



Safety Data Sheet

ULTRA-CRISP CS

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ULTRA-CRISP CS
RECOMMENDED USE: Food products

SUPPLIER

National Starch & Chemical (Thailand) Limited
40/14 Moo 12, Bangna-Trad Road,
Bangplee, Samutprakarn 10540
Thailand
Tel: +662-725-0200 (business hours)

MANUFACTURER

Ingredion Incorporated
5 Westbrook Corporate Center
Westchester, Il. 60154
United States of America

National Starch & Chemical (Thailand) Limited
40/14 Moo 12, Bangna-Trad Road,
Bangplee, Samutprakarn 10540
Thailand
Tel: +662-725-0200 (business hours)

Emergency Telephone (Medical & Transport - 7Days/24 Hours)

ALERT-SGS Emergency Response Service Hotline

Toll Free Number: +800 253 78 747 available for Australia, New Zealand, Japan, China, Hong Kong, Malaysia, Philippines, Singapore, South Korea, and Thailand

Any countries out of the above lists: +(65) 6542 9595

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
----------------------------	--------------------------------

EMERGENCY OVERVIEW

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

PHYSICAL FORM : 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/m³.
INGESTION Low oral toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY Starch

COMPONENT	CAS NUMBER	CONCENTRATION (% by weight)
-----------	------------	--------------------------------

None classified as hazardous under the OSHA Hazard
Communication Standard (29CFR 1910.1200).

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 applicable
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. 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.
LOWER EXPLOSION LIMIT (%)	Not applicable
UPPER EXPLOSION LIMIT (%)	Not applicable

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.

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
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 3.5
OXIDIZING PROPERTIES	Not applicable
BOILING POINT	Not available
MELTING/FREEZING POINT	Not available
SOLUBILITY IN WATER	Soluble
PARTITION COEFFICIENT (n-octanol/water)	Not applicable
VISCOSITY	Not applicable
SPECIFIC GRAVITY (WATER=1)	1.5
EVAPORATION RATE	Not applicable
VAPOR PRESSURE (mmHg)	Not applicable
VAPOR DENSITY (air = 1)	Not applicable
VOLATILES	None
VOLATILE ORGANIC COMPOUNDS	Not applicable
AUTOIGNITION	Not available
FLASH POINT	Not applicable

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		
CARCINOGEN	<u>IARC</u>	<u>NTP Carcinogen</u>	<u>OSHA Substance</u>
	<u>(group)</u>		<u>Specific Regulation</u>
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 MSDS 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 No data available
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/MDG CLASSIFICATION	Not regulated
PROPER SHIPPING NAME	Not Applicable
HAZARD CLASS	Not Applicable
U.N. NUMBER	Not Applicable
PACKING GROUP	Not Applicable

FLASH POINT	Not applicable
MARINE POLLUTANT NAME	No data 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	21CFR182.1.

16. OTHER INFORMATION

ISSUE DATE:	05-August-2015
FOR INFORMATION CONTACT:	Thailand: National Starch and Chemical (Thailand) Ltd. Customer Service: +66-2-725-0200

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.