UNGER

Quality Tools for Smart Cleaning

SAFETY & WARNING INSTRUCTIONS

for UNGER Pure Water System

The **UNGER Pure Water Cleaning System** provides a modern cleaning method for window and building cleaners.

As this method uses conductive carbon telescopic poles in addition to large amounts of water, the following safety instructions apply, especially when cleaning near electrical equipment as Solar Panels.

Please also observe any additional warnings from the respective system manufacturer, e.g. of a Solar Panel System.

DANGER

WARNING – Risk of electric shock

- **Never** work with telescopic poles **near live wires**.
- Do **not clean during a thunderstorm** or when **severe weather** is imminent.
- If possible, have the **photovoltaic system switched off** or de-energized before cleaning (e.g., by the system operator or a qualified person).
- Before switching off/de-energizing, observe the manufacturer's instructions for the system (e.g., procedure for disconnecting inverters or DC switches).
  Do **not clean** if there are **active error messages**.
  - **If it is not possible to switch off/de-energize** or disconnect the power supply:
    Only clean when there is **as little sunlight as possible**, preferably in the early morning hours (any dew that may be present makes cleaning easier).
- **Before each cleaning, a visual inspection** of the system for damaged cables, connectors, or components must be carried out. If visible **damage** is found, **do not clean** and inform the operator.

WARNING – Risk of falling

- Work on roofs or elevated surfaces may only be carried out with **suitable fall protection** (e.g., harness systems, railings, mobile work platforms, or scaffolding) or after prior instruction.
- Do **not carry out cleaning work from ladders**. Use an aerial work platform or mobile platform for higher areas.

WARNING – Risk of slipping

Water and cleaning residues can make the work surface extremely slippery.

- Ensure you have **sufficient footing** and **avoid working on slippery, wet, or sloping surfaces**.
- Ensure you **wear non-slip shoes** and **keep walkways clear**.

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ATTENTION

Risk of breakage and cracking of solar panels

- Do **not use cold water** on **panels that have become very hot** (e.g., due to intense sunlight).
- Do **not apply excessive pressure** to the panel surface and **avoid point loads**. Even standing or kneeling for a short time can cause microcracks.

Surface and material damage

- Only **use brushes that are specifically designed** for cleaning solar panels.
- **Only use UNGER pure water or appropriately treated demineralized water for cleaning**. Using tap water may leave residues or stains on the panels. Always follow the system manufacturer's additional cleaning instructions, for example regarding the use of chemical cleaning agents or abrasive pads.
- Do not wipe, sweep, or scrub the panels dry after cleaning.

NOTE

Personal protective equipment

When cleaning solar panels, it is recommended to wear electrically insulating protective gloves, non-slip footwear, and, if necessary, a protective helmet and eye protection.

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