



# SAFETY DATA SHEET

N-DULGE(TM) 320

## 1. Identification

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**Product identifier:** 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 (including name, address, and telephone number etc):**

### **SUPPLIER**

Ingredion Singapore Pte Ltd.

21 Biopolis Road

#05-21/27 Nucleos

Singapore 138567

Tel:+65 6872 6006 (business hours)

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

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**GHS Classification of the substance or mixture:**

Classification according to Regulation: SS 586: Part 2: 2014: Not classified by GHS criteria

**GHS Label elements:****GHS label elements, including precautionary statements:**

Hazard pictograms: No hazard symbols required

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

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**Substances:**

Not applicable

**Mixtures:**

Chemical Name	CAS No.	%
This product is not classified as hazardous		

## 4. First-aid measures

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**Description of necessary measures:**

**Inhalation:** Remove to fresh air. Get medical attention if irritation persists.  
**Eye contact:** If symptoms develop, obtain medical attention. Remove particles by irrigating with eye wash solution or clean water, holding the eyelids apart.  
**Skin Contact:** Wash skin with soap and water.  
**Ingestion:** None required.  
**Self protection of the first aider:** No data available  
**Most important symptoms/effects, acute and delayed:** Possible physical irritant from dust particles. Potential for dust explosion.

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**Indication of immediate medical attention and special treatment needed, if necessary:** None known.

## 5. Fire-fighting measures

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**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 and precautions for fire-fighters:** No special procedures are required.

## 6. Accidental release measures

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**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.

**Environmental precautions:** No data available

**Methods and material for containment and cleaning up:**

**Small spills:** Refer to information provided for large spills

**Large spills:** 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.

**Reference to other sections:** See Section 8 for appropriate personal protective equipment. See Sections 2 and 7 for additional information on hazards and precautionary measures.

## 7. Handling and storage

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**Precautions for safe handling:** Normal precautions for handling chemicals are applicable.

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

**Conditions for safe storage:**

**Special Sensitivity:** Not available

**Sensitivity to Static Electricity:** Yes

**Other Precautions:** Use care to minimize dust generation in normal use conditions.  
 Avoid dispersing the powder in the air. Prevent buildup of powder on surfaces.

**Materials to avoid:** None known

**Materials to Avoid/Chemical Incompatibility:** No data available

**Specific end use(s):** Food products

## 8. Exposure controls/personal protection

**Control parameters/ Occupational exposure limits or biological limit values:**

**Occupational Exposure limit values:**

Chemical Name	Singapore - Occupational Exposure Limits - STELs	Singapore - Biological Exposure Limits
Not listed.		

**Exposure controls:**

**Appropriate engineering controls:** No data available

**Individual protection measures, such as personal protective equipment:**

**Eye and face protection:** Safety glasses recommended.

**Skin Protection:**

**Hand protection:** The use of chemically resistant gloves is recommended.

**Other skin protection:** Not applicable. Uniforms, coveralls, or a lab coat should be worn.

**Respiratory Protection:** No data available

**Respirator Type(s):** NIOSH approved dust mask.

**Other Protective Equipment:** Wash before eating, drinking, or using toilet facilities.

**General Hygiene Conditions:** Not normally required.

**Thermal Hazards:** Not available

**Environmental exposure controls:** Avoid runoff into storm sewers and ditches that lead to waterways.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties:**

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

**Colour:** White

**Odour:** Starch

**Odour threshold:** Not available

<b>pH:</b>	Not available
<b>pH in (1%) Solution:</b>	Approximately 6
<b>Melting point / freezing point (°C):</b>	
<b>Melting point (°C):</b>	Not available
<b>Freezing point (°C):</b>	No data available
<b>Initial boiling point and boiling range (°C):</b>	No data available
<b>Flash point (°C):</b>	No data available
<b>Flash point method:</b>	Not available
<b>Evaporation rate:</b>	Not applicable
<b>Flammability (solid, gas):</b>	Not available
<b>Upper/lower flammability or explosive limits:</b>	
<b>Upper flammable or explosive limit, % in air:</b>	Not available
<b>Lower flammable or explosive limit, % in air:</b>	Not available
<b>Vapour pressure:</b>	Not available
<b>Vapour density:</b>	Not available
<b>Relative density:</b>	1.5000000
<b>Solubility(ies):</b>	Insoluble
<b>Partition coefficient: n-octanol/water:</b>	Not available
<b>Auto-ignition temperature (°C):</b>	No data available
<b>Decomposition temperature (°C):</b>	Not available
<b>Viscosity:</b>	Not available
<b>Other information:</b>	
<b>Heat of decomposition:</b>	Not available
<b>Volatiles by weight:</b>	Not available
<b>Volatile Organic Chemicals:</b>	Not available
<b>Molecular formula:</b>	Not available
<b>Molecular weight:</b>	> 10000
<b>Liquid density:</b>	Not available
<b>VOC (as applied*- 2% by wt hardener-less exempts and water):</b>	NAP or
<b>Bulk density:</b>	Not available

