

## Rhenocure® TMTD/C

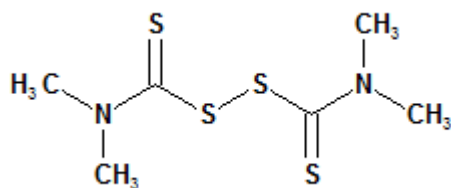
Specialty and Standard Chemicals

### Function

Rhenocure® TMTD/C is a non-discoloring ultra accelerator and sulfur donor suitable for conventional curing processes.

### Product description

Composition: tetramethylthiuram disulfide (TMTD)



Appearance: white to greyish powder, low dust  
Density: approximately 1.4 g/cm<sup>3</sup>

Property	Nominal value	Unit	Test method
Melting point	≥ 142.0	°C	ASTM D 1519 B (heating rate: 3 °C/min)
Assay	≥ 96.0	%	2011-0364501-92
Oil content	2.0 ± 1.0	%	32 A
Ash content	≤ 0.30	%	ASTM D 4574
Volatile matter	≤ 0.30	%	ASTM D 4571 (15 - 23)
Sieve residue (0.063 mm)	≤ 0.30	%	ASTM D 4572

### Use

Application: Rhenocure® TMTD/C is a non-discoloring ultra accelerator suitable for conventional curing processes (press, steam and hot air). It can be used in NR, IR, BR, SBR, NBR, CR and EPDM.

Rhenocure® TMTD/C can be used alone or in combination with other accelerators for applications such as mechanical goods, hose, cable, seals, tires, conveyor belts, transparent goods, proofed textiles, latex goods and ebonite.

As a secondary accelerator, it can be used to activate mercaptos and sulfenamides. Used as sulfur donor Rhenocure® TMTD/C forms mainly monosulfidic crosslinks for improved compression set values.

Processing: Rhenocure® TMTD/C is easy to disperse in rubber compounds. There is no risk of decomposition during mixing in the absence of sulfur.

The presence of zinc oxide is essential for the correct functioning of Rhenocure® TMTD/C. In most applications stearic acid is needed as well.

Rhenocure® TMTD/C does not cause sensitization of latex compounds. In latex compounds Rhenocure® TMTD/C must be incorporated in the form of a water-based dispersion. It is mainly used as a preservation component in natural latex.

Dosage: Typical levels of addition based on 100 parts by weight of elastomer are:  
 primary accelerator for NR, SBR and NBR heat resistant goods

2.5 - 3.5	Rhenocure® TMTD/C
0.5 - 2.0	Vulkacit® DM, Vulkacit® CZ or MBS
0 - 0.3	sulfur

technical articles in general

SBR	1.0 - 2.0	sulfenamide accelerator
	0.1 - 0.3	Rhenocure® TMTD/C
	1.5 - 2.0	sulfur
NR	0.5 - 1.5	sulfenamide accelerator
	0.05 - 1.0	Rhenocure® TMTD/C
	2.0 - 3.0	sulfur
NBR	0.75 - 1.5	sulfenamide accelerator
	0.1 - 0.3	Rhenocure® TMTD/C
	0.75 - 2.5	sulfur
EPDM	0.75	Rhenocure® TMTD/C
	0.75	Rhenocure® ZDEC or Rhenocure® ZDBC
	0.5	Vulkacit® Merkaptol
	2.5	Rhenogran® CLD
	1.5	sulfur

Natural latex 0.01 - 0.02 Rhenocure® TMTD/C

Vulcanizate Properties: Vulcanizates produced with Rhenocure® TMTD/C as the main accelerator and with a low level of sulfur exhibit good resistance to aging and compression set. Mechanical properties in this case are slightly inferior to articles produced using a normal level of sulfur. Rhenocure® TMTD/C has a tendency to bloom to the surface when a minimum dosage is exceeded in the compound. This minimum dosage or threshold level varies considerably according to the polymer and the other ingredients in the recipe.

Rhenocure® TMTD/C is suitable for use in light and transparent goods. It does not cause discoloration even when exposed to sunlight. On its own without free sulfur, Rhenocure® TMTD/C does not discolor copper, silver or other metals by contact staining. Rhenocure® TMTD/C imparts a slight characteristic odor which is noticeable in freshly cured products.

## Packaging

20 kg paper bag on 500 kg skid.

## Storage stability

In original closed containers under cool (approximately 25 °C) and dry conditions 730 days from date of production.

## Handling

For additional handling information on Rhenocure® TMTD/C please consult current safety data sheet.

These raw material properties are typical and, unless specifically indicated otherwise, are not to be considered as delivery specification.

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