

SOLUTIONS TO OPTIMISE PAPERMAKING

# Save on time and money the nature-based way



## Boost product quality and reduce operating costs with **Ingredion liquid natural polymers**

Ingredion's ready-to-use liquid natural polymers (LNP) can help improve your paper and board products while saving you time and money. In addition, these biopolymers are based on renewable and sustainable raw materials, that also aid in reducing or eliminating synthetic alternatives. As a result, you can boost your company's green credentials and appeal to today's more eco-conscious customers.

CONVENIENCE & PERFORMANCE™ 

Ingredion  
**idea labs**®   
IDEAS TO SOLUTIONS

# Increase productivity and improve performance

Ingredion's range of ready-to-use liquid natural polymers include the REDIBOND<sup>®</sup>, REDIPRO<sup>®</sup> and REDISIZE<sup>®</sup> natural polymers. All these products are suitable to be used together with pulp furnishes such as Bleached Hardwood Kraft Pulp (BHKP), Bleached Softwood Kraft Pulp (BSKP), Bleached Chemical Thermo-Mechanical Pulp (BCTMP) as well as De-Inking Pulp (DIP) and various types of Old Corrugated Carton (OCC) utilised in today's paper industry.

## REDIBOND<sup>®</sup> natural polymers

- Ready-to-use liquid natural polymers that can provide increased strength, productivity and quality cost-effectively in tissue and towel applications.
- The dry-strength qualities of these liquid natural polymers allow you to save money by using less fibres or cheaper fibres. In addition, they can extend your mill's operating window allowing you to reduce refining energy, thereby saving on energy costs.

## REDIPRO<sup>®</sup> natural polymers

- Ready-to-use liquid natural polymers that can boost fines and filler retention, whilst at the same time significantly improving drainage. This in turn opens up opportunities for a substantial increase in machine speed and reduced usage of chemical additives.
- These products are extremely efficient at attracting fines and filler, allowing you to hold onto more of your solids and cut your raw materials costs. They also save money by allowing you to replace some base wet-end starch and decrease system demand for coagulants and drainage aids. In addition, they allow you to increase your machine speeds by up to 10% and reduce downtime which helps boost your bottom line.

## REDISIZE<sup>®</sup> natural polymers

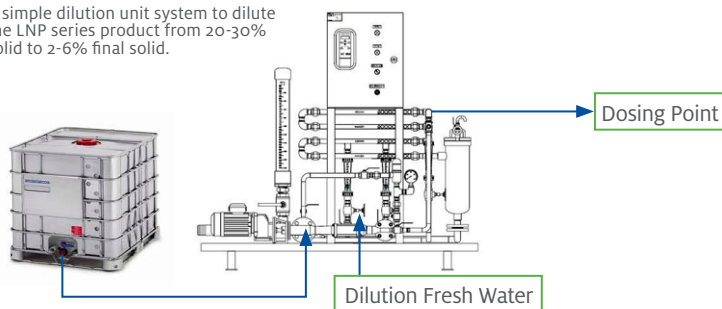
- Ready-to-use liquid natural polymers that are ideal for emulsifying Alkyl Succinic Anhydride (ASA) at room temperature without the need of using a heat exchanger or any cooking. This saves on energy and labour costs that would be incurred for cooking conventional starches.
- These products are excellent polymeric-based ASA emulsifiers. You can expect the final ASA emulsion to have a narrow particle size distribution and excellent emulsion stability with a lower hydrolysis rate providing better sizing efficiency to your final paper products.

## Easy-to-use effective solutions

We can assist you in setting up the dosing equipment, essentially a dilution unit, and will provide the necessary support to ensure an effortless startup. Once set up, you only have to flip a switch for the pre-programmed system to perform the dilution.

### LNP Application - Dilution Unit

A simple dilution unit system to dilute the LNP series product from 20-30% solid to 2-6% final solid.



**Ingredion<sup>®</sup>**

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