# Claymore ST

*Datasheet*

Nano Parmin Khavaran Co.

## Product description

Claymore ST is a synthetic Mg-Al carbonate hydrotalcite (LDH) specifically engineered for polymer stabilization applications. It functions as an effective acid scavenger, HCl absorber, and thermal stabilizer in PVC, polyolefins, and other polymer systems. As a heavy-metal-free, non-toxic, and environmentally friendly additive, Claymore ST is particularly suitable for Ca-Zn stabilized PVC formulations, halogen-containing polymers, and flame-retardant compounds.

## Typical properties

| | |
|---|---|
| **Composition** | Synthetic Mg-Al Carbonate Hydrotalcite |
| **Appearance** | Fine white powder |
| **Average particle size** | 5 µm |
| **Moisture Content** | 2-3 % |
| **Decomposition temperature** | < 260 °C |

## Applications

- Rigid and flexible PVC compounds
- Wire and cable compounds
- Transparent PVC formulations
- Polyolefin masterbatches
- Halogen-free flame-retardant compounds
- Engineering thermoplastics requiring acid scavenging performance

## Key functional benefits

- Excellent HCl scavenging efficiency
- Heavy-metal-free and environmentally friendly
- Synergistic performance with Ca-Zn stabilizer systems
- Improves PVC thermal stability during processing and long-term service
- Enhances long-term color retention and reduces discoloration
- Effective halogen scavenger for polyolefins and engineering plastics
- Contributes to flame-retardant formulations as a synergistic additive

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## Recommended use

For PVC formulations, the typical dosage level ranges from 0.5 to 3.0 phr depending on the stabilizer package, processing conditions, and performance requirements.

For polyolefin and engineering plastic applications, the optimum loading level should be determined through formulation development and performance testing.

## Processing instructions

1. **Melt compounding**
   Claymore ST may be incorporated into polymer formulations using conventional melt compounding equipment including twin-screw extruders, internal mixers, Banbury mixers, and high-speed mixers. For optimum dispersion, it is recommended that Claymore ST be dry blended with other formulation ingredients before melt processing.

2. **Polyolefin Applications**
   In polyolefin systems, Claymore ST may be added directly during compounding. Uniform distribution throughout the polymer matrix is recommended to maximize acid scavenging and stabilization performance.

3. **PVC Applications**
   Claymore ST is particularly effective when used in conjunction with Ca-Zn stabilizer systems, providing enhanced long-term thermal stability and color retention.

## Packaging

Claymore ST is supplied in 20 kg paper bags with polyethylene inner liner.

## Storage

Store in a cool, dry place and keep containers tightly closed. Avoid exposure to excessive moisture and direct sunlight. Under recommended storage conditions, the product maintains its performance characteristics for extended periods.

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