

## Product Data Sheet

# Thioplast™ G22

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>2,1 – 2,7% (related to viscosity/Molecular weight)</td> </tr> <tr> <td>Viscosity (25 °C)</td> <td>10 – 20 Pas</td> </tr> <tr> <td>Av. Molecular weight</td> <td>2400 – 3100 g/mol (relative to SEC standard)</td> </tr> <tr> <td>Branching</td> <td>0,5 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                            | 2,1 – 2,7% (related to viscosity/Molecular weight) | Viscosity (25 °C) | 10 – 20 Pas | Av. Molecular weight | 2400 – 3100 g/mol (relative to SEC standard) | Branching | 0,5 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                                                                                                            | 2,1 – 2,7% (related to viscosity/Molecular weight)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                         |                                       |                                                    |                   |             |                      |                                              |           |                                   |                  |            |             |                      |           |           |             |                 |             |          |        |            |
| Viscosity (25 °C)                                                                                                     | 10 – 20 Pas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                         |                                       |                                                    |                   |             |                      |                                              |           |                                   |                  |            |             |                      |           |           |             |                 |             |          |        |            |
| Av. Molecular weight                                                                                                  | 2400 – 3100 g/mol (relative to SEC standard)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |                         |                                       |                                                    |                   |             |                      |                                              |           |                                   |                  |            |             |                      |           |           |             |                 |             |          |        |            |
| Branching                                                                                                             | 0,5 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 G22 is used to formulate flexible, highly elastic sealants being used in Insulating Glass- and Aerospace applications with best performance in Jet Fuel resistance, high Nobel Gas retention and low moisture vapor permeability.</p> <p>Furthermore, Thioplast G22 is used in highly elastic, low viscos sealants with good UV-resistance being used in construction applications.</p>                                                                                                                                                                                                                                                                                                                                                                    |              |                         |                                       |                                                    |                   |             |                      |                                              |           |                                   |                  |            |             |                      |           |           |             |                 |             |          |        |            |
| <b>Curing</b>                                                                                                         | <p>Curing agent: Manganese(IV)-oxide (*): 7,5 – 9,4 g/100 g Thioplast G 22<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 G22 cured with 20 g curing paste/100 g Thioplast G22:</p> <table> <tr> <td>Shore A-hardness</td> <td>min</td> <td>30</td> </tr> <tr> <td>Elongation @ break %</td> <td>min</td> <td>120</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        | 30          | Elongation @ break % | min       | 120       |             |                 |             |          |        |            |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30           |                         |                                       |                                                    |                   |             |                      |                                              |           |                                   |                  |            |             |                      |           |           |             |                 |             |          |        |            |
| Elongation @ break %                                                                                                  | min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 120          |                         |                                       |                                                    |                   |             |                      |                                              |           |                                   |                  |            |             |                      |           |           |             |                 |             |          |        |            |
| <b>Packaging</b>                                                                                                      | Thioplast G22 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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