

December 14, 2020

Mitsui O.S.K. Lines, Ltd.
euglena Co., Ltd.

MOL and euglena Co. Conduct Sea Trial of MOL Group Tugboat Using euglena Biodiesel Fuel for the First time in Port of Nagoya —Taking a Step Toward GHG Zero Emissions—

TOKYO—Mitsui O.S.K. Lines, Ltd. (MOL; President & CEO: Junichiro Ikeda) and euglena Co., Ltd. (Euglena; President: Mitsuru Izumo; Headquarters: Minato-ku, Tokyo) today announced a successful sea trial in the Port of Nagoya of the MOL Group-operated tugboat *13 Tamashio* using next-generation renewable biodiesel fuel developed by euglena Co. The test was conducted with the cooperation of the Nagoya Port Authority. The *13 Tamashio* is owned and operated by MOL Group company Green Kaiji Kaisha, Ltd. (President: Kiyotaka Teramoto; Headquarters: Nagoya-shi, Aichi Prefecture). Tugboats play vital roles in the maritime industry, assisting vessels calling in and out of ports, berthing and unberthing, and operation of floating structures.



From the left: Green Kaiji, President, Mr.Kiyotaka Teramoto, MOL, Managing Executive Officer, Mr. Hirofumi Kuwata, Association for the Promotion of Utilization of Nagoya Port, President, Mr.Jiro Takahashi, Nagoya Port Authority, Executive Vice President, Mr.Akihiko Hattori, Nagoya-Yokkaichi International Port, President & CEO, Mr.Hiroyuki Sato, Euglena Co., Executive Officer, Mr. Korehiro Odate



The MOL Group's tugboat 13 *Tamashio* undergoes sea trials using euglena biodiesel fuel.



Bunkering Bio Diesel fuel

The euglena biodiesel fuel used in the test was transported from euglena Co., the demonstration plant for production of bio jet/diesel fuels in Yokohama and supplied to the 13 *Tamashio* in berth at the Nagoya Port Garden Pier.

euglena biodiesel fuel is a next-generation renewable fuel produced with used cooking oil and *Euglena*, a type of algae similar to brown seaweed and sea tangle. Marine diesel engines can run on this next-generation fuel with no modifications. euglena biodiesel fuel is a low-environmental impact fuel, which conforms to SOx regulations* because unlike conventional heavy fuel oil, it contains no sulfur, a major source of air pollution. It also produces significantly lower levels of greenhouse gases (GHGs) during combustion compared to fossil-derived fuels.

* Regulations on the sulfur content of bunker oil used in the ocean shipping industry. Starting in 2020, stricter regulation reduce the maximum sulfur content from 3.5% to 0.5%.

MOL views its contributions to environmental conservation as a social commitment, and the entire MOL Group is working to address global environmental issues. In activities focusing group-wide efforts on achieving sustainable net zero GHG emissions, and conducted the sea trial using the low-environmental impact Euglena biodiesel fuel.

MOL and euglena Co. are working to reduce the maritime industry's environmental impact and realize a sustainable global society, while moving ahead with environment-friendly activities.

- About GREEN OIL JAPAN

GREEN OIL JAPAN declaration, announced by euglena Co., aims to make Japan the worldwide leader in biofuels. The company completed its biofuel demonstration plant in October 2018 and set a goal of establishing the biofuel business as an industry by 2030 by introducing its biofuels in land, sea, and air mobility and supporting the manufacturing and use of biofuels all over Japan. To date, 32 corporations and local governments have agreed with the declaration. This contributes to SDGs Goal 7: Affordable and clean energy; Goal 13: Climate action; and Goal 17: Partnerships for the goals.



euglena Co., Ltd. invites cooperative companies and groups (transport, restaurants, local governments, etc.) that agree with the GREEN OIL JAPAN declaration to jointly promote use of biofuel oil, supply of raw materials, and broaden the use of biofuel.

GREEN OIL JAPAN declaration website: <https://www.euglena.jp/businessrd/energy/greenoiljapan/>

Contact for GREEN OIL JAPAN : <https://www.euglena.jp/contact/b09/>

<About Mitsui O.S.K. Lines, Ltd.>

Founded in 1884, the multimodal ocean shipping group company operates one of world's largest fleets, with over 800 vessels. It supports people's lives and industries around the world by safely, reliably transporting various commodities such as resources, energy, raw materials, and products. In addition, the company is active in the ferry business through MOL Ferry Co., Ltd. and Ferry Sunflower Limited, coastal RoRo vessel operation, tugboat service, warehousing, maritime consulting, real estate, and cruise ship operation. <https://www.mol.co.jp/>

<About euglena Co., Ltd.>

euglena Co. achieved the world's first outdoor mass cultivation technology for the edible *Euglena* (microalgae *Midorimushi*) in 2005. The company not only develops and markets functional foods and cosmetic products that adopt *Midorimushi* and chlorella produced on Ishigakijima Island, but also researches biofuel production. It was listed on the Tokyo Stock Exchange (TSE) Mothers Section in December 2012. In December 2014, it began trading on the First Section of the TSE. euglena Co. develops its businesses under the philosophy of "Sustainability First." <https://euglena.jp>

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