

## 1. Identification

**Product identifier:**

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

**Other means of identification:**

Chemical family: Modified starch

**Recommended use of chemical and restrictions on use:**

Recommended use: Food products  
Restrictions on use: Not Available

**Supplier's details:**

Ingredion Singapore Pte Ltd.  
21 Biopolis Road  
#05-21/27 Nucleos  
Singapore 138567  
Tel:+65 6872 6006 (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

Classification according to Regulation: SS 586: Part 2: 2014:

**Hazard pictograms:** No hazard symbols required

**GHS Classification of the substance or mixture:** Not classified by GHS criteria

**Signal Word:** No signal word needed.

**Hazard Statements:** No Hazard Statement needed.

**Precautionary Statements:** No Precautionary Statement needed.

**Other hazards which do not result in classification:** None known.

### 3. Composition/information on ingredients

Chemical Name	CAS No.	Concentration (% by weight)
Not classified as hazardous.		

### 4. First aid measures

**Description of necessary 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.

Skin Contact: Wash skin with soap and water.

Ingestion: None required.

**Description of acute and delayed symptoms/effects:** 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

## Extinguishing media:

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

Unsuitable extinguishing media: None known.

## Specific hazards arising from the chemical:

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 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, emergency procedures:

Use personal protective equipment as required.

### Environmental precautions:

No data available

### 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.

## 7. Handling and storage

### Precautions for safe handling:

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

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

Conditions for safe storage: 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/ Occupational exposure limits or biological limit values:**

Chemical Name	Singapore - Occupational Exposure Limits - PELs	Singapore - Occupational Exposure Limits - STELs	Singapore - Biological Exposure Limits
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:**
- Respiratory Protection:** NIOSH approved dust mask.
- Eye and face 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.

<b>9. Physical and chemical properties</b>
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- Appearance (physical state, colour etc.):**
- Pure Substance or Mixture: Pure
- Physical State: Powder
- Colour: White
- Odour:** Starch
- Odour 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
Vapour pressure:	Not available
Vapour density:	Not available
Relative density:	1.5
Solubility:	Insoluble
Partition coefficient: n-octanol/water:	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 on possible 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.
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.

<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**

**Eco-toxicity:** No information available.

**Ecological Toxicity Data:**

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

<b>Persistence and degradability:</b>	No data available
<b>Bioaccumulative potential:</b>	No data available
<b>Mobility in soil:</b>	Unknown
<b>Other adverse effects:</b>	None known.

## 13. Disposal considerations

**Description of waste residues and information on their safe handling and methods of disposal:**

Disposal should be in accordance with local, state or national legislation.

## 14. Transport information

**DOT Classification:** Not regulated  
**UN number:** Not applicable  
**Proper shipping name or technical name:** Not applicable  
**Transport hazard class:** Not applicable  
**Packing group:** Not applicable  
**Toxic Inhalation Hazard Zone:** No data available

**Environmental hazards for transport purposes:** No data available

**Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** No data available

**Special precautions for user:** Consult IMO regulations before transporting in bulk by ocean.

## 15. Regulatory information

### Safety, health and environmental regulations:

**TSCA Status:** This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C. 2601 et. seq.

**FDA** 21CFR172.892.

### Montreal Protocol on Substances that Deplete the Ozone Layer

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

### Stockholm Convention on Persistent Organic Pollutants

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

**Singapore List of Hazardous Substances**

Chemical Name	CAS No.	Singapore List of Hazardous Substances
No data available		

**Singapore - HAZCHEM Emergency Action Code(Commonwealth)**

Chemical Name	CAS No.	Singapore - HAZCHEM Emergency Action Code(Commonwealth)
No data available		

**16. Other information**

**Revision Date:** 08-04-2023  
**Supersedes:** 02-24-2023  
**Revision Number:** 5  
**Reason for revision:** New

**For Information Contact:** Singapore:  
 Ingredion Singapore Pte Ltd.  
 Customer Service: +65 6872 6006

**Hazard Statements:** No Hazard Statement needed.

**Precautionary Statements:** No Precautionary Statement needed.

**Disclaimer:**





# Safety Data Sheet

N-DULGE(TM) 320

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