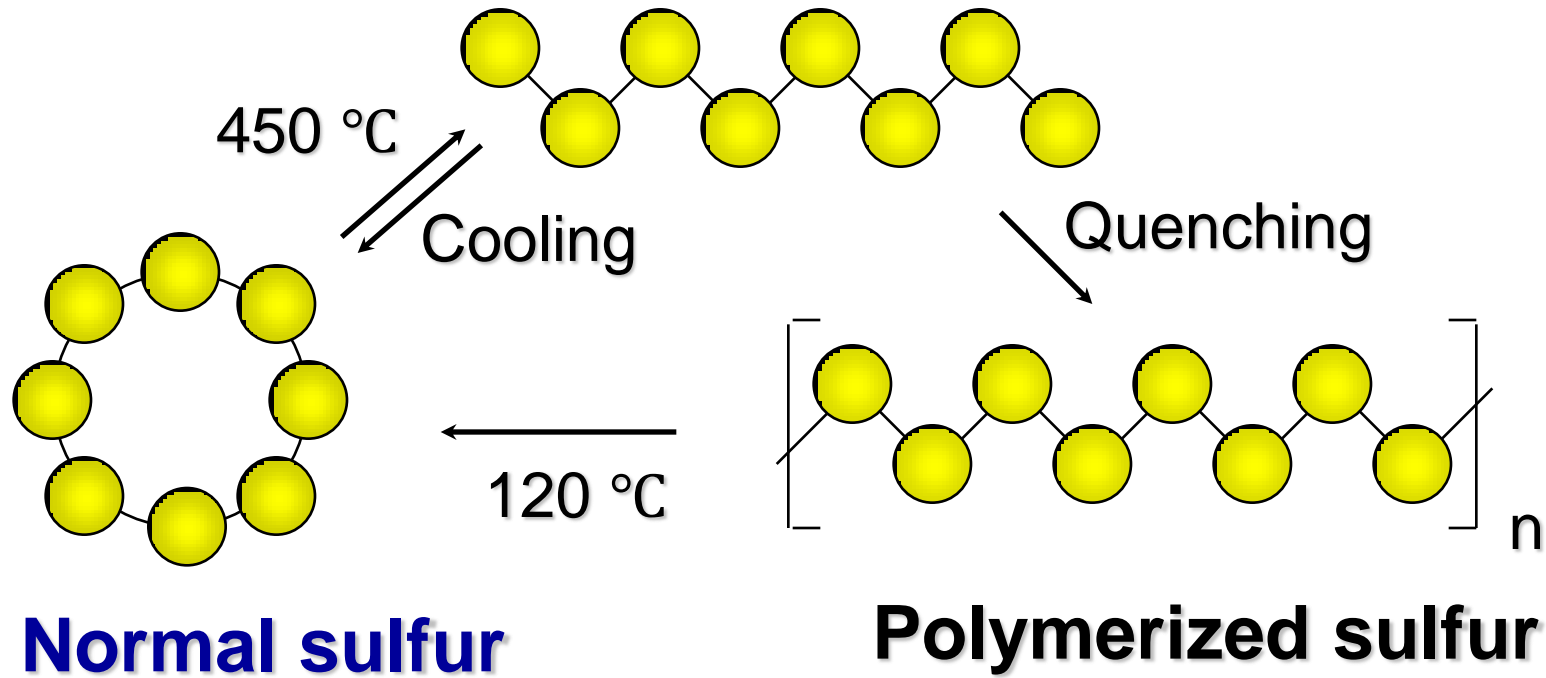
