful to aquatic life.

**Precautionary Statements:**

**Prevention:**

Avoid release to the environment.

**Disposal:**

Dispose of contents/container to a suitable disposal site in accordance with local/national/international regulations.

**Other hazards which do not result in GHS classification:**

None known.

### 3. Composition/information on ingredients

**Substance:**

Not applicable

**Mixture:**

Chemical Name	CAS Number	Concentration (% by weight)
No hazardous components.		

### 4. First-aid measures

**Description of necessary first-aid measures divided by relevant routes of exposure i.e. inhalation, skin, eye, and ingestion:**

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.

Skin Contact:

Wash skin with soap and water.

Ingestion:

None required.

**Most important symptoms/effects, acute and delayed:**

Possible physical irritant from dust particles. Potential for dust explosion.

**Indication of immediate medical attention and special treatment needed, if necessary:**

No further first aid information is available.

## 5. Fire-fighting measures

### **Suitable (and unsuitable) extinguishing media:**

Suitable extinguishing media: Dry Chemical, CO2, Water Fog, Foam

Unsuitable extinguishing media: None known.

### **Specific hazards arising from the chemical e.g. hazardous combustion products that form when the substance or mixture burns:**

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.

Hazardous combustion products:

This product does not undergo spontaneous decomposition. Typical combustion products are carbon monoxide, carbon dioxide, nitrogen and water.

### **Special protective equipment and precautions for fire-fighters:**

Do not enter fire area without proper protection including self- contained breathing apparatus and full protective equipment.

## 6. Accidental release measures

### **Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment as required.

### **Environmental precautions:**

Not available

### **Methods and materials 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.

## 7. Handling and storage

### **Precaution for safe handling and storage:**

As with all chemicals, good industrial hygiene practices should be followed when handling this material.

### **Conditions for safe storage, including any incompatibilities:**

Safe storage conditions:

Keep container closed when not in use.

Static Sensitivity:

Yes

Other precautions:

Avoid dispersing the powder in the air. Prevent buildup of powder on surfaces.

Materials to Avoid/Chemical Incompatibility:

None known

## 8. Exposure controls/personal protection

Control parameters e.g. occupational exposure limit values, biological limit values:

Chemical Name	Thailand - Occupational Exposure Limits - TWA's	Thailand - Occupational Exposure Limits - STEL's	Thailand - Occupational Exposure Limits - CEIL's
No data available			

This product can produce a nuisance dust which should be maintained below a time weighted average of 10 mg/m<sup>3</sup>.

**Appropriate engineering controls:** General.

**Individual protection measures e.g. personal protective equipment:**

**Respiratory Protection:** NIOSH approved dust mask.

**Eye protection:** Safety glasses recommended.

**Skin protection:** Skin protection may be required depending on product temperature.

**Gloves:** Gloves are not normally required for foreseeable conditions of use.

**Other protective equipment:** Not normally required. Not applicable.

**General hygiene conditions:** Wash before eating, drinking, or using toilet facilities.

## 9. Physical and chemical properties

**Appearance (physical state, color etc.):**

Pure Substance or Mixture: Pure

Physical State: Powder

Color: White

**Odor:** Starch

**Odor Threshold:** Not available

**pH:** Not available

**pH in (1%) Solution:** Approximately 6

**Melting point/freezing point:**

Melting Point: Not available

Freezing point: Not available

**Initial boiling point and boiling range:** Not available

**Flash Point:** Not applicable

**Evaporation Rate:** Not applicable

**Flammability (solid, gas):** No

**Upper/lower flammability or explosive limits:**

Upper flammability or explosive limits: Not available

Lower flammability or explosive limits: Not available

Vapor pressure:	Not available
Vapor density:	Not available
Relative density:	1.5
Solubility:	Insoluble
Partition coefficient: n-octanol/water:	Not available
Heat of Decomposition:	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not applicable
Volatiles:	None
Volatile Organic Chemicals:	Not applicable

## 10. Stability and reactivity

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

## 11. Toxicological information

### Description of the various toxicological (health) effects, and the available data used to identify those effects:

Information of the likely routes of exposure:	Eye Contact, Skin Contact, Inhalation, Ingestion
Target Organs Potentially Affected By Exposure:	Not applicable.
Symptoms related to physical, chemical and toxicological characteristics:	No data available
Toxic Effects:	This product is considered as being non-toxic. Use of good industrial hygiene practices is recommended.

