

## Investment in TBM developing environmentally conscious material “LIMEX” which uses limestone as main raw material

– Contributing to reducing environmental impact through support of LIMEX project–

Sanyo Chemical Industries, Ltd. (Head office: Higashiyama-ku, Kyoto City; President: Takao Ando) has made a capital investment in TBM Co., Ltd. (Head office: Tokyo, Japan, CEO: Nobuyoshi Yamasaki; hereinafter “TBM”). TBM Co., Ltd. (TBM), a company that develops, manufactures and sells paper and plastic alternative products made from a limestone-based material known as “LIMEX”. Sanyo Chemical sees this investment as an opportunity to firmly drive forward joint development projects with TBM and we will contribute to creating new value in the society.

It is required recently to actively participate in finding industrial solutions for environmental issues including the Sustainable Development Goals (SDGs) advocated by the United Nations. Also, while ocean microplastic pollution is becoming international problem, interest in plastic alternative products is growing.

LIMEX is TBM’s product made mainly from limestone. It is an environmentally and economically viable new material that can substitute paper and plastic. As paper alternatives, it does not use any water and pulp unlike conventional paper. As plastic alternatives, LIMEX enables to reduce petroleum derived material use leading to a lesser dependence on it. We support its concept to reduce environmental burden and we have jointly developed with TBM.

Sanyo Chemical has various core technologies including interface control technologies, and one of them is UMEX which has both hydrophobic and hydrophilic segments. UMEX is characterized by its ability to disperse glass fibers, carbon fibers, wood powder, etc., which are usually difficult to disperse in polyolefin resin, to a high concentration, and also to improve the compatibility between polyolefin resin and high-polarity resin. Taking advantage of these technologies, we have proposed solutions using interface control technology such as increasing the dispersibility. By combining our technologies with LIMEX, Sanyo Chemical looks forward to promoting joint development to improve LIMEX performance such as improvement of physical properties, moldability, yield or cost reduction and supporting expansion of LIMEX business.



Increase  
CaCO<sub>3</sub>%



Higher yield



Coating cost  
reduction



Improve physical  
properties



Less weight

Sanyo Chemical has been working to lessen the negative environmental impact through its business activities in developing various eco-friendly products, such as lubricating oil additives ACLUBE, which contributes to fuel saving of automobiles, in addition to forest protection activities. Through the business support of LIMEX, we will further contribute to the reduction of global environmental impact.

◆TBM Co., Ltd.

CEO Yamasaki Nobuyoshi

Head Office 2-7-17-6F, Ginza, Chuo-ku, Tokyo, Japan

Founded 2011

Capital 10 billion 744.8million yen (Including legal capital surplus)/Feb.2018

Business description Development, manufacturing and sales of LIMEX and LIMEX products

URL : <https://tb-m.com/limex/>

\*The name of the company, goods and services appeared in this news release are registered trademark or trademark. \*

\*The contents of this news release are as of the released day. The contents are subject to change without notice.