

COMPANY

NANVERA Advanced Materials

PRODUCT CODE (SKU)

BR-029 — NAN-VE B-MASTER

REVISION DATE

May 2026 / Rev. 02

Section 1: Product and Company Identification

Product Use: Concentrated additive for improving the efficiency of the bitumen binder. Manufacturer: KEMT CASTELLO plant, for NANVERA.

Section 2: Hazards Identification

General Classification: Not hazardous at room temperature (solid state); fully stable. Thermal Hazards: Risk of severe burns during heating and hot mechanical application ($\geq 140^{\circ}\text{C}$).

Section 3: Composition / Information on Ingredients

Chemical Basis: Smart bitumen reinforced with a continuous nano-polymer network. VOC Content: None; the material retains light oils (maltenes), preventing their evaporation.

Section 4: First Aid Measures

Skin Contact (hot material): WARNING — do not attempt to remove the material from the skin. Immediately cool the area with running cold water and seek medical attention. Eye Contact: Rinse thoroughly with running water and seek medical attention immediately. Inhalation: If heating vapors are inhaled, move the affected person to fresh air.

Section 5: Fire-Fighting Measures

Flash Point: $>250^{\circ}\text{C}$ (very safe during operation in central mixing plants). Extinguishing Media: Dry chemical, foam, CO₂. DO NOT use a direct water jet.

Section 6: Accidental Release Measures

Containment Measures: Surround the spill area with sand, allow the material to cool and solidify, then mechanically scrape and collect it.

Section 7: Handling and Storage

Handling (Heating): Heat using equipment fitted with temperature sensors (not below 140°C and not exceeding 180°C , to avoid polymer degradation).

Storage: Store in a dry, cool place away from open flame sources.

Section 8: Exposure Controls / Personal Protection

PPE: Heat-resistant gloves, a face shield, protective safety footwear, and full-body protective clothing are mandatory.

Section 9: Physical and Chemical Properties

Appearance: Black, elastic solid mass (at room temperature). Softening Point: 63–70°C (per EPRI test data).

Solubility: Insoluble in water; homogenizes molecularly with bitumen.

Section 10: Stability and Reactivity

Absolute Stability: Absolutely stable; a difference of only 0.4°C between the top and bottom of the sample (complete chemical homogeneity).

Thermal Degradation: The nano-network protects the bonds from thermal degradation caused by repeated heating.

Section 11–12: Toxicological and Ecological Information

Toxicity and Ecology: Chemically inert in the solid state; does not release toxic substances into the soil (environmentally friendly).

Section 13: Disposal Considerations

Disposal: 100% recyclable. Handled as standard asphalt waste.

Section 14–16: Regulatory Information

Transport: Not regulated as dangerous cargo in the solid (cold) state.

Compliance: Certified and passed EPRI penetration and softening tests for load-bearing capacity.

Laboratory Accreditation: Material stability tested by the Swiss federal laboratory Empa and the Egyptian EPRI.