### Delayed and immediate effects and also chronic effects from short- and long-term exposure:

#### 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.

<b>Inhalation Toxicity:</b>	Based on available data, the GHS classification criteria are not met.
<b>Skin corrosion/irritation:</b>	Wash skin with soap and water. Unlikely to cause harmful effects under recommended conditions of handling and use.
<b>Serious eye damage/irritation:</b>	Based on available data, the GHS classification criteria are not met.
<b>Respiratory sensitisation:</b>	Based on available data, the GHS classification criteria are not met.
<b>Skin sensitisation:</b>	Based on available data, the GHS classification criteria are not met.
<b>Germ cell mutagenicity:</b>	Based on available data, the GHS classification criteria are not met.
<b>Reproductive Toxicity:</b>	Based on available data, the GHS classification criteria are not met.
<b>Carcinogenicity:</b>	No.
<b>Specific Target Organ Toxicity (STOT)-single exposure:</b>	Based on available data, the GHS classification criteria are not met.
<b>Specific Target Organ Toxicity (STOT) -repeated exposure:</b>	Based on available data, the GHS classification criteria are not met.
<b>Aspiration hazard:</b>	Based on available data, the GHS classification criteria are not met.

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

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

**12. Ecological information**

**Toxicity (aquatic and terrestrial):** No information available.

**Ecological Toxicity Data:**

Chemical Name	CAS Number	Aquatic LC50 Fish	Aquatic ERC50 Algae	Aquatic EC50 Crustacea
No data available				

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** Unknown

**Other adverse effects:** None known.

**13. Disposal considerations**

**Description on waste residue and** Disposal should be in accordance with local, state or national legislation.

safety transfer method, including appropriate disposal methods of waste residues and contaminated packaging:

## 14. Transport information

<b>UN Transport classification:</b>	Not regulated
<b>UN Number:</b>	Not applicable
<b>Proper shipping name or technical name:</b>	Not applicable
<b>Transport hazard class:</b>	Not applicable
<b>Packing group:</b>	Not applicable
<b>Toxic Inhalation Hazard Zone:</b>	No data available
<b>Environmental hazards (e.g., Marine pollutant (Yes/No)):</b>	No data available
<b>Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):</b>	No data available
<b>Special precautions for users, which a user needs to be aware of or needs to comply with in connection with transport either inside or outside the business site:</b>	Consult IMO regulations before transporting in bulk by ocean.

## 15. Regulatory information

### Safety, health and environmental regulations:

<b>TSCA Status:</b>	This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C. 2601 et. seq.
<b>FDA</b>	21CFR172.892.

### Thailand - Toxic Chemical Substance List

Chemical Name	CAS Number	Thailand - Toxic Chemical Substance List
No data available		

### Thailand - Priority Management Chemical List

Chemical Name	CAS Number	Thailand - Priority Management Chemical List
No data available		

### Thailand - Thailand Explosive Substance and Precursors

Chemical Name	CAS Number	Thailand - Thailand Explosive Substance and Precursors
No data available		

**Montreal Protocol on Substances that Deplete the Ozone Layer,**

Chemical Name	CAS Number	Montreal Protocol on Substances that Deplete the Ozone Layer,
No data available		

**Stockholm Convention on Persistent Organic Pollutants**

Chemical Name	CAS Number	Stockholm Convention on Persistent Organic Pollutants
No data available		

**Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.**

Chemical Name	CAS Number	Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.
No data available		

**Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.**

Chemical Name	CAS Number	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.
No data available		

**16. Other information, including date of preparation or last revision.**

**Revision Date:** 12-22-2022

**Supersedes:** 12-09-2022

**Revision Number:** 5

**Reason for revision:** New

**For Information Contact** Thailand:  
 Ingredion (Thailand) Co., Ltd  
 Customer Service: +66-2-725-0200

**Disclaimer:**

The attached data has been compiled from sources which Ingredion Incorporated and the Ingredion group of



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