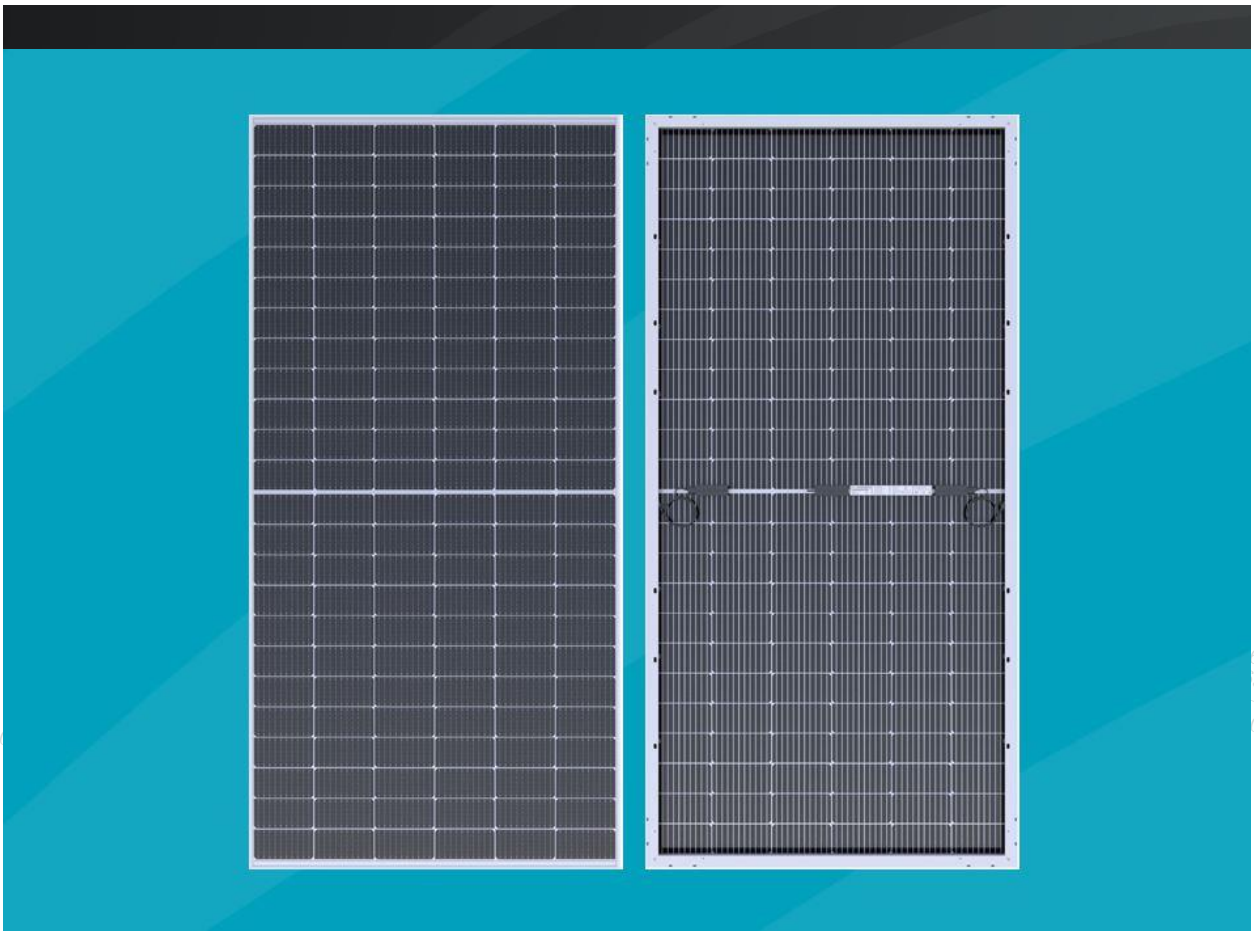

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BOVIET SOLAR I PRODUCT SAFETY DATA SHEET

This product safety data sheet is not intended to replace other documents including the Product Data Sheet, the Installation and Maintenance Manual, and documents that detail Safety Information, Unpacking and Storage Information, and Warranty Terms.

