

## Clearstrength<sup>®</sup> C-223

### MBS Impact Modifier

#### PRODUCT DESCRIPTION

Clearstrength<sup>®</sup> C-223 is a methylmethacrylate-butadiene-styrene (MBS) core-shell impact modifier designed to meet the most demanding impact performances in injection molding, extrusion and calendaring opaque PVC applications as well as for ambient and low temperature toughness to engineering polymers.

The low-temperature impact resistance and easy processability of Clearstrength<sup>®</sup> C-223 impact modifier has made it a leading impact modifier used in CPVC pipe and fittings, furniture films and indoor profiles for over 25 years. This additive also was aimed at providing good impact to polycarbonate, polyesters and a variety of polycarbonate blends, in particular PC/ABS.

#### TYPICAL PHYSICAL PROPERTIES

Physical Form	White Powder
Specific Gravity	1.02
Bulk Density	0.39 g/cc
Particle Size	2% Max on 18 mesh
Percent Volatiles	1.0% Max

#### SUGGESTIONS FOR USE

Clearstrength<sup>®</sup> C-223 impact modifier is recommended for use in high quality technical PVC films and edge-bands, CPVC pipes and fittings and all applications requiring very high impact retention, especially at low temperatures. It is also recommended for use in automotive applications, electrical and electronic components, household appliances and all PC & alloys parts where ease of processing, good low temperature impact and good balance of physical properties are important.

Clearstrength<sup>®</sup> C-223 impact modifier is commonly used in PVC formulations for food contact or drinking water conduction. Dedicated information on regulatory status is available upon request.

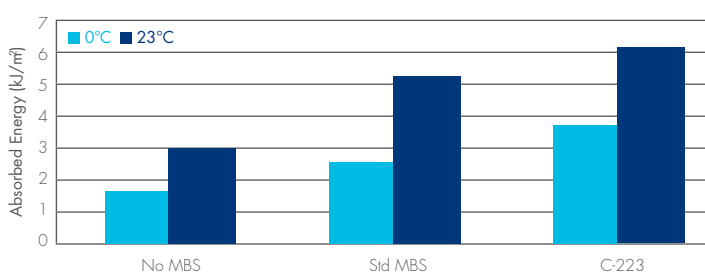
Recommended loading levels depend on impact requirement ; typical levels range from 2 to 20%. Prospective clients should evaluate Clearstrength<sup>®</sup> C-223 impact modifier in their own laboratories to establish optimum conditions for use in their process and applications. Arkema's Technical Service Team is available to discuss your application requirements, provide formulations guidance and laboratory testing as needed.

#### PRODUCT BENEFITS

##### Impact Strength

Thanks to its high rubber content, Clearstrength<sup>®</sup> C-223 impact modifier offers high impact efficiency at room and low temperature, allowing dosage optimization and cost saving in formulation:

##### Charpy Impact Strength in PVC, V notch, r=0.1 mm (BS7413-A)



Typical calendaring formulation (phr): PVC Kw57: 100, Octyl Organotin Stabilizer: 1.2, internal lubricant: 0.8, ESBO: 1, Plastistrength<sup>®</sup> 550 process aid: 1, Plastistrength<sup>®</sup> 770 process aid: 0.7, Clearstrength<sup>®</sup> C impact modifier: 9

##### Izod impact strength in PC, ISO 180:2000 type 1eA

Property	Neat PC		PC + 5 % Clearstrength <sup>®</sup> 223
	-10°C	-40°C	
Impact Strength (kJ/m²)	n.d.*	12,4	51,8
			39,6

\* not determined

##### Processability

Clearstrength<sup>®</sup> C-223 impact modifier specific structure makes it suitable to withstand severe processing conditions such as high-temperature extrusion and injection with minimal effect on heat stability and mechanical properties.

##### Easy Dispersion

Clearstrength<sup>®</sup> C-223 impact modifier is easily dispersed in vinyl or polycarbonate based formulations assuring more consistent impact resistance and other physical properties.

#### PACKAGING

Clearstrength<sup>®</sup> C-223 impact modifier is packaged in 20 kg bags (500 kg per pallet) and 500 kg bulk bags (1000 kg per pallet).

## ENVIRONMENTAL AND SAFETY INFORMATION

BEFORE HANDLING THIS MATERIAL, READ AND UNDERSTAND THE MSDS (MATERIAL SAFETY DATA SHEET) / SDS (SAFETY DATA SHEET) FOR ADDITIONAL INFORMATION ON SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION. The MSDS/SDS are available on our Website [www.arkema.com](http://www.arkema.com) or upon request at our Customer Service Department. Arkema believes strongly in Responsible Care® as a public commitment.

## MORE TECHNICAL INFORMATION AVAILABLE

Ask your Arkema account manager for further information on high quality Arkema additives for use in PVC, PC, PBT, ABS, PLA and other polymer systems. Arkema produces a full line of impact modifiers, processing aids and epoxidized vegetable oils. In addition, Arkema's Technical Service staff is also available to assist compounders and processors with formulation and processing advice.

## Durastrength® Impact Modifiers

Durastrength® acrylic impact modifiers deliver outstanding impact characteristics for outdoor durable applications in PVC and Engineering Resins.

## Plastistrength® Process Aids

Plastistrength® process aids offer producers a complete line of melt strengtheners and metal release agents for PVC and Engineering Resins. Plastistrength® process aids can improve fusion, surging, and aesthetics.

## Clearstrength® Impact Modifiers

Clearstrength® MBS impact modifiers are designed for extreme impact or impact/clarity combination in PVC and Engineering Resins.

## Biostrength® Additives

Biostrength® product line of impact modifiers, melt strengtheners and metal release agents are designed to improve properties and enhance processability of polylactic acid (PLA) and other biopolymers compounds.

## FOR MORE INFORMATION CONTACT

Please contact your local account manager or our headquarters:

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[www.additives-arkema.com](http://www.additives-arkema.com)

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