## 10. Stability and reactivity

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<b>Reactivity:</b>	Not expected to be reactive
<b>Chemical stability:</b>	Stable

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**Possibility of hazardous reactions:** Hazardous polymerization will not occur.  
**Conditions to avoid (e.g. static discharge, shock or vibration):** None known.  
**Incompatible materials:** No data available  
**Hazardous decomposition products:** This product does not undergo spontaneous decomposition. Typical combustion products are carbon monoxide, carbon dioxide, nitrogen and water.

## 11. Toxicological information

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### Information on toxicological effects:

#### Acute toxicity:

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
No data available			

#### Skin corrosion/irritation:

Based on available data, the GHS classification criteria are not met.  
 Unlikely to cause harmful effects under recommended conditions of handling and use.  
 Low order of toxicity.

#### Serious eye damage/irritation:

Based on available data, the GHS classification criteria are not met.

#### Respiratory or skin sensitisation:

Based on available data, the GHS classification criteria are not met.

#### Germ cell mutagenicity:

Based on available data, the GHS classification criteria are not met.

#### Carcinogenicity:

Based on available data, the GHS classification criteria are not met.

#### Reproductive and Developmental Toxicity:

Based on available data, the GHS classification criteria are not met.

#### STOT-single exposure:

Based on available data, the GHS classification criteria are not met.

#### 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.

## 12. Ecological information

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**Toxicity:** Low toxicity to aquatic organisms.

**Ecological Toxicity Data:**

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

**Persistence and degradability:**

**Bioaccumulative potential:** No data available

**Mobility in soil:** Unknown

**Other adverse effects:** None known.

**Additional information:** No data available

## 13. Disposal considerations

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**Waste treatment methods:**

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

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

## 14. Transport information

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**International carriage of dangerous goods by road (ADR), rail or inland waterways:**

**UN number:** No data available

**UN proper shipping name:** Not applicable

**Transport hazard class(es):** Not Applicable

**Packing group:** Not applicable

**International carriage of dangerous goods by sea (IMDG/IMO):**

**UN number:** No data available

**UN proper shipping name:** Not applicable

**Transport hazard class(es):** Not applicable

**Packing group:** Not applicable

**International carriage of dangerous goods by air (IATA):**

**UN number:** No data available

**UN proper shipping name:** Not Applicable

**Transport hazard class(es):** Not applicable  
**Packing group:** Not applicable  
**Environmental hazards (e.g.: Marine pollutant (Yes/No)):** Not available  
**Special precautions for user:** Consult IMO regulations before transporting in bulk by ocean.  
**Transport in bulk (according to ANNEX II of MARPOL 73/78 and the IBC Code):** Not available

## 15. Regulatory information

**TSCA** 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.

Safety, health and environmental regulations specific for the product in question.:

Chemical Name	CAS No	Singapore Arms and Explosives Act	Singapore List of Hazardous Substances	Singapore Chemical Weapons	Singapore Workplace Safety Act	Singapore Environmental Protection and Management Act
None of the components are listed on this regulatory list						

### Chemical Inventory Status:

Chemical Name	CAS No	AICS	DSL	IECSC	ENCS	TSCA Status	EINECS	PICCS
None of the components are listed on this regulatory list								

### Singapore - Ozone Depleting Substances:

Chemical	CAS No	Annex A -	Annex A -	Annex B -	Annex B -	Annex B -	Annex C -	Annex C -	Annex C -	Annex E



Name	Group I	Group II	Group I	Group II	Group III	Group I	Group II	Group III	
None of the components are listed on this regulatory list									

**Singapore - HAZCHEM Emergency Action Code:**

Chemical Name	CAS No	Singapore - HAZCHEM Emergency Action Code
None of the components are listed on this regulatory list		

**16. Other information**

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**Revision Date:** 12-04-2021  
**Supersedes:** 26-05-2020  
**Revision Number:** 5  
**Reason for revision:** New

**FOR INFORMATION CONTACT:** Singapore:  
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**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



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SCOEL= Scientific Committee on Occupational Exposure Limits

TLV = Threshold Limit Value

TWA= Time Weighted Average

vPvB= Very Persistent, Very Bioaccumulative

Wt.% = Weight Percent

**Prevention:**

No Precautionary Statement needed.

**Disclaimer:**

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