

# eco-friendly POTASSIUM TITANATE TOHO MATERIAL CO.,LTD.

 TOHO TITANIUM CO.,LTD. GROUP

## 1. Introduction of TOHO MATERIAL CO., LTD.

<b>Establishment</b>	:	April 1 <sup>st</sup> , 2009
<b>Capital</b>	:	JPY200million
<b>Description of Business</b>	:	Production and sales of Potassium Titanate and other inorganic materials.
<b>Headquarters</b>	:	Chigasaki city, Kanagawa, Japan
<b>Manufactory</b>	:	Toki city, Gifu, Japan
<b>Investing Company</b>	:	Toho Titanium Co.,Ltd. (80%) Morimura Bros.,Inc. (15%) Nakashima Sangyo Co.,Ltd. ( 5%)
<b>Production site</b>	:	2 sites in Toki city, Gifu, Japan



**The aerial photo of Gifu Manufactory**

## 2. Features of the products

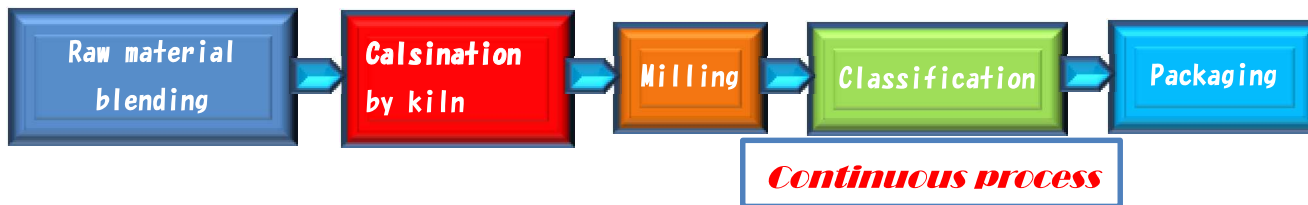
### a) Chemical composition

Chemical composition of TOFIX series is all  $K_2O \cdot 6TiO_2$ .  $K_2O \cdot 6TiO_2$ , which is the most stable chemical structure at high temperatures among Potassium Titanates.

### b) High performance

TOFIX series have good wear resistance and  $\mu$ -stability. And TOFIX-SNR has high  $\mu$ -level with good wear resistance.

### 3. Manufacturing process



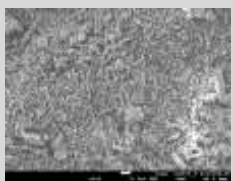
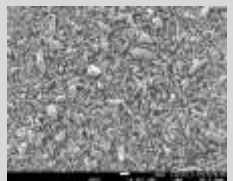


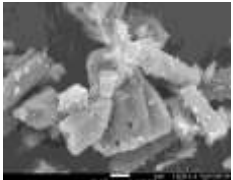
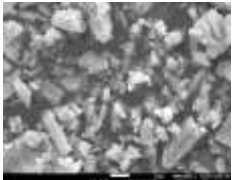
#### a) Unique process

The general manufacturing process for potassium titanate is wet process. But we adopt perfectly dry process to produce TOFIX series. As a result of the unique process, TOFIX series has several advantages.

#### b) Eco-friendly process

As a result of the unique process, our Gifu plant can produce TOFIX-S and TOFIX-SNR without waste material and waste water.

### 4. TOFIX-series (Main Products)

Name	TOFIX-P	TOFIX-S	TOFIX-SNR
Chemical composition	$K_2O \cdot 6TiO_2$	$K_2O \cdot 6TiO_2$	$K_2O \cdot 6TiO_2$
Color phase	White	White	Light yellow
Shape	Whisker	Powder	Powder
Melting point (°C)	1300-1350	1300-1350	1300-1350
SEM images (X500)			
SEM images (X10,000)			
Specific Surface Area (m <sup>2</sup> /g) BET method	1.5-5.0	1.8-2.8	2.0-3.0
Tapping Density (g/cm <sup>3</sup> )	0.35-0.55	0.85-1.20	0.90-1.30
Median Size (µm) Dynamic image analysis method	-	10-50	25-60
Loss on drying (%)	≤0.7	≤0.7	≤0.7
pH	10~12	9~12	9~12

**TOFIX-S and SNR have been already registered in both TSCA/EPA and REACH/ECHA.**

**TOFIX-P, S and SNR are our main products. There is a wide selection to choose from.**

**Please contact us, if you would like to know more about some details.**

Atsushi Kubota

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