

# Technical Applications Bulletin 108

## Estimated Rejection of Various Solutes (for reference only)

To aid customers in estimating the rejection performance of LG Chem Inc.'s TFN RO membranes, a table has been compiled featuring the rejection rates of various solute compounds. It is important to note that these rejection rates are provided for reference purposes only, as the actual system performance can differ due to factors like feed water concentration, ion composition, pH, temperature and system design condition. LG Chem Inc. strongly advises to conduct a pilot study to accurately determine the actual rejection rates in a specific system and application.

**Table 108.1 Estimated Rejection of Various Solutes**

| Solute                      | Rejection (%) |
|-----------------------------|---------------|
| 1,2-Dichlorethane + Benzene | 90            |
| 1,4-Dioxane                 | > 90          |
| Acetaminophen               | > 99          |
| Acetone                     | 66 ~ 67       |
| Aluminum                    | 83            |
| Arsenic III                 | > 55          |
| Arsenic V                   | > 99          |
| Bromodichloromethane        | 45            |
| Cadmium                     | > 90          |
| Caffeine                    | > 99.9        |
| Carbon disulfide            | 88            |
| Chloroform                  | 40            |
| Chromate                    | > 80          |
| Copper                      | > 96          |
| Cyanide                     | 86 ~ 92       |
| DEET                        | 99.7          |
| Dibromochloromethane        | 70            |
| Ethanol                     | 50 ~ 65       |
| Formaldehyde                | 66            |
| Gemifibrozil                | > 99          |
| Iohexol                     | 99.9          |
| Iopromide                   | > 99          |
| Iron                        | > 99          |
| Isopropyl alcohol           | 80 ~ 98       |
| Lead                        | > 95          |
| Lithium                     | 95            |

| Solute                         | Rejection (%) |
|--------------------------------|---------------|
| Manganese                      | > 95          |
| Mercury                        | > 95          |
| Methanol                       | 10 ~ 15       |
| Methylene chloride             | 50            |
| NDMA                           | 80            |
| Nickel                         | > 95          |
| Orthophosphate                 | > 99          |
| Perfluoro-2-methoxyacetic acid | > 88          |
| Perfluorobutanesulfonic acid   | > 23          |
| Perfluorobutanoic acid         | > 71          |
| Perfluoroheptanoic acid        | > 77          |
| Perfluorohexanesulfonic acid   | > 35          |
| Perfluorohexanoic acid         | > 82          |
| Perfluorooctanesulfonic acid   | > 83          |
| Perfluorooctanoic acid         | > 74          |
| Perfluoropentanoic acid        | > 79          |
| Phosphaste                     | 95 ~ 98       |
| Polyphosphate                  | 96 ~ 98       |
| Selenium                       | 94 ~ 96       |
| Silver                         | > 95          |
| Sucralose                      | > 99          |
| TCEP                           | > 99          |
| Thiosulfate                    | 97 ~ 98       |
| Triclosan                      | > 99          |
| Zinc                           | 97 ~ 99       |

**Notes:**

1. The rejection rates in the table above are estimated values and for reference only.
2. LG Chem Inc. does not guarantee the performance of its membranes in terms of estimated rejection rates.
3. The Actual rejection rates must be verified by pilot study.

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Contact LG Water Solutions [www.lqwatersolutions.com](http://www.lqwatersolutions.com) | [waterinfo@lqchem.com](mailto:waterinfo@lqchem.com)