SECTION 1: PRODUCT IDENTIFICATION

Solar photovoltaic (PV) modules consist of light-sensitive cells electronically connected and sealed between two pieces of glass and framed with metal. When sunlight hits the modules, the cells convert the light energy into electrical energy. This product safety data sheet applies to the following Boviet Solar PV modules:

- BVM6612M-440S-H-HC-BF-DG, BVM6612M-445S-H-HC-BF-DG, BVM6612M-450S-H-HC-BF-DG
- BVM7612M-530-H-HC-BF-DG, BVM7612M-535-H-HC-BF-DG, BVM7612M-540-H-HC-BF-DG, BVM7612M-545-H-HC-BF-DG, BVM7612M-550-H-HC-BF-DG

These product identification codes include the following components:

- BVM refers to Boviet Solar
- The number after BVM (6 or 7) refers to cell size
- 612 refers to the module's layout
- 440, 445, 450, 530, 535, 540, 545 and 550 refer to the module's power
- H means the maximum system voltage is 1500V
- HC signifies half-cut cells
- BF signifies bifacial modules
- DG signifies double glass modules.

The module importer and responsible party is:

Boviet Solar USA, Ltd., 1735 N. 1st Street, Suite 300, San Jose, CA, USA, 95112, telephone: + 1 877 253 2858.

SECTION 2: SAFETY RISKS & HAZARD IDENTIFICATION

Boviet Solar PV modules do not present any hazardous chemicals risk or any risk of acute or delayed symptoms or effects when handled as recommended in Boviet Solar's Installation and Maintenance Manual. So, Boviet Solar PV modules do not require hazard symbols or precautionary statements for hazardous chemicals. The Boviet Solar Safety Information sheet sent with all shipments of modules provides comprehensive statements regarding risk as well as for installation and operation recommendations. Before installing Boviet Solar modules, read the entire Installation and Maintenance Manual. The Installation and Maintenance Manual is available from your module distributor or retailer.

Note: Only qualified, authorized professionals should handle and install PV modules. Children and unqualified individuals should not be allowed to handle the modules.

Risks:

- PV modules are energized when exposed to light and therefore must be considered an electrocution risk. Electrocution can cause injury or death.
- PV modules are electrical devices and therefore can cause fire if worn electrical contacts cause arcing.
- PV modules can burn skin if the modules reach high temperatures.

- PV modules have sharp edges and corners, which can cause injury.
- PV modules contain glass which, if broken, can cause injury.
- The weight of PV modules can cause injury when being lifted or otherwise moved.
- Falling PV modules can cause injury.
- Please refer to Boviet Solar's Installation and Maintenance Manual for precautionary statements.

USING PV MODULES INCORRECTLY OR MISUSING THEM COULD CREATE A SAFETY HAZARD THAT POSES RISKS TO HUMANS AND PROPERTY. FURTHER, MISUSE OR INCORRECT USE WILL VOID THE PRODUCT'S LIMITED WARRANTY. MISUSE OR INCORRECT USE INCLUDE IMPROPER INSTALLATION, IMPROPER CONFIGURATION, IMPROPER MAINTENANCE, USE OF THE MODULES FOR PURPOSES FOR WHICH THEY WERE NOT UNINTENDED, AND UNAUTHORIZED MODIFICATIONS.

SECTION 3: PV MODULE COMPONENTS

Boviet Solar PV modules contain the following materials. Note that the percentages listed can vary by product.

COMPONENT	MATERIAL	TOTAL SHARE	REMARK
FRAME	Aluminum	7% – 12%	not hazardous
	Silicone	< 1%	not hazardous, see section 7
LAMINATE	Glass	70% – 85%	not hazardous
	Plastics (EVA, PET, PE, PPE, PC)	5% – 10%	no hazards known
	Silicon	2% – 4%	not hazardous
	Metals (Aluminum, Copper, Tin)	0.5% – 2%	not hazardous
	Lead	< 0,1%	hazardous
	Silver	< 0,05%	not hazardous

SECTION 4: MEDICAL ATTENTION/INJURY TIPS

If electrocution occurs, take the following steps:

- Call 911 for an ambulance immediately.
- Stay away from any sources of high-voltage electricity. Let professionals with the necessary personal protective equipment (PPE) conduct the rescue.
- Protect yourself by taking all safety precautions so you are not injured.
- Do not touch any components that might be live.
- Before attempting rescue, qualified personnel should shut down the PV system to the extent possible. For example, disconnect the modules and the inverter before exposing live electrical wiring and components. High-voltage equipment needs time to discharge. Be sure to wait the specified amount of time after turning the inverter off. Follow OSHA requirements for hazardous energy control, 29 C.F.R. § 1910.147.
- If contact with live equipment can be prevented, use insulated tools, and only insulated tools, to remove the victim from the power source.
- Move the injured person away from the live equipment.
- Check the injured person's heartbeat, breathing and level of consciousness.

