

# Technical Data Sheet

## Accelerator **TBSI**

|                            |  |  |
|----------------------------|--|--|
| <b>Function</b>            | The rubber added with TBSI can obtain good scorch safety and lower vulcanization rate, and show good curing reversion resistance, high modulus and lower heat generation.  |  |
| <b>Product description</b> | Composition:   | N-t-butyl-2-benzothiazole sulfenimide                        |
|                            | Appearance:  | Off-white free flowing powder                                |
|                            | Density, 20 °C:  | ~ 1,35 g/cm <sup>3</sup>                                     |
|                            | Heating loss:  | ≤0.30%   |
|                            | Ash content:   | ≤0.30%   |
|                            | Sieve on 150um   | ≤0.10%   |
|                            | Purity:  | ≥90% (By HPLC)   |
|                            | Initial Melting point:   | ≥129°C   |
|                            | Additives (oil)  | 1-2%   |
|                            | Solubility:  | insoluble in water<br>partially soluble in benzene and xylol |
| <b>Use</b>                 |  |  |
| <b>Mode of action:</b>     | TBSI is a primary amine based accelerator which does not generate the nitrosamines and it can replace NOBS which is carcinogenic. The rubber added with TBSI can obtain good scorch safety and lower vulcanization rate, and show good curing reversion resistance, high modulus and lower heat generation, which optimizes adhesion between rubber and brass coated steel cord. Its physical properties and dynamic properties of cured rubber are similar with NOBS and DCBS cured rubber. It can also replace the blend of primary amine accelerator TBBS or CBS and scorching retarder CTP and be used alone, which makes it ideal for thick articles requiring a balanced cure and provides improved reversion resistance both during extended cure times at elevated temperatures and during product service life. TBSI exhibits outstanding storage stability under hot and humid storage conditions. |  |
| <b>Processing:</b>         | TBSI, when used as a vulcanization accelerator, to ensure a good dispersion, it should be added at the beginning of the mixing cycle.  |  |
| <b>Dosage:</b>             | in NR: 0.5 – 1.5 phr<br>in SBR: 0.5 – 1.5 phr<br>in NBR: 0.5 – 1.5 phr   | in IR: 0.5 – 1.5 phr<br>in HNBR: 0.5 – 1.5 phr               |
| <b>Application:</b>        | Used as a delaying-effect accelerator in NR, synthetic rubbers and reclaimed rubber.   |  |
| <b>Packing</b>             | Paper bag, 25 kg   |  |
| <b>Storage stability</b>   | in original closed containers under cool and dry conditions max. 1 years.  |  |