

## Product Data Sheet

# Thioplast™ G10

Status:

July 2019

Liquid polysulfide polymer with thiol end groups

| <b>Description</b>  | Liquid Polysulfide Pre-polymer, end-capped by SH-functional end groups.   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
|---|---|--------------|-------------------------|---------------------------------------|--|-------------------|-------------|----------------------|--|-----------|-----------------------------------|------------------|------------|----------------------|-------------|-----------|-----------|-------------|-----------------|-------------|----------|--------|------------|
| <b>Properties<sup>1)</sup></b><br><small>1) Typical properties, not to be construed as product specifications</small> | <table> <tr> <td>Appearance</td> <td>brownish liquid polymer</td> </tr> <tr> <td>SH content</td> <td>1,4 – 1,5% (related to viscosity/Molecular weight)</td> </tr> <tr> <td>Viscosity (25 °C)</td> <td>42 – 48 Pas</td> </tr> <tr> <td>Av. Molecular weight</td> <td>4400 – 4700 g/mol (relative to SEC standard)</td> </tr> <tr> <td>Branching</td> <td>0,0 mol% (calculated on mol% TCP)</td> </tr> <tr> <td>Water content</td> <td>max. 0,35%</td> </tr> <tr> <td>Free sulfur</td> <td>0.01 – 0.1%</td> </tr> <tr> <td>Volatiles</td> <td>max. 0.5%</td> </tr> <tr> <td>Glass point</td> <td>approx. – 55 °C</td> </tr> <tr> <td>Flash point</td> <td>&gt; 230 °C</td> </tr> <tr> <td>CAS-No</td> <td>68611-50-7</td> </tr> </table>               | Appearance   | brownish liquid polymer | SH content                            | 1,4 – 1,5% (related to viscosity/Molecular weight) | Viscosity (25 °C) | 42 – 48 Pas | Av. Molecular weight | 4400 – 4700 g/mol (relative to SEC standard) | Branching | 0,0 mol% (calculated on mol% TCP) | Water content    | max. 0,35% | Free sulfur          | 0.01 – 0.1% | Volatiles | max. 0.5% | Glass point | approx. – 55 °C | Flash point | > 230 °C | CAS-No | 68611-50-7 |
| Appearance  | brownish liquid polymer   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| SH content  | 1,4 – 1,5% (related to viscosity/Molecular weight)  |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Viscosity (25 °C)   | 42 – 48 Pas   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Av. Molecular weight  | 4400 – 4700 g/mol (relative to SEC standard)  |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Branching   | 0,0 mol% (calculated on mol% TCP)   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Water content   | max. 0,35%  |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Free sulfur   | 0.01 – 0.1%   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Volatiles   | max. 0.5%   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Glass point   | approx. – 55 °C   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Flash point   | > 230 °C  |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| CAS-No  | 68611-50-7  |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| <b>Application</b>  | <p>Thioplast G10 is used to formulate highly flexible and elastic sealants being used in aerospace applications with best performance in Jet Fuel resistance, high Nobel Gas retention and low moisture vapor permeability.</p> <p>Furthermore, Thioplast G10 is used in sealants with high elasticity and good UV-resistance being used in construction applications.</p>  |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| <b>Curing</b>   | <p>Curing agent: Manganese(IV)-oxide (*): 5,7 – 6,3 g/100 g Thioplast G 10<br/> (*) Pure curing agent: Manganese (IV)-oxide. The concentration of active/activated Manganese (IV)-oxide needs to be considered.</p> <table> <thead> <tr> <th>Curing paste</th> <th>pbw</th> </tr> </thead> <tbody> <tr> <td>MnO<sub>2</sub>, Grade Honeywell FA</td> <td>100</td> </tr> <tr> <td>Santicizer 278</td> <td>100</td> </tr> <tr> <td>Perkacit DPG</td> <td>6</td> </tr> <tr> <td>Airex 900</td> <td>7.4</td> </tr> </tbody> </table> <p>Properties of Thioplast G10 cured with 15 g curing paste/100 g Thioplast G10:</p> <table> <tr> <td>Shore A-hardness</td> <td>min 20</td> </tr> <tr> <td>Elongation @ break %</td> <td>min 300</td> </tr> </table> | Curing paste | pbw                     | MnO <sub>2</sub> , Grade Honeywell FA | 100  | Santicizer 278    | 100         | Perkacit DPG         | 6  | Airex 900 | 7.4                               | Shore A-hardness | min 20     | Elongation @ break % | min 300     |           |           |             |                 |             |          |        |            |
| Curing paste  | pbw   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| MnO <sub>2</sub> , Grade Honeywell FA   | 100   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Santicizer 278  | 100   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Perkacit DPG  | 6   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Airex 900   | 7.4   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Shore A-hardness  | min 20  |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| Elongation @ break %  | min 300   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| <b>Packaging</b>  | Thioplast G10 is available in 200 Liter drums, 1000 Liter IBC and 20m <sup>3</sup> ISO Bulk.  |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| <b>Storage</b>  | Store the container in cool and dry area, keep it closed when not in use.<br>Shelf life under appropriate storage conditions min 3 years.   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |
| <b>Handling</b>   | Full information on the safe handling is available in the Material Safety Data Sheet (MSDS).<br>Further details are available upon request.   |              |                         |                                       |  |                   |             |                      |  |           |                                   |                  |            |                      |             |           |           |             |                 |             |          |        |            |

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