



# Foam Control Agents

## Bisomer FCC types from GEO Specialty Chemicals



### Their chemistry

- ✓ Based on polyalkylene glycol chemistry
- ✓ Most products are label-free, non-toxic and non-hazardous for the environment
- ✓ Slowly biodegradable into simple glycols

### Their usage

- ✓ In aqueous applications only
- ✓ At an application temperature higher than the cloud point
- ✓ In ppm levels due to high efficiency

### Their function

- ✓ Reducing air in aqueous processes and slurries
- ✓ Preventing surface foaming
- ✓ Minimizing defects caused by bubbles

| Bisomer   | Pulp & paper | Food processing | Boiler water additives | Sugar beet processing | Fermentation | Cleaners & detergents | Cloud Point [°C]* | Kosher | Halal | FDA               |
|-----------|--------------|-----------------|------------------------|-----------------------|--------------|-----------------------|-------------------|--------|-------|-------------------|
| FCC P23   | ✓            |                 |                        |                       |              | ✓                     | 17                | ✓      | ⚠     | ✗                 |
| FCC P22   | ✓            | ✓               |                        |                       |              |                       | 12                | ✓      | ⚠     | ✗                 |
| FCC P12   | ✓            | ✓               | ✓                      |                       |              | ✓                     | 12                | ✓      | ✓     | ✗ <sup>L,II</sup> |
| FCC P18   | ✓            | ✓               | ✓                      |                       |              | ✓                     | 20**              | ✓      | ⚠     | ✗ <sup>L,II</sup> |
| FCC 72    |              | ✓               |                        | ✓                     |              |                       | < 0               | ✓      | ✓     | ✗ <sup>I</sup>    |
| FCA 51    |              |                 | ✓                      |                       |              |                       | 51                | ✓      | ✓     | ✓                 |
| FCC 92    |              |                 | ✓                      | ✓                     |              |                       | 43                | ✓      | ✓     | ✗ <sup>L,II</sup> |
| FCC 93    |              |                 |                        | ✓                     |              |                       | 40                | ✓      | ✓     | ✗ <sup>I</sup>    |
| FCC 94    |              |                 |                        | ✓                     |              |                       | 36                | ✓      | ✓     | ✗ <sup>I</sup>    |
| FCC 102   |              |                 |                        | ✓                     |              |                       | 27                | ⚠      | ⚠     | ✗ <sup>I</sup>    |
| FCC 172   |              |                 |                        | ✓                     |              | ✓                     | 37                | ✓      | ✓     | ✓                 |
| FCC 174   |              |                 |                        | ✓                     |              | ✓                     | 51                | ✓      | ✓     | ✓                 |
| FCC 252   |              |                 |                        | ✓                     |              | ✓                     | 28                | ✓      | ✓     | ✓                 |
| FCC 111   |              |                 |                        | ✓                     | ✓            |                       | 21                | ✓      | ⚠     | ✗ <sup>I</sup>    |
| FCC 30    |              |                 |                        |                       | ✓            |                       | 20                | ✓      | ✓     | ✓                 |
| FCC D21   |              |                 |                        |                       |              | ✓                     | 16**              | ✓      | ⚠     | ✗                 |
| FCC F120  |              |                 |                        |                       |              | ✓                     | 28**              | ✓      | ✓     | ✗                 |
| FCC L6200 |              |                 |                        |                       |              | ✓                     | 34                | ✓      | ⚠     | ✓                 |
| FCC L8100 |              |                 |                        |                       |              | ✓                     | 19                | ✓      | ✓     | ✓                 |
| FCC L9200 |              |                 |                        |                       |              | ✓                     | 21                | ✓      | ✓     | ✓                 |

\* Cloud point measured as 1 wt.% aqueous solution (ASTM D2024/DIN EN 1890 Method A).

\*\* Cloud point measured as 16.6 wt.% in 25% butyl diglycol ether aqueous solution (DIN EN 1890 Method E).

⚠ Not listed in current certificate but expected to be included in next official update.

<sup>I</sup> Meets the requirements of FDA 21 CFR 173.340 Secondary Direct Food Additives Permitted in Food for Human Consumption – Defoaming Agents.

<sup>II</sup> Keller & Heckman opinion that product can be used in specific applications (Keller & Heckman LLP, 1001 G Street, NW, Suite 500 West, Washington DC, 20001, USA)

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