

## Lignin Products

Nippon Paper Industries is the only comprehensive lignin manufacturer in Japan that develops products that take advantage of the excellent properties of lignin, one of the main components of wood.

Lignin products have dispersibility, as well as caking and chelating properties and effects, and are widely used in industrial fields.

### Contribution to Achieving SDGs through Products



- A plant-derived biomass material with low environmental impact related to production and disposal, developed by maximizing the use of various technologies and know-how
- Uses raw materials from sustainably managed forests

### Application example



#### Concrete admixture

Adding it to concrete improves fluidity, increases the amount of cement used, and increases the strength of structures. Additionally, it can significantly reduce the amount of water required.



#### Ash granulation

It is used as a binder to improve work efficiency when recovering metals from waste such as steelmaking flue ash and ash from incineration. It not only contributes to recycling, but also contributes to carbon neutrality because it is derived from wood components, so it is considered that the amount of CO<sub>2</sub> generated during heating and recovery does not increase.