Photovoltaic panel wastewater discharge standards

What are the different types of photovoltaic wastewater treatment technologies?
Three typical photovoltaic wastewater treatment technologies were described. Chemical precipitation is preferred for treating fluorine-rich wastewater. Biological methodis the main treatment process of nitrogen-rich wastewater. The removal method and sequence of pollutants in mixed wastewater need attention.

What type of wastewater is used in PV wastewater treatment?
Summary of actual PV wastewater treatment cases and methods (Note: TN in this table is mainly composed of NH 4+ -N and NO 3- -N; Comprehensive wastewater* refers to the mixed wastewater rich in fluoride and nitrate; Comprehensive wastewater** refers to the mixed wastewater of the three.).

Can photocatalysis be used in PV wastewater?
If low-cost environmentally friendly catalysts can be found,the application of photocatalysis technology in PV wastewater could be promising. In short,of all the above methods,biological treatment is the most economically feasible and the primary choice for treating ammonia-rich and nitrate-rich wastewater.

Can a small PV wastewater treatment plant reduce energy consumption?
However,the energy consumption increases if the influences mentioned above are improved. The process is generally treated using packed towers . To obtain a high removal rate,it is necessary to enlarge the size of the equipment or increase the number of equipment . So,it is not applicable to small PV wastewater treatment plants.

Is PV wastewater biodegradable?
However,the biodegradability of PV wastewater is poor,necessitating the addition of carbon sources or improvements in biodegradability through hydrolysis and acidification. At the same time,this method cannot realize the ammonia recovery.

Can EC technology be used for primary treatment of PV wastewater?
Both EC technology and chemical precipitation have high fluoride removal efficiency,and can be used for primary treatment of PV wastewater. However,when used alone,the effluent fluoride concentration is difficult to meet the standard.

Moreover, the effluent generally does not meet the standard due to the characteristics of anaerobic treatment, and an aerobic biological treatment must be added later. In order to make F- discharge meet the standard, Ca2+ is usually excessive. After defluorination, wastewater with high Ca2+ content will enter the biological treatment unit ...

Wastewater treatment plants (WWTPs) consume large amounts of energy and thus cause an increase in carbon

footprint. For this reason, it has become important not only to meet the discharge criteria in treatment plants, but also to reduce the carbon footprint resulting from treatment processes and energy use. In this study, the effect of

This paper aims to systematically review (1) the types and compositions of wastewater from PV cell production; (2) the treatment technologies for fluorine-rich, nitrate ...

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Standard systems are equipped with carbon filters, 5-micron filter bags at the inlet and outlet of the cation and anion canisters, and a UV lamp reactor at the discharge. Design Criteria: Flow rates from < 10 gpm to 100 gpm

Wastewater treatment optimization is often conducted and we discussed major treatment methods in solar cells manufacturing: treatment of HF discharges, neutralization and collection of isopropanol discharges. The paper ...

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This study introduces a novel wastewater treatment process, namely solar photovoltaic power generation-constructed wetland (SPPG-CW) and conducts a ...

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