

Polymer Add (Thailand) Co.,Ltd.

Office - 106, Chalarempriakiat, Lor 9, Soi 22, Yak 5, Nongbon, Prawet, Bangkok, Thailand 10250
Factory - 188/3, Moo 8, Tambon Bangpu Mai, Amphoe Muang Samut Prakan, Samutprakan, Thailand 10280
Mobile - Thai : 0804531391, English: 0839415475, E-mail – contact@polymeradd.co.th



TECHNICAL DATA SHEET

DH-555

PRODUCT CLASSIFICATION

Chemical Name	5,5-Dimethylhydantoin (Micronized) + Upto 5% Calcium Oxide + Calcium Silicate (anti Caking agent)
Grade Name	DH-555
CAS No	77-71-4 (Hydantoin)
HS Code	2933.59.90
EINECS No	201-052-9
Molecular Formula	C ₅ H ₈ N ₂ O ₂
Molecular Weight	128.13 g/mol
Synonyms	DMH; 1,3-Dimethylol-5,5-dimethylhydantoin (precursor for halogenation)

PHYSICAL & CHEMICAL PROPERTIES

Property	Typical Value / Description	Test Method
Appearance	White crystalline powder	Visual
Odor	Odorless or faint characteristic	Sensory
pH (1% aqueous solution)	6.0 – 8.0	pH Meter
Melting Point	175 – 179 °C	Capillary Method
Solubility in Water	Moderate (7–10 g/100 mL at 25°C)	Visual Observation
Assay (GC or Titration)	≥ 99.0%	GC or Acid-Base Titration
Loss on Drying	≤ 0.5%	Oven Drying at 105°C
Bulk Density	0.35 – 0.50 g/cm ³	Tapped Density
Particle Size (D50)	6 – 8 µm	Laser Diffraction
Particle Size (D99)	< 20 µm	Laser Diffraction

HEAVY METALS (CONTENT LIMITS FOR INDUSTRIAL USE)

Element	Typical Limit	Test Method
Lead (Pb)	≤ 5 ppm	ICP, AAS
Cadmium (Cd)	≤ 1 ppm	ICP, AAS
Mercury (Hg)	≤ 1 ppm	ICP, CV-AAS
Arsenic (As)	≤ 1 ppm	ICP, AAS

USES / APPLICATION

Industry	Commercial Application / Uses
Adhesives	Crosslinker in specialty adhesives, resins

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Paints & Coatings	Precursor for halogenated biocides in antifouling and antimicrobial coatings
Rubber	Curing agent or stabilizer in certain elastomer formulations
Textile & Paper	Finishing agent in durable press fabrics, flame-retardant paper (when halogenated)
Construction	Used in dry mix additives for biostability (when brominated/chlorinated)

REGULATORY INFORMATION (NON-FOOD USE)

Regulation	Status / Reference
REACH (EU)	Pre-registered / subject to volume threshold reporting
RoHS / WEEE	Compliant with heavy metal thresholds
FDA	✗ Not GRAS or listed for food-contact use in original form

PRODUCT SAFETY & HANDLING

- Store in a **cool, dry place**, tightly closed container, away from oxidizers and acids.
- Use appropriate **PPE** and dust extraction during micronized handling.
- Material is **non-flammable**, low volatility, but may irritate skin/eyes in powder form.

PACKING & STORAGE

Packing Options	10 kg laminated paper bags with PE liner
Shelf Life	24 months from date of manufacture (if stored properly)
Recommended Storage	< 35°C; < 50% RH, sealed packaging

PRODUCT DISCLAIMER

This product is intended for **industrial and research use only**. Data presented is typical and not a specification unless agreed upon in writing. Users are responsible for verifying product suitability for their specific application. Not intended for direct use in food, pharmaceuticals, or medical applications.

Month of Creation: June 2025

Month of Review: June 2027