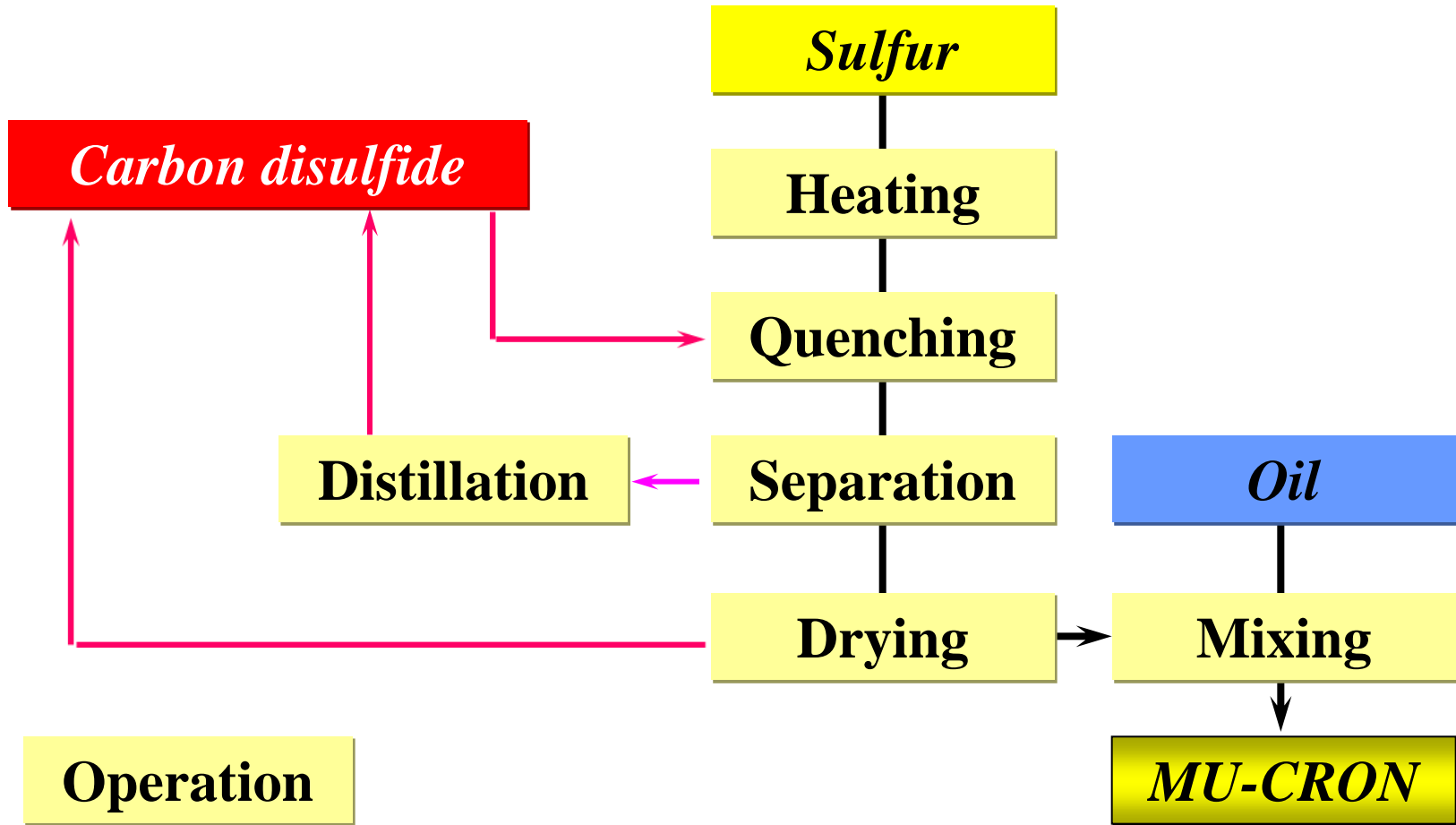


