



SAFETY DATA SHEET

N-DULGE® C2

1. Identification

Product identifier used on the label:

PRODUCT NUMBER (NEW): 06760100
PRODUCT NUMBER (OLD): 51-1332
PRODUCT NAME: N-DULGE® C2
modified food starch

Other means of identification

Chemical Family: Modified Starch

Recommended use of the chemical and restrictions on use

Recommended use: Food products
Restrictions on uses: Not Available

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Ingredion Incorporated
5 Westbrook Corporate Center
Westchester, Il. 60154
USA
Emergency phone number: 1-800-424-9400 (CHEMTREC)
MEDICAL: 866-374-2659 (Health & Safety Call Center-24 hours)
MSDS Requests/Customer Service: See phone numbers in Section 16

2. Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200

GHS Classification: Combustible Dust Category 1
GHS Signal Word: Warning
GHS Hazard Statements: May form combustible dust concentrations in air
Hazards not otherwise classified: No data available

3. Composition/information on ingredients

Chemical Name:	CAS number and other unique identifiers	% (or range) of ingredient
None classified as hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).		

4. First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation,

skin and eye contact, and ingestion

Inhalation:	Remove to fresh air. Get medical attention if irritation persists.
Eyes:	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., nature of any hazardous combustion products): Minimum ignition temperature of dust cloud- approx. 390 C. Minimum explosive concentration- approx. 70 mg/l. Minimum energy to ignite cloud by electrical spark- approx. 0.06 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

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment as required.

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

Conditions for safe storage, including any incompatibilities Ambient.

Sensitivity to Mechanical Impact: No

Sensitivity to Static Electricity: Yes

Other Precautions: Use care to minimize dust generation in normal use conditions.

Materials to Avoid/Chemical Avoid dispersing the powder in the air. Prevent buildup of powder on surfaces. None known



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Incompatibility:

8. Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available:

Chemical Component	OSHA PEL	ACGIH TLV-TWA	AIHA 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

Ventilation Requirements: General.

Individual protection measures, such as personal protective equipment.:

Eye Protection: Safety glasses recommended.
Skin Protection: Gloves are not normally required for foreseeable conditions of use.
Respiratory Protection: NIOSH approved dust mask.
Other Protective Equipment: Not normally required.
General Hygiene Conditions: Wash before eating, drinking, or using toilet facilities.
Change/Removal of Clothing: Not applicable.

9. Physical and chemical properties

Pure Substance or Mixture: Pure
Appearance (physical state): Powder.
Color: White
Odor: Starch
Odor threshold: Not available
Molecular Weight: > 10000
pH: Not available
pH in (1%) Solution: Approximately 6.5
Melting Point/Freezing Point (°C): Not available
Initial Boiling Point and Boiling Range (°C): Not available
Flash Point (°C): Not applicable
Evaporation Rate: Not applicable
Flammability (solid, gas): No
Upper Flammable/Explosive Limit: Not applicable
Lower Flammable/Explosive Limit: Not applicable
Vapor Pressure: Not applicable
Vapor Density: Not applicable

Relative Density:	Not available
Specific Gravity	1.5
Solubility(ies) in Water:	Insoluble
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition Temperature (°C):	Not available
Decomposition Temperature:	Not determined.
Viscosity:	Not applicable
Volatiles	None
Volatile Organic Compounds	Not applicable

10. Stability and reactivity

Reactivity:	Not expected to be reactive
Chemical stability:	Material is stable under normal temperatures and pressures.
Possibility of hazardous reactions:	Hazardous polymerization will not occur.
Conditions to avoid (e.g., static discharge, shock, or vibration):	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

Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):	Eye Contact, Skin Contact, Inhalation, Ingestion
Symptoms related to the physical, chemical and toxicological characteristics:	No data available

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

Acute (Short Term) Effects of Exposure

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

Numerical measures of toxicity (such as acute toxicity estimates)



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Has the chemical been classified as a Carcinogen by NTP, IARC or OSHA.

Chemical Name	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen
There is no evidence that this product poses a carcinogenic risk under normal conditions of handling and use.			

12. Ecological information

Ecotoxicity (aquatic and terrestrial, where available):	No information available.
Persistence and degradability:	No data available
Bioaccumulative potential:	Unknown.
Mobility in soil:	Unknown.
Other adverse effects (such as hazardous to the ozone layer):	No data available

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 MSDS and label warnings even after they have been emptied.
Waste Disposal Code(s):	No data available

14. Transport information

DOT Classification	Not regulated
UN number:	No data available
UN proper shipping name:	Not Applicable
Transport hazard class(es):	Not Applicable
Packing group, if applicable:	Not Applicable
Environmental hazards:	No data available
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	No data available

15. Regulatory information

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.



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SARA - Section 313 (Superfund Amendments and Reauthorization Act of 1986 - 40CFR 372)

CAS NUMBER

CONCENTRATION

(% by weight)

Contains no substances at or above the reporting threshold under Section 313.

CALIFORNIA PROPOSITION 65

WARNING: This product contains the following chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm.

Unless a concentration is specified in Section 2 of the MSDS, the below chemical/s are present in trace amounts.

Component CAS NUMBER

None reportable.

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

HMIS® Hazard Ratings

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs by OSHA's 29 CFR 1910.1200, we choose to provide them as a service to our customers using HMIS®. These ratings are to be used only with a fully implemented HMIS® program. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

NPCA recommends that employers must determine appropriate PPE for the actual conditions under which this product is used in their workplace. For information on PPE codes, consult the HMIS® Implementation Manual.

When two ratings are provided for Health, the first represents the material 'as supplied', and the second represents the material 'in use'.

* = chronic health hazard

HMIS® is a registered trademark of the National Paint and Coatings Association (NPCA).

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
1	1	0

MSDS DATE

22-July-2015

FOR INFORMATION CONTACT:

For product information, contact:

Ingredion Incorporated

Customer Service: 1-800-859-8569

Technical Service Support: 1-800-743-6343

CHANGES SINCE PREVIOUS ISSUE

Section 1

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