KURARAY CO., LTD., of Q&A Summary of the Investment Briefing for a New EVAL™ Plant

[Time & Date]	From 16:00pm to 16:30pm, March 27, 2024	
[Place]	Kuraray Head Office *Telephone conference	
[Speakers]	Keiji Taga	Representative Director and Senior Managing Executive Officer, Responsible for Corporate Management Planning Office
	Tomoyuki Watanabe	Director and Managing Executive Officer, President of Vinyl Acetate Resin Company
	Hiroyuki Shimo	Executive Officer, General Manager of EVAL Division
	Shinichi Takizawa	Senior Manager, Corporate Communications Department

Q&As

Q1: Regarding reasons for selection of plant location.
A1: We examined several locations where we already have production plants; Okayama, Houston in the U.S., Belgium, and on top, we examined Singapore as candidate and decided it to be Singapore from three perspectives comprehensively; 1) construction costs, 2) good trade conditions when exporting, and 3) logistics costs. For the rapidly growing Asian market, we currently ship resins from the U.S. and has a large burden of logistics costs, so we chose Singapore also from the viewpoint of good access to the Asian market.

Q2: Regarding outlook for EVOH demand.
A2: Average annual growth rates of demand for EVOH resin are expected to be 2-3% in developed countries, 6-7% in emerging countries, and over 10% in circular economy related application. Demand for automotive fuel tank application is expected to decline gradually due to the shift to EV, but demand growth related to the circular economy and food packaging application is expected to be stronger.

Q3: Regarding future supply-demand balance for EVOH resin and business profitability.
A3: This time, we have decided to invest in a production capacity of 36,000 tons, of which we will start up 18,000 tons in the first phase. After that, we are aiming to increase the capacity by another 18,000 tons in the second phase while monitoring the supply-demand balance. In total, with the first phase in Singapore, our plan to increase capacity is by 28,000 tons, including increase of capacity of 5,000 tons each by debottlenecking in Europe and the U.S. Regarding the circular economy, recycling-related laws and regulations are becoming more binding, especially in Europe. PPWR (Packaging and Packaging Waste Regulation) will be enforced from 2025, and considerably strict recycling regulation will be imposed. And recyclable packaging design will be mandatory by 2030, so we need to have sufficient production capacity. We will maintain profitability, focusing on differentiated resins.

Q4: Regarding whether EVAL™'s technology is sufficiently established to meet European standards.
A4: In order to comply with the recycling regulations in Europe, it is necessary to reduce the content of non-polyolefins in food packaging materials. We have special grades such as high-barrier resins that can realize this. In fact, demand in Europe is changing from regular grades to special grades. The EVAL™ new plant to be constructed in Singapore is also capable of producing special grades.

Q5: Regarding the investment amount for second phase and risks of construction project.

A5: Although it will depend on the timing of the second phase's investment, the investment amount for the second phase is expected to be lower because the facility for the front-end process will be constructed in the first phase. Recently, lump-sum contracts with engineering companies are rarely accepted, which gives us challenges. However, we have a geographical advantage as the new plant will be built next to our existing PVOH plant. Moreover, we ourselves managed large overseas projects for debottlenecking. With this experience, we will be able to manage this project without major problems. We have also selected an experienced leader from Europe for the project, and we are confident that we can proceed with the project, managing both cost and construction schedule.

Q6: Regarding the investing timing of the second phase and its lead time after decision-making.
A6: We will start up the first phase of the plant at the end of 2026, so if the market grows well before then, we may be able to make another decision by the end of 2026. The lead time is assumed to be about two years, but we think it will be possible to shorten it a little more.

Q7: Regarding the definition of the front-end process and back-end process for production plant.
A7: In front-end process, polymerization is carried out using ethylene and VAM. In the back-end process, EVOH paste after polymerization is solidified and granulated.

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(Cautionary Statement)

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