

Solar glass antimony ore



Overview

This article explores a new process for extracting valuable antimony from the glass of solar panels, aimed at solving disposal challenges in the 2030s. In a significant advancement aimed at addressing the upcoming challenges related to the disposal of solar panels in the late 2030s, a research team from the National Institute of Advanced Industrial Science and Technology (AIST) has developed a method to extract antimony from the cover glass of . r encapsulants and backsheets. Newer modules increasingly use Sb-free or low-Sb float glass, which is easier to recycle and poses . The proposed PhD thesis is part of the ANR GRISBI project (2026-2030), which aims to optimize the recycling of glass from photovoltaic (PV) panels. on antimony, a heavy metal flagged as hazardous even at trace concentrations. Effectively managing this waste stream requires an efficient collection system and suitable recycling processes.

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[Purity Unlocked: Homerun's antimony-free solar glass by design](#)

Cleaner Chemistry, Clearer Glass - Homerun's ultra-pure Brazilian silica enables 100% antimony-free solar glass production - a first for the Americas



[Addressing uncertain antimony content in solar glass for recycling](#)

Solar glass can be either low-iron patterned glass or low-iron float glass. Both can be recycled if the quality is acceptable, but this depends on the glass composition and the end product to be produced.

The Main Application Of Antimony

Solar glass typically contains 0.25% antimony, and the front glass of each solar photovoltaic module weighs about 16 kilograms, so each module contains approximately 40 grams of



Review of issues and opportunities for glass supply for

Producing highly transparent PV glass requires low-iron silica sand and various other materials such as limestone, soda ash, dolomite, and alumina.



[Physicochemical Properties of Antimony-](#)



containing Photovoltaic (PV)

These glasses, predominantly manufactured in China, are doped with antimony oxide (Sb_2O_3) to ensure high transparency while keeping production costs low.

ANTIMONY (Sb) IN SOLAR MODULES

Because of both toxicity and recycling complications, bans and restrictions on Sb use in solar glass are increasing, driving demand for Sb-free, low-iron solar glass formulations.



Necessity for recycling photovoltaic glass: Managing resource

The production of this significant amount of (77.1-178 Mt) glass annually will place considerable pressure on raw materials, such as antimony (Sb), which is essential for PV glass

Innovative Process Developed for Extracting Antimony

This article explores a new process for extracting valuable antimony from the glass of solar panels, aimed at solving disposal challenges in the 2030s.



The Dark Side of Solar Glass: Antimony, Geopolitics and the Energy

In solar glass specifically, small amounts of antimony oxide help stabilize optical properties under years of UV exposure, reducing "solarization" (the tendency of glass to brown or

Concept Note/ Blue Print on Management of Antimony Containing

Results indicates that samples of waste solar panel glass containing Antimony does not fall in the category of hazardous waste as per the concentration limits stipulated for Antimony in



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