

## N-DULGE™ CI

**Description:** Chemically modified food starch refined from tapioca. N-DULGE CI is a co-texturiser designed to deliver unique mouthcoating properties in high moisture food systems. It can support and / or enhance the perception of creaminess and smoothness.

**Appearance:** Fine white/creamy powder

Features	Benefits
Changes consumer perceived textural attributes driven by mouthcoating and meltaway profiles. Key examples are creaminess and smoothness.	Enables food manufacturers to target a specific consumer perceived texture and sensory profile. Creates opportunities for textural differentiation within a product category. Improves existing products by enhancing the perception of critical textural attributes, such as creaminess.
Mimics the properties of fat and oil in a range of applications. Easy to disperse and activate	Particularly suitable as fat mimetic for developing low fat formulas without compromising the critical sensory attributes that drive consumer preference.
Easy to disperse and activate. Excellent heat and shear resistance. Not sensitive to salt / pH.	Easy to use. Can be incorporated into existing manufacturing processes with no step changes. Robust performance.
Excellent freeze / thaw stability. Minimal contribution to overall viscosity.	Can be used across many formulations, across several processed food applications. Highly versatile co-texturiser.
Visual impact ('texture you see'): moderately translucent and glossy appearance.	Suitable for applications where visibility of inclusions or gloss and surface sheen are important, eg sauces, dressings and marinades.

## APPLICATION AND USAGE INFORMATION

### Application Summary:

N-DULGE CI is a co-texturiser designed to deliver unique mouthcoating properties in high moisture food systems. It is a unique tool that effectively provides consumer-friendly textural attributes, such as creaminess and smoothness. N-DULGE CI is therefore an effective fat mimetic in low fat applications, enabling food manufacturers to create low fat products with the same body, mouthcoating and meltaway as their full fat equivalents.

N-DULGE CI is part of our N-DULGE range – a group of co-texturisers that creates opportunities for textural differentiation within product portfolios, enabling our customers to respond to consumer preferences. These co-texturisers are typically used as part of a texturiser system that would also include thickening starches to set the right texturising backbone.

The N-DULGE range currently also includes N-DULGE C2, N-DULGE SA1 and N-DULGE CA1. These co-texturisers each have unique and diverse mouthcoating and meltaway properties.

### Typical applications include:

Dairy desserts, dressings, sauces (including emulsified sauces to be served either hot or cold), marinades, beverages, bakery fillings and ice-cream. The ingredient is especially suitable for low fat alternatives within those application areas.

Effective Date: 01.10.2012 [1]

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**Usage Information:**

N-DULGE CI must be heated above 65 °C to activate the ingredient and achieve the desired molecular dispersion. Typical usage levels in liquid systems are between 0.3 to 2.0%, depending on the food system and the required intensity of the desired textural attributes. It disperses easily in cold water. This ingredient is typically added in a stirred vessel during the aqueous phase and heats to at least 65 °C. N-DULGE CI can also be added directly to dry mix products designed to be reconstituted with hot / boiling water.

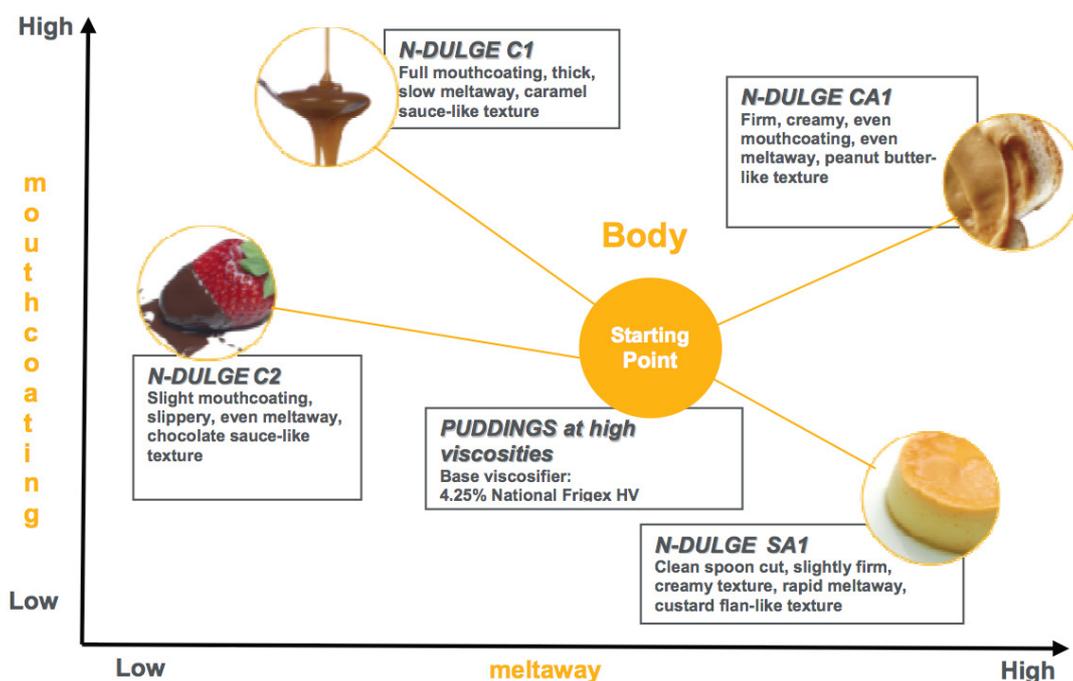
**How to choose:**

Please contact our texture experts for professional guidance on how to use N-DULGE CI in your specific application or for help choosing the best variety of N-DULGE to achieve the textural and sensorial properties required.

Note: Evaluation of N-DULGE CI is recommended in each specific application since factors such as heating rate, solid content, shear / stress conditions, pH and the presence of other ingredients such as sugar and fat will all affect gelatinisation and processing behaviour and therefore the final textural and sensorial properties. We will gladly assist you in finding the optimal usage level of N-DULGE CI for your application.

**Label declaration recommendation:** Modified Starch

**EU Classification:** Food Additive E1440 (Complies with Regulation (EC) 1333/2008)



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**Ingredion UK Limited**  
Prestbury Court,  
Greencourts Business Park  
333 Styal Road  
Manchester M22 5LW  
England

P: +44 (0) 161 435 3200  
F: +44 (0) 161 435 3300

Registered in England No. 07315745

**Ingredion Germany GmbH**  
Grüner Deich 110  
20097 Hamburg  
Germany

P: +49 (0) 40 23 91 50  
F: +49 (0) 40 23 91 51 70

Amtsgericht Hamburg HRB 105432

**Ingredion South Africa (Pty) Ltd**  
Infinity Office Park, Suite 6, Block C,  
2 Robin Close, Meyersdal, 1448,  
Gauteng  
RSA

P: +27 (0) 11 867 9260  
F: +27 (0) 11 867 9271

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