

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/m³.

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.

9. Physical and chemical properties

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.

Inhalation Toxicity:	Based on available data, the GHS classification criteria are not met.
Skin corrosion/irritation:	Wash skin with soap and water. 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.
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:	No.
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.

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				

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: Unknown

Other adverse effects: 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: 02-24-2023

Supersedes: 12-22-2022

Revision Number: 4

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:

Ingredion Incorporated and the Ingredion group of companies does not make any warranty or representation respecting the accuracy or completeness of the data. We assume no responsibility for any liability or damages relating thereto, or for advising you regarding the protection of your employees, customers, or others. You should make your own determination regarding the applicability of such information to, or the suitability of any products for your specific use. Ingredion Incorporated and the Ingredion group of companies expressly disclaims all warranties, expressed or implied, including but not limited to, warranties of merchantability, accuracy, fitness for use or for a particular purpose, and noninfringement. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to sales of products by Ingredion Incorporated and the Ingredion group of companies. The INGREDION mark and logo are trademarks of the Ingredion group of companies.