H2nano

Sustainable water treatment.
Powered by sunlight.

SolarPass™

Passive Water Treatment

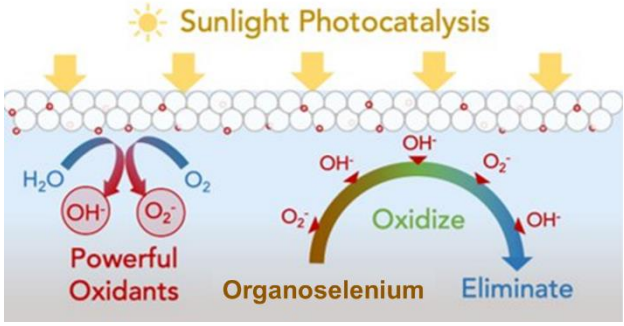
Application Review:

Organoselenium Treatment

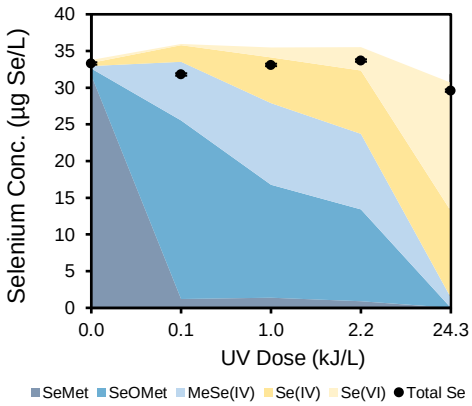
SolarPass™ is a passive, sunlight-activated technology delivering high-strength oxidation with reduced chemicals and energy.

- High Treatment Strength
- Low Waste Handling
- Reduced Energy Demand
- Simple Retrofit & Operation

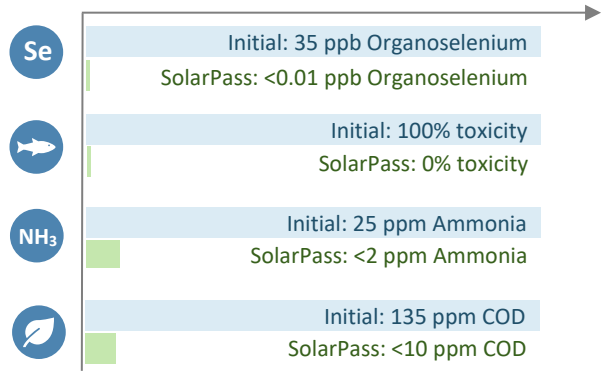
How SolarPass Works



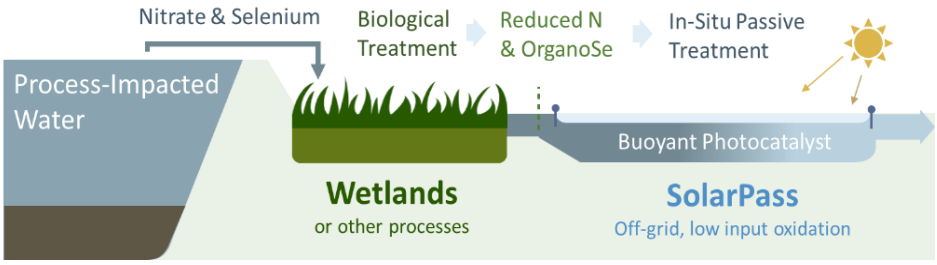
Targeted Treatment of Organoselenium Compounds



- Trace Organoselenium Elimination: SolarPass rapidly eliminates organoselenium down to <10 ppt levels. Conversion to Se(VI).
- Toxicity Reduction: convert highly bioavailable organoselenium compounds to reduce aquatic risk by a factor of 10,000



Passive In-Situ Polishing of Biological Effluent



- In-situ deployment: SolarPass can be easily integrated into existing treatment systems for effluent polishing.
- Tailored nanomaterials: Engineered adsorbent properties can concentrate trace compounds for treatment
- Passive Effluent Polishing: additional treatment of residual BOD, reduced nitrogen, and reduced sulfur compounds

Treatment Application Survey

Lab & Site | 2+ weeks | <1 m^3

Characterize SolarPass application

- Validate application
- Identify products
- Lab-scale optimization

Field Demonstration

Site | 4+ weeks | 1-140 m^3

Evaluate in the treatment setting

- Evaluate under site conditions
- Modular treatment rate with scalable reactors

Full Scale Implementation

Site | Long Term | ≥140 m^3

Integrate SolarPass into operations

- Emissions and water treatment at scale
- Retrofit with existing infrastructure

151 Charles St W, Suite 199
Kitchener, Ontario, Canada N2G 1H6

www.h2nano.ca
info@h2nano.ca