Quenched sulfur gas by carbon disulfide



Insoluble Sulfur Manufacturing Process



Specification

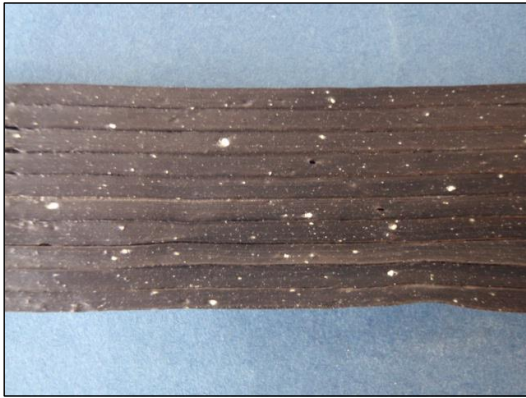
- Product Name : MUCRON OT-20
- Chemical Name : Insoluble Sulfur, 20% Oil Treated
- Packing : 25kg kraft paper bag

ITEM	UNIT	MU-CRON OT-20 HS	MU-CRON OT-20 HD
Appearance		Yellow Powder	Yellow Powder
Total Sulfur Content	%	80.0±1.0	80.0±1.0
Insoluble Sulfur on total sulfur	%	90.0 Min.	90.0 Min.
Oil Content	%	20.0±1.0	19.0±1.0
Ash Content	%	0.10 Max.	0.10 Max.
Free Acid	H ₂ SO ₄ %	0.05 Max.	0.05 Max.
Thermal Stability	105°C/15min %	80.0 Min.	80.0 Min.
Heat Loss	60°C/2hr %	0.50 Max.	0.50 Max.

* exclude polymer binder content

Dispersion

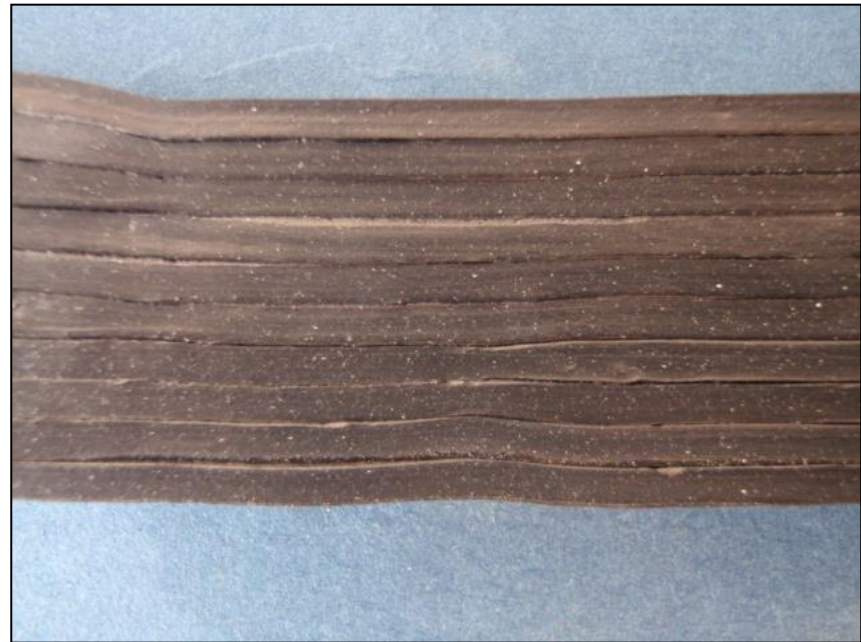
MUCRON HS



Competitive Product



MUCRON HD



*Cut plane of rubber compound mixed with insoluble sulfur (5phr).

Vulcanization & Physical Properties

Properties (measurement)			Mucron HS	Mucron HD	Competitive Product
Mooney ML(1+4) @100°C			54	55	55
Mooney Scorch @125°C	T5	min	34.9	34.7	34.4
Vulcanization Curve @140°C	T10	min	13.7	13.9	13.9
	T90	min	24.8	25.1	24.9
	T90-10	min	11.1	11.2	11.0
Hardness (TypeA durometer)			62	62	62
Resilience		%	58.7	58.7	58.8
Tensile Strength		MPa	29.9	29.3	29.6
Elongation at Break		%	550	530	520
Modulus 100%		MPa	3.0	3.2	3.0
Modulus 300%		MPa	15.1	15.7	15.2

Test recipe: NR/HAF/ZnO/accelerator(TBBS)/insoluble sulfur = 100/45/5/1/2