

December 1, 2020

DIC Corporation

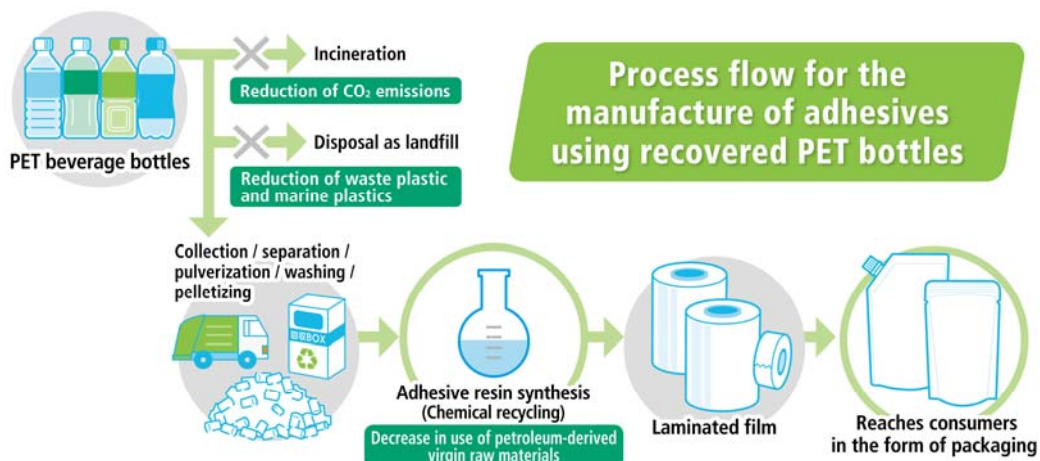
DIC Develops *DICDRY LX-RP* Series of Adhesives for Flexible Packaging Made from Recovered PET Bottles

*—An effective application for used PET bottles will contribute to
the realization of a circular economy—*

Tokyo, Japan—DIC Corporation announced today that it has developed the *DICDRY LX-RP* series of dry laminating adhesives for flexible packaging, which are made from recovered polyethylene terephthalate (PET) bottles. These environment-friendly offerings are manufactured using collected post-consumer PET bottles—PET bottles approved as food-safe by the US Food and Drug Administration (FDA)*—that have been chemically recycled into raw materials for adhesives. The Company aims to commence sales of this new series of adhesives, mainly for use with flexible packaging for personal care products, between July and September 2021.

While convenience makes plastics the favored material for a wide range of applications, the environmental impact of waste plastic has become an issue of concern and efforts to facilitate the effective use thereof is a global challenge. This situation is accelerating efforts to find applications for discarded PET bottles—a principal cause of marine plastics—by recycling them into raw materials, thereby also contributing to decarbonization by reducing associated energy consumption and CO₂ emissions. In the packaging materials sector, companies are promoting the development of recycled films and other environment-friendly products. In line with this trend, DIC is advancing similar efforts in the area of adhesives for flexible packaging. However, because the resin used in PET bottles is rigid and sturdy, its use in packaging adhesives, which require flexibility, has traditionally been difficult.

In designing this unique series of solvent-based dry laminating adhesives, DIC leveraged its proprietary polymer synthesis technologies to facilitate the chemical recycling of recovered PET bottles into raw materials suitable for use in packaging adhesive. Additionally, by optimizing the resin's composition, the Company has succeeded in realizing a product that is both solvent-soluble and which delivers excellent adhesive properties. Adhesives in the *DICDRY LX-RP* series boast a recycled PET content of 25% (solid content ratio) and, like conventional *DICDRY LX* adhesives, is also suitable for laminating lightweight packaging materials and refill pouches.



Process flow for the manufacture of adhesives using recovered PET bottles

Looking ahead, DIC will focus on providing *DICDRY LX-RP* adhesives for use with flexible packaging for personal care products to customers in Japan and overseas, with the goal of achieving annual sales of approximately 1,000 tonnes by fiscal year 2023. The Company also plans to expand its lineup of adhesives made from raw materials derived from recovered PET bottles to include environment-friendly solvent-free adhesives, as well as to expand the use of such raw materials to all of its adhesive products. Through its adhesives business, DIC will continue working to promote effective applications for waste plastics, decrease the use of petroleum-derived virgin raw materials over the life cycle of packaging materials, reduce the incineration of waste plastic and help lower CO₂ emissions.

Guided by its current medium-term management plan, DIC111, DIC will endeavor to provide packaging solutions that contribute to a sustainable environment. In its packaging materials business, the Company will continue to focus on recycling and the development of environment-friendly alternatives to existing materials, conscious of the need to promote the “3Rs” (“Reduce, Reuse, Recycle”)** to contribute to the realization of a circular economy.

* The FDA is a federal agency of the United States’ Department of Health and Human Services, which serves essentially the same role as Japan’s Ministry of Health, Labour and Welfare. FDA approval is required to sell food products, pharmaceuticals, cosmetics and a variety of other products in the United States.

** “3Rs” is an acronym describing a framework for initiatives aimed at creating a sustainable society.

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