- Apply CPR or other life-saving measures first; address minor injuries later.
- Even if no injuries are visible, consult a medical professional.

Other types of injury:

- If skin is burned from contact with hot PV module surfaces, flush the damaged skin with cool water and consult a medical professional.
- If cuts or other injuries occurred from modules edges or corners or broken glass, treat accordingly and consult a medical professional.
- Treat other types of injuries appropriately and consult a medical professional.

SECTION 5: FIREFIGHTING TIPS

- Boviet Solar's double-glass PV modules are fire-rated as Class A under IEC and UL 1703. They are rated as Type 29 according to UL 1703.
- Boviet Solar PV modules are tested extensively at our factory to ensure the product's electrical safety.
- Like all electrical devices, PV modules can, rarely, cause a fire when electrical contacts are worn, which can lead to electrical arcing.
- ONLY PROFESSIONAL FIREFIGHTERS SHOULD MANAGE ANY FIRE.
- FIREFIGHTERS SHOULD TAKE PRECAUTIONS PRESCRIBED FOR ELECTRICAL VOLTAGES OF UP TO 1,500 VOLTS (DC).
- PV modules contain potentially combustible components including oxides of carbon, silicon and nitrogen.
- In the case of prolonged exposure to fire, the structural integrity of PV modules can deteriorate.
- If any PV modules that are not connected to the array are on fire, extinguish the fire using a Class C fire extinguisher rated for electrical equipment.

Firefighting recommendations:

- When fighting a fire that involves a solar PV system, firefighting personnel should follow the usual approach for a structure fire, but with the assumption that electrical equipment is energized and extreme care must be taken both inside and outside the structure.
- Firefighters should stay aware of the possibility for modules to slide off the roof, and should maintain a safe distance from the roofline accordingly.
- It is recommended to contact a local PV installation company to help address potential hazards.
- Be aware that even after the system's disconnect switch has been opened, the array can remain energized as long as the array is illuminated.
- Even artificial light such as that from fire trucks or flames can energize PV systems to the point that lock-on, or the inability to let go from an electrical source due to stimulated muscles, can occur.
- Do not rely on firefighting foam to block light.
- Water rather than foam is recommended to fight the fire, but do not use salt water.
- The extent of an electrical shock hazard when water is applied depends on factors including voltage, the water's conductivity, the distance and the spray pattern.
- Firefighter gloves and boots provide limited protection against electrical shock when the insulating surface is dry and intact. They are not as safe as electrical personal protection equipment (PPE).

SECTION 6: HANDLING AND STORAGE

Please read the Boviet Solar Installation and Maintenance Manual thoroughly before installing modules.

Failure to follow the procedures outlined in the manual can cause physical injury or death. Only qualified, authorized professionals should handle and install PV modules. The Installation and Maintenance Manual is available from your module distributor or retailer.

When handling and installing modules, adhere to the following to reduce the risk of injury:

- Ensure that your modules meet your system's technical requirements.
- When connecting the modules, remove all metallic jewelry.
- Use only properly insulated tools.
- Wear personal protective equipment.
- Do not take the modules apart or remove any components of the modules.
- The glass surface of the modules is delicate. Do not stand or step on the modules. Take care not to scratch or otherwise damage the surface of the modules.
- Do not handle or install modules that are wet.
- Avoid touching exposed cables and connectors.
- Do not allow concentrated, artificial sunlight to hit the modules.

Adhere to the following storage conditions for Boviet Solar PV modules:

- Storage temperature: -30°C to 50°C
- Humidity: <85RH%
- Keep modules away from flammable gas, hazardous chemicals, and potential fire sources.

