

AGC Successfully Develops Proprietary Electrolyte Production Technology for All-Solid-State Batteries

— Can be applied to a variety of compositions with high quality —

Tokyo, September 6, 2023 -AGC (Headquarters: Tokyo; President: Yoshinori Hirai), a world-leading manufacturer of glass, chemicals, and high-tech materials, has announced that it succeeded in developing a new production technology for sulfide electrolytes used in all-solid-state batteries. AGC will continue to improve the process for future mass production and the quality of the solid electrolytes for commercialization.



Argyrodite Sulfide-based solid-state electrolyte by AGC's proprietary method

Sulfide electrolytes are considered promising materials for all-solid-state batteries due to their high ionic conductivity which enables electric vehicles to extend their driving range and reduce charging time. However, their mass production has been highly challenging because the sulfides are chemically unstable and require careful handling, which has been a major obstacle to the implementation of all-solid-state batteries.

AGC has recently established a proprietary production method that combines technologies from our glass and chemicals businesses, and has successfully completed a proof-of-concept trial on a pilot line at the AGC Yokohama Technical Center. This method makes it possible to produce a variety of electrolyte compositions with high quality, which have been difficult in conventional methods, under a process designed for mass production in the future. Furthermore, this method facilitates the use of materials recycled from lithium-ion batteries, and we believe it will contribute to solving the problem of recycling used lithium rechargeable batteries, which has become an issue in the world.

The AGC Group positions its mobility business as a strategic business in its [medium-term management plan, **AGC plus-2023**](#). Through this development, we will be able to play an important role in the penetration of all-solid-state batteries, which are highly anticipated as the next-generation automotive batteries, and contribute to the realization of a sustainable society by utilizing recycled materials.

<Media inquiries>

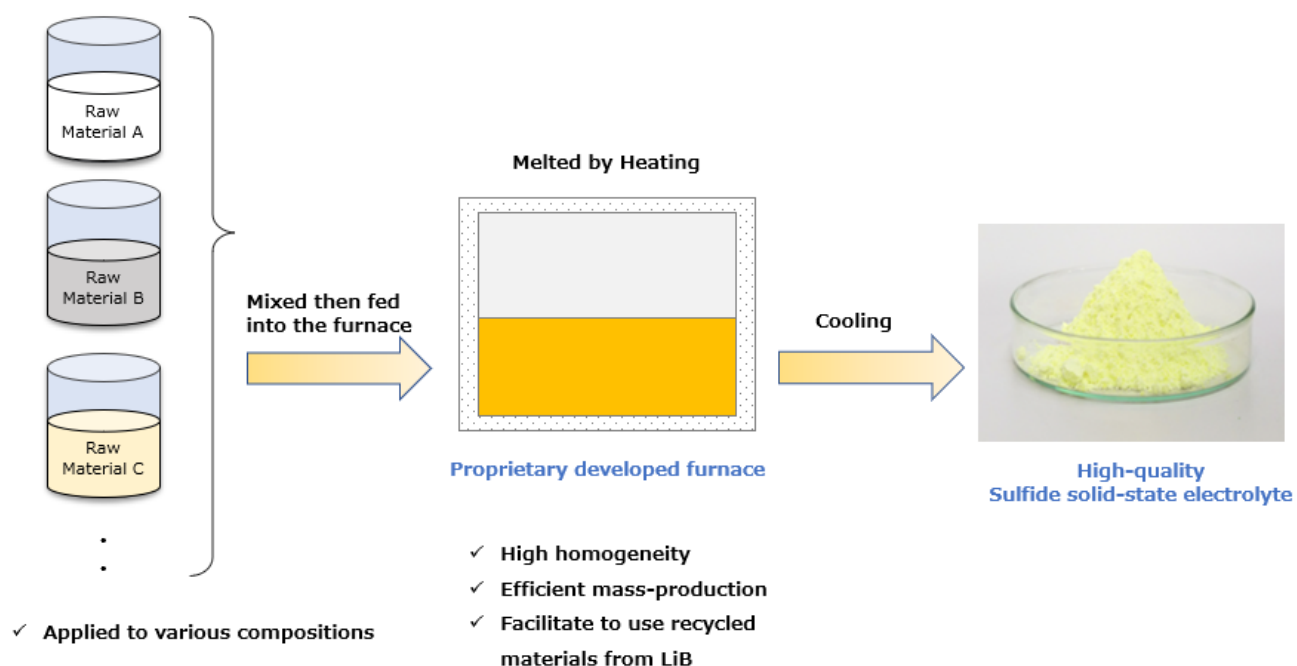
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Proprietary production technology developed

- In the conventional electrolyte synthesis method, establishing a mass production process has been a major challenge due to the limited amount of electrolytes that can be handled at one time and the time required for the reaction. In addition, impurities and lack of homogeneity in the produced electrolytes have been obstacles to improving performance.
- AGC's proprietary method is based on glass mass production technology and is designed for future mass production, enabling the efficient production of glass-like homogeneous, high-quality electrolytes.



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