

## Company Introduction

**Nature Gift Co.,Ltd.** is a venture company established by Dr. Hiroyuki Yano of Kyoto University and Hexa Chemical Co., Ltd. to accelerate the commercialization of Cellulose Nanofiber (CNF) materials.

The company will manufacture and sell plastic compound and masterbatch reinforced with sustainable and carbon-neutral CNF using the Kyoto Process™\*.

CNF Reinforced Polymers have many desirable properties such as lightweight, elastic, strong, low thermal expansion, and easily recyclable, so it can be used in many different products such as automobiles, home appliances, construction materials, and daily necessities. Nature Gifts Co.,Ltd. will widely contribute to society by commercializing it.

\*Kyoto Process:

A technology that allows for the efficient production of CNF-reinforced plastics by simultaneously performing nano-fibrillation of pulp and compounding with resin using an extruder.

## Company Profile

Company Name	<b>Nature Gifts Co., Ltd.</b>
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Representative	Shinji Ishii
Capital	10 Million Yen
Establishment	September 10th, 2020
HP	<a href="https://www.naturegifts.co.jp">https://www.naturegifts.co.jp</a>
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**Nature Gifts Co., Ltd**





## Business Activities

### 1. Standard Line Up

- Standard grades are available in commodity plastics and some engineering plastics (some development grades are available).



Physical Properties	Unit	Standard	Standard	Development	Development	Standard
		Low GHG	Common	High Elasticity	Impact Strength & Low Coefficient of Thermal Expansion	High Heat Resistance
		Bio-HDPE	PP	PP	PP	PA6
Cellulose Content	wt%	10				
Flexural Strength	MPa	30~50	70~80	80~90	30~40	150~160
Flexural Modulus	GPa	2.0~3.0	3.0~3.5	4.0~4.5	1.6~1.8	4.5~5.0
Charpy Impact Strength	kJ/m <sup>2</sup>	2~4	2~4	2~4	7~10	2~4

The above data is a guide only and the figures are not guaranteed.

### 2. Eco Friendly Materials

- Development of CNF-reinforced biomass plastics, biodegradable plastics (bio PE, PLA, PBS, etc) and upcycling of recycled plastics.

### 3. Customized Items

- Contract manufacturing of CNF-reinforced polymers according to customer requests and applications  
(Based on our experience in handling various types of plastics resin)



### 4. Proposal of unique technologies

- Proposal the addition of design and function to plastics by using Hexa Chemical technology such as coloring and Plagenom\* (URL: [www.plagenom.co.jp](http://www.plagenom.co.jp)).  
We also have experience of using pulp and cellulose microfiber (CMF).



Samples : Ueyama Plastics Manufacturing Co., Ltd.



CMF : Nippon Kodoshi Corporation