

# BUSAN<sup>®</sup> 11-M1

Multifunctional  
Pigment



Proven performance. Outstanding quality.

**Add the confidence that years of proven performance can offer.**

Busan 11-M1 is the commercial form of barium metaborate monohydrate. The product is a multifunctional pigment manufactured using a unique process to provide quality performance for the coatings customer.

Busan 11-M1 is  $\geq 90\%$  active calculated as  $\text{BaB}_2\text{O}_4 \cdot \text{H}_2\text{O}$ .



# Busan® 11-M1: a multifunctional pigment

## Directions for Use

### Corrosion Inhibition

Use levels of Busan 11-M1, when used as a corrosion inhibitor, are dependent upon the formulation and performance required. For industrial, solvent-based coatings, use levels of 2.0–10.0% based on total formula weight are suggested. Use levels of 4.5–9.0% based on the total formula weight are recommended for latex paints. Use levels below 4.5% of total formula weight provide excellent flash- and early-rust inhibition only. Busan 11-M1 is not a vapor-phase inhibitor and will require tipping the can to coat the lid and upper surface of the metal can to ensure protection.

### Tannin stain blocking

Busan 11-M1 can be used as a tannin stain blocking agent in latex- and solvent-based primers and topcoats. Use levels of 0.25–1.0% based on total formula weight are recommended for this application. Use of an alkyd modifier can provide additional wetting. This will be beneficial when formulating latex primers and stains.

### Flame retardancy

Busan 11-M1 performs well as a flame retardant in both solvent- and water-based coatings containing a halogen donor, such as chlorinated paraffin.

Busan 11-M1 can replace 100% of the antimony trioxide present in most formulations. In certain systems the two can function synergistically. Use levels of 2.0–9.0% for flame retardancy are recommended but will vary depending on the resin and the halogen donor used.

### Metal stabilization

Busan 11-M1 functions as a stabilizer for several metals and metal salts, such as copper oxide and metallic zinc. Busan 11-M1 reduces the rate at which zinc metal converts to zinc oxide or zinc carbonate. Because Busan 11-M1 reduces the reactivity of metallic zinc, better adhesion is observed when coating galvanized steel. Use levels for metal stabilization will vary based on resin used and performance required. However, 4–12% is an acceptable range, with higher levels giving better adhesion and performance.

### Formulating guidelines

Buckman recommends using a non-phosphate anionic dispersant for latex coatings, such as Busperse® 39, Tamol™ 681, Orotan™ QR 681, or Tamol 850, at levels of 0.5–1.3%. For latex coatings, we also strongly recommend that a nonionic surfactant like Triton™ X-100, Triton X-405, Igepal® CO-630, or Triton CF-10 be used to minimize long-term stability.

An additional consideration in latex coatings is to allow the grind paste to cool to less than 100°F. A hot grind paste containing reactive pigments may scavenge significantly higher levels of dispersants or surfactants, thereby causing the emulsion to destabilize. Associative thickeners may have a greater efficacy due to the alkalinity of Busan 11-M1 which can provide lower formulating costs. Care should be taken when formulating.

Typically, there are no concerns when formulating solvent-based coatings with Busan 11-M1 other than utilizing a good dispersant, such as Busperse 47 at 0.2–0.4%.

## Learn more

Contact your local Buckman representative, or visit us online at [buckman.com](http://buckman.com).

## Typical product characteristics

Appearance	white amorphous crystalline powder
Specific gravity	3.35 g/cm <sup>3</sup>
Density	27.5 lb/gal
Refractive index	1.55–1.60
Oil adsorption	30
Solubility	0.3% maximum ambient temperature
Solubility	0.4% in hot water
pH of saturated solution @ 70°F	9.8–10.3

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