SIN RUBTECH®

TECHNICAL DATA SHEET

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SIN RUBTECH® POLYMER BOUND PREDISPERSED MgO – 50G

Product Description

Composition:	A proprietary predispersed 50% high activity fine particle size magnesium oxide in a 50% elastomeric / processing aids binder specially formulated for use in EPDM, NR, SBR, BR formulations
Appearance:	Off - White Granules.
Density:	Approx. 1.46 g/cm^3.
ML 1+4 @ 50°C	< 70
Moisture Content:	< 1.0 %
Melting Point: (of active MgO)	Not Applicable.
Storage Stability:	At least 2 years under normal storage conditions.
Packing:	18 kg nett in sealed PE bag in a carton box.

Recommendations and Applications

The active MgO used has these typical properties.

Specific Gravity		: Approx. 3.57
Bulk Density (g/ml)		: ~ 0.47
Mean Particle Size (μm)		: ~ 0.33
Iodine Absorption (mgI/gm)		: ~ 156.00
Specific Surface Area BET (m^2/g)		: ~ 133.00
Screen Residue (Over 200Mesh %)		: ~ 0.01
Chemical Composition		
Moisture Content	(%)	: ~ 0.48
MgO	(%)	: ~ 97.89
Ignition Loss	(%)	: ~ 6.54
CaO	(%)	: ~ 0.49
Fe	(%)	: ~ 0.02
Al	(%)	: ~ 0.01
Insol. Matters in HCI	(%)	: ~ 0.10

The MgO used in quite similar to Merrand Starmag 150 or Rhein Chemie Rhenomag 2150. MgO – 50G is recommended for the vulcanisation of polychloroprene (CR) compounds and as an acid acceptor in halogen containing polymers such as CIIR, CSM & CM. Our MgO is chosen for its high BET & Iodine Absorption characteristics to give the best processing safety and vulcanisate properties. Our polymer bound MgO - 50G is less sensitive to moisture absorption and hence does not loose as much its vulcanisation activity on prolonged storage as normal MgO powder. MgO – 50G and our SIN RUBTECH® ZnO – 80G can be used alone without accelerators to vulcanise sulphur modified CR such as Neoprene G & Baypren S grades. These grades have little tendency to scorch. To increase the rate of cure of such compounds, our SIN RUBTECH® ETU – 80G is recommended.

For mercaptan-modified CR's such as Neoprene W and Baypren M grades, where scorch is a serious problem, the use of MgO – 50G and ZnO – 78G are strongly recommended to reduce scorch problems by virtue of their faster mixing times. ETU – 80G is often used as a sole accelerator of mercaptan – modified CR's. To obtain a compromise of good processing safety and good cure rate and state of cure, our SIN RUBTECH® TMTD – 70G or MBTS – 80G can be used as retarders. There is little problem of TMTD bloom in CR compounds.

Dosage

The standard optimum dosage recommendations of MgO & ZnO powder form are 4PHR & 5PHR respectively. With polymer bound predispersed forms a good starting point is to use 80% active of above.

Example

	PHR
Powder	4.0
MgO – 50G	6.4

Illustrations

	PHR					
	#1	#2	#3	#4	#5	#6
Neoprene W	100.0	96.0	100.0	95.5	-	-
Neoprene GN	-	-	-	-	100.0	96.0
Antiox.	2.0	2.0	2.0	2.0	2.0	2.0
Carbon Black	58.0	58.0	58.0	58.0	58.0	58.0
MgO	4.0	-	4.0	-	4.0	-
MgO – 50G	-	6.4	-	6.4	-	6.4
Stearic Acid	0.5	0.5	0.5	0.5	0.5	0.5
Oil	12.0	12.0	12.0	12.0	12.0	12.0
ZnO	5.0	-	5.0	-	5.0	-
ZnO – 85G	-	5.3	-	5.3	-	5.3
ETU	-	-	1.0	-	0.25	-
ETU – 80G	-	-	-	1.14	-	0.29
TMTD	-	-	1.0	-	-	-
TMTD – 70G	-	-	-	1.14	-	-
Mooney Scorch MS @ 121°C, 10 unit rise (min)	> 45		15		33	
Vulcanisate properties Press cure @ 153°C						
T.S. MPa 7.5′	Under cure		19.6		16.8	
15.0′	Under cure		20.6		18.0	
30.0′	4.2		19.4		18.4	
Shore A 7.5′	Under cure		68		69	
15.0′	Under cure		69		70	
30.0′	57		71		71	

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