SECTION 7: PERSONAL PROTECTION & EXPOSURE CONTROLS

Read the Boviet Solar Installation and Maintenance Manual thoroughly before installing modules. Failure to follow the procedures outlined in the manual can cause physical injury or death. Only qualified, authorized professionals should handle and install PV modules. The Installation and Maintenance Manual is available from your module distributor or retailer.

- Ensure that all individuals working on and around the PV installation understand and follow accident-prevention and safety regulations and best practices.
- Wear suitable gloves when handling modules.
- Ensure that the modules and all related electrical components are intact. DO NOT INSTALL MODULES THAT APPEAR DAMAGED.
- Never modify the module (for example, by drilling holes in the frame). Do not open the junction box on the back.
- Be sure modules, other components, and tools are dry at all times during installation. All tools should be dry and insulated.
- Module cables should only be connected using the provided plugs. Plugs make a clicking sound when property connected. Be sure plugs are tightly connected.
- During installation, modules should be covered with an opaque material. This includes modules you might be disconnecting.

The silicone used when PV modules are being manufactured releases methanol in the curing stage. After that, methanol is no longer released. However, shipping cartons may contain small amounts of methanol. Therefore, shipping cartons should be opened in a well-ventilated location. Wait five minutes before removing the modules from the cartons. This ensures that the recommended limit for methanol exposure -- 200 ppm eight-hour time-weighted-average (TWA) – is not exceeded.

SECTION 8: PHYSICAL AND CHEMICAL PROPERTIES

- Physical State: Solid
- Please be advised that voltage increases when modules are connected electrically. Boviet Solar PV modules are certified for up to 1,500 volts. The product data sheets lists the maximum system voltage. When connecting modules in a series, do not exceed the allowed maximum system voltage.
- Weight: Please refer to product datasheet
- Solubility in Water: Modules are insoluble in water.

SECTION 9: STABILITY AND REACTIVITY

Boviet Solar PV modules are chemically stable under normal operating conditions.

- Modules are tested for salt spray resistance per IEC 61701.
- Modules are tested for ammonia resistance per IEC 62716.
- Modules support ambient operating temperatures ranging from –40°C to +85°C (–40°F to +185°F).
- Modules should not be installed at altitudes higher than 13.120ft (4000m) above sea level.
- PV modules contain potentially combustible components that can burn. These include oxides of carbon, silicon and nitrogen.
- To remove dirt, dust or other matter from the modules, use only a sponge or soft cellulose cloth. Do not use microfleece wool or cotton cloths. Do not scratch to remove dirt. Rinse with lukewarm water.
- If glass-cleaner is needed, use an alcohol-based product. Avoid abrasive detergents.
- If used within an hour of a stain appearing, isopropyl alcohol can be used to remove stubborn dirt or stains. Always follow any safety guidelines from the isopropyl alcohol manufacturer. Take care that the alcohol does not seep into the module's edges or drip down where the module and frame meet.

SECTION 10: TOXICOLOGICAL INFORMATION

Installed modules do not present any exposure to hazardous chemicals. Residual amounts of methanol from the manufacturing process may be present in the shipping cartons. Shipping cartons should be opened in a well-ventilated location. Wait five minutes before removing the modules from the cartons.

SECTION 11: ECOLOGICAL INFORMATION

Boviet Solar PV modules can withstand exposure to outdoor operating conditions for 30 years. Because the components possess high chemical stability, biodegradation is not expected.

SECTION 12: DISPOSAL CONSIDERATIONS

Disposal of Boviet Solar PV modules should adhere to national, state and local laws and regulations for electronic waste. Please recycle your Boviet Solar PV modules. Suggest not to dispose of them in a landfill directly. Recycling companies can recover some of the module's raw materials.

SECTION 13: TRANSPORT INFORMATION

Because Boviet Solar PV modules are not considered hazardous goods, they can be shipped in standard freight containers.

SECTION 14: REGULATORY INFORMATION

- Testing procedures for Boviet Solar PV modules follow international standards IEC 61215, IEC 61730 as well as US standards UL61215, UL61730.
- Please refer to the Installation and Maintenance Manual and Product Datasheet of the respective Boviet Solar PV module for more information.

SECTION 15: OTHER INFORMATION

- This product safety data sheet was created on August 08 2022.

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