

## The differences in ion content between clear and amber borosilicate glass vials - Tech Information

Clear glass can be made of either Type-33 or N51A glass while amber is always made with N51A glass. There is an ASTM method that exists and defines what properties the glass must have in order to be called Type 33 or 51.

| Ions | Type I clear glass(33) | Type I amber (51) glass |
|------|------------------------|-------------------------|
| Na   | 0.3-0.5                | 0.4-1.4                 |
| K    | ND                     | ND-0.02                 |
| Ca   | ND                     | ND-0.1                  |
| Mg   | ND                     |                         |
| Al   | ND                     | ND-0.5                  |
| Fe   | ND                     | ND                      |
| Ba   | ND                     | ND-0.2                  |
| Zn   | ND                     | ND                      |
| Mn   | ND                     | ND                      |
| Si   | ND                     | ND-5                    |

Results are in  $\mu\text{g} / \text{ml}$

ND = Non detectable