



Cleaner and coating
for PV/solar modules

clean - protect



Product Information



Uphoff Lab
laboratory-
tested Grade

MADE IN GERMANY

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**Cleaner and coating
to increase efficiency
clean - protect**

**Simply apply. Our
proactive micro-organisms
do the rest!**

Enhancing the efficiency of solar modules on a mineral and micro-biological basis

Soiling of solar modules caused by minerals and organic materials such as salts, pollen and farina can lead to dramatic efficiency losses of up to 20% compared to the initial performance at commissioning, directly affecting revenues or energy performance values.

Solar cells can most efficiently convert sunlight in the visible wavelength spectrum. *bioSol protect* indirectly broadens the spectrum that can be used by the cell by converting parts of the light's UV spectrum into usable, longer

wavelengths, applying absorption and emission effects. This increases the efficiency of the modules and ensures that even short solar phases can be used more efficiently.

Especially for existing systems and in the event of declining compensation, this leads to significantly faster amortisation and higher performance rates.



Removes soiling thoroughly and gently

bioSol clean dissolves organic and inorganic soiling caused by pollen, farina, resins, mosses and lichens, salts, soot or tar. Mechanical cleaning that could damage the panels, like heavy scrubbing with a rotary brush, is no longer necessary.



Eco-friendly & innovative

bioSol protect sustainably protects your modules from dirt accumulation, minimising soiling effects. As a result, performance losses caused by soiling are almost completely eliminated. The harmlessness of the accumulating wastewater for flora and fauna is laboratory-approved.



Efficiency-enhancing

Panel coating with *bioSol protect* makes efficiency increases of up to 20% possible. This effect combined with the reduction of new soiling efficiently prevents revenue losses.

bioSol clean – a 2-component cleaner specifically engineered for solar panels

Organic and inorganic contamination is a common problem for photovoltaic systems. A mechanical „rough“ cleaning of the panels is a big problem, since even small pressure loads on the modules can cause microscopic cracks and damage. With *bioSol clean*, gentle cleansing without pressure is possible, thus ensuring a longer life expectancy. *bioSol clean* acts as an organic oxidation product that removes incrustations and impurities. Regular cleaning of solar systems is indispensable to prevent efficiency losses. Another advantage is the cleaning of the „cracks“, roof tiles and gutters by the cleaning agent running off.

Photovoltaic/ solar module surface comparison after three years



Left side without *bioSol*

- Not coated
- Severe soiling
- High performance losses

Right side with *bioSol* components:

- pre-cleaning with *bioSol clean*
 - coated with *bioSol protect*
- => hardly any soiling