



Material Safety Data Sheet

N-DULGE(TM) 320

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: N-DULGE(TM) 320
food starch

RECOMMENDED USE: Food products

SUPPLIER

National Starch Pty Ltd
New Zealand Branch
Unit 5, 706 Great South Road
Penrose Auckland 1642
New Zealand
Tel: +64 9 582 0284 (business hours)

MANUFACTURER

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

GHS Classification:	Not classified by GHS criteria
GHS Signal Word:	No signal word needed.
GHS Hazards:	No Hazard Statement needed.
GHS Safety Precautions:	No Precautionary Statement needed.

EMERGENCY OVERVIEW

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

White Powder. Starch Odor

Eye: Particulates may scratch eye surfaces and cause mechanical irritation.
Skin Contact: Low order of toxicity.

Inhalation	This product can produce a nuisance dust which should be maintained below a time weighted average of 10 mg/m ³ .
Ingestion	Low oral toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY Modified Starch

COMPONENT	CAS NUMBER	CONCENTRATION (% by weight)
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Not classified as hazardous.

4. FIRST-AID MEASURES

EYE	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.
INHALATION	Remove to fresh air. Get medical attention if irritation persists.
INGESTION	None required.

5. FIREFIGHTING MEASURES

AUTOIGNITION	Not available
FLASH POINT	Not available
EXTINGUISHING MEDIA	Dry Chemical; CO ₂ ; Water Fog; Foam
SPECIAL FIREFIGHTING PROCEDURES	No special procedures are required.
FIRE & EXPLOSION HAZARDS	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.
LOWER EXPLOSION LIMIT (%)	No data available
UPPER EXPLOSION LIMIT (%)	No data available

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES	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.
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For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE	Ambient.
HANDLING/STORAGE	Normal precautions for handling chemicals are applicable.
SENSITIVITY TO STATIC ELECTRICITY	Yes
SPECIAL SENSITIVITY	Not available
SENSITIVITY TO MECHANICAL IMPACT	No
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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

No data available

VENTILATION REQUIREMENTS	General.
EYE PROTECTION REQUIREMENTS	Safety glasses recommended.
GLOVE REQUIREMENTS	Gloves are not normally required for foreseeable conditions of use.
CLOTHING REQUIREMENTS	Not applicable.
CHANGE/REMOVAL OF CLOTHING	Not normally required.
WASH REQUIREMENTS	Wash before eating, drinking, or using toilet facilities.
RESPIRATOR REQUIREMENTS	NIOSH approved dust mask.

9. PHYSICAL AND CHEMICAL PROPERTIES

PURE SUBSTANCE OR MIXTURE	Pure
PHYSICAL FORM	Powder.
COLOR	White
ODOR	Starch
ODOR THRESHOLD	Not available
MOLECULAR WEIGHT	> 10000
PH AS IS	Not available
pH IN (1%) SOLUTION	Approximately 6
OXIDIZING PROPERTIES	Not applicable
BOILING POINT	Not available
MELTING/FREEZING POINT	Not available
SOLUBILITY IN WATER	Insoluble
PARTITION COEFFICIENT (n-octanol/water)	Not available
VISCOSITY	Not applicable
SPECIFIC GRAVITY (WATER=1)	1.5
EVAPORATION RATE	Not available
VAPOR PRESSURE (mmHg)	Not available
VAPOR DENSITY (air = 1)	Not available
VOLATILES	None
VOLATILE ORGANIC COMPOUNDS	Not applicable
AUTOIGNITION	Not available
FLASH POINT	Not available

10. STABILITY AND REACTIVITY

STABILITY	Stable
STABILITY DETAIL	Material is stable under normal temperatures and pressures.
MATERIALS TO AVOID	None known
CONDITIONS TO AVOID	None known
HAZARDOUS DECOMPOSITION PRODUCTS	This product does not undergo spontaneous decomposition. Typical combustion products are carbon monoxide, carbon dioxide, nitrogen and water.
HAZARDOUS POLYMERIZATION CONDITIONS	Hazardous polymerization will not occur.
REACTIVITY	Not expected to be reactive

11. TOXICOLOGICAL INFORMATION

ROUTE OF ENTRY	Eye Contact; Skin Contact; Inhalation; Ingestion
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CARCINOGENIARC
(group)NTP CarcinogenOSHA Substance
Specific Regulation**COMPONENT**

There is no evidence that this product poses a carcinogenic risk under normal conditions of handling and use.

PRODUCT TOXICOLOGY**PRODUCT INFORMATION**

No data available

ACUTE (SHORT TERM) EFFECTS OF EXPOSURE**EFFECTS OF ACUTE EXPOSURE**

Unlikely to cause harmful effects under recommended conditions of handling and use.

CHRONIC (LONG TERM) EFFECTS OF EXPOSURE**EFFECTS OF CHRONIC EXPOSURE**

This product is considered as being non-toxic. Use of good industrial hygiene practices is recommended.

TARGET ORGANS

Not applicable.

12. ECOLOGICAL INFORMATION

POTENTIAL EFFECT ON ENVIRONMENT	No data available
MOBILITY	Unknown.
PERSISTENCE AND DEGRADABILITY	No data available
POTENTIAL TO BIOACCUMULATE	Unknown.
ECOTOXICITY	No information available.
AQUATIC TOXICITY	None Established

13. DISPOSAL CONSIDERATIONS

WASTE 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. TRANSPORTATION INFORMATION

This section provided for general information only. The shipping description below may not represent requirements for all modes of transportation, packaging, shipping methods or locations outside of the United States.

FOR MORE COMPLETE TRANSPORTATION REGULATORY INFORMATION PLEASE REFER TO THE SHIPPING DOCUMENTS ACCOMPANYING THE SHIPMENT OF THIS PRODUCT.

DOT CLASSIFICATION	Not regulated
PROPER SHIPPING NAME	Not Applicable
HAZARD CLASS	Not Applicable
U.N. NUMBER	Not applicable

PACKING GROUP Not Applicable

ICAO/IATA CLASSIFICATION Not regulated
PROPER SHIPPING NAME Not Applicable
HAZARD CLASS Not Applicable
U.N. NUMBER Not Applicable
PACKING GROUP Not Applicable

IMO/IMDG CLASSIFICATION Not regulated
PROPER SHIPPING NAME Not Applicable
HAZARD CLASS Not Applicable
U.N. NUMBER Not Applicable
PACKING GROUP Not Applicable

FLASH POINT Not available
MARINE POLLUTANT NAME Not available
IMO MFAG See Tables 1-15 based on symptoms.

The information provided herein may not include the impact of additional regulatory requirements (eg, for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/of marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.

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.

16. OTHER INFORMATION

ISSUE DATE: 26-May-2020
FOR INFORMATION CONTACT: New Zealand: Ingredion ANZ Pty Ltd
Customer Service : +64-9-5820284 (Business Hours)

ADDITIONAL INFORMATION: The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.