

# Chemical Resistance Data [KAMLOK/Gasket]

## ⚠ Notes for use of Chemical Resistance Data (KAMLOK/Gasket)

- (1) This table is based on documents concerning the resistance of the materials used in hoses and couplings to various chemicals, and does not guarantee TOYOX products.
- (2) The data may differ according to the conditions such as usage methods, temperature, pressure, concentration and period, etc., so evaluate results as the user with the actual equipment and usage conditions.
- (3) Chemicals which are dangerous when permeating (active gases, etc.) should not be used in gaseous form. Be sure to confirm the precautions for each product or to consult TOYOX. Regarding the use of fluids not indicated in the Chemical Resistance Data, consult our website at <http://english.toyox-hose.com/>.
- (4) This data may be amended or added to based on changing product specifications or new information; check the TOYOX website for the latest data.
- (5) Unless otherwise mentioned, the concentration of the solution is that of the saturated solution and the temperature is the room temperature.

- ◎ = Excellent, can be used without problems.
- = Good, may be affected to some extent, but can be used under general conditions.
- △ = Fair, need to verify suitability.
- × = Poor, cannot be used.
- = No data

⚠ Caution The following tables are intended to serve only as your reference of materials, and are not intended to guarantee our products. Evaluate results as the user with the actual equipment and usage conditions.

| Material   | KAMLOK fluid contact surface |                         |               |        | KAMLOK gasket fluid contact surface |               |                     |                                  |                 |                       |   |   |   |                 |                       |
|--|------------------------------|-------------------------|---------------|--------|-------------------------------------|---------------|---------------------|----------------------------------|-----------------|-----------------------|---|---|---|-----------------|-----------------------|
|  | Aluminum                     | Stainless steel (SCS14) | Polypropylene | Bronze | Buna-N (NBR) equipped as standard   | Neoprene (CR) | White Neoprene (CR) | Ethylene-propylene rubber (EPDM) | Silicone rubber | Fluorine resin (PTFE) | Fluorine resin (PTFE) jacket (with fluorine rubber) | Silicone rubber fully covered with fluorine resin (FEP) | Fluorine rubber fully covered with fluorine resin (FEP) | Fluorine rubber | Super fluorine rubber |
| Chemical<br>(Concentration density % /<br>Temperature °C ) |                              |                         |               |        |                                     |               |                     |                                  |                 |                       |   |   |   |                 |                       |
| C  |                              |                         |               |        |                                     |               |                     |                                  |                 |                       |   |   |   |                 |                       |
| C (ASTM standard fuel)                                     | —                            | ◎                       | △             | —      | △                                   | —             | —                   | —                                | ×               | ◎                     | ◎   | ◎   | ◎   | ◎               | ×                     |
| Calcium acetate  | —                            | △                       | ◎             | ○      | ○                                   | ○             | ○                   | —                                | —               | ◎                     | ◎   | ◎   | ◎   | ×               | —                     |
| Calcium bisulfite  | —                            | △                       | ◎             | —      | —                                   | —             | —                   | ○                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Calcium chloride   | —                            | △                       | ◎             | ○      | ◎                                   | ◎             | ◎                   | ◎                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Calcium hydroxide  | —                            | △                       | ◎             | ○      | ◎                                   | ○             | ○                   | ◎                                | ○               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Calcium hypochlorite (High-test hypochlorite) [20%]        | —                            | ○                       | ◎             | —      | —                                   | —             | —                   | ○                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ×               | —                     |
| Calcium nitrate  | —                            | —                       | ◎             | —      | ◎                                   | ◎             | ◎                   | ◎                                | ○               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Calcium sulfide  | —                            | △                       | ◎             | —      | ◎                                   | ◎             | ◎                   | ◎                                | ○               | ◎                     | ◎   | ◎   | ◎   | ◎               | —                     |
| Carbitol   | —                            | △                       | —             | —      | ○                                   | ○             | ○                   | ◎                                | —               | —                     | —   | —   | —   | —               | —                     |
| Carbon dioxide (Carbonic acid gas)                         | ○                            | ◎                       | ◎             | —      | ◎                                   | ◎             | ◎                   | ◎                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ○               | ◎                     |
| Carbon disulfide   | ○                            | ◎                       | ×             | ○      | ×                                   | ×             | ×                   | ×                                | △               | ◎                     | ◎   | ◎   | ◎   | ◎               | ◎                     |
| Carbon tetrachloride                                       | —                            | △                       | ×             | ○      | ×                                   | ×             | ×                   | ×                                | ×               | ◎                     | ◎   | ◎   | ◎   | ○               | ×                     |
| Carbonic acid  | —                            | △                       | ○             | ×      | ◎                                   | ◎             | ◎                   | ◎                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ◎               | ◎                     |
| Carbonic acid gas (Carbon dioxide)                         | ○                            | ◎                       | ◎             | —      | ◎                                   | ◎             | ◎                   | ◎                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ○               | ◎                     |
| Castor oil   | —                            | △                       | ◎             | —      | ◎                                   | ○             | ○                   | △                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ◎               | ◎                     |
| Caustic potash (Potassium hydroxide)                       | —                            | △                       | ○             | —      | ○                                   | ○             | ◎                   | ×                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ×               | ◎                     |
| Caustic soda (Sodium hydroxide) [30%]                      | —                            | ○                       | ◎             | —      | ◎                                   | ○             | ◎                   | ×                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ×               | —                     |
| Caustic soda (Sodium hydroxide) [30% 70°C ]                | —                            | ○                       | ×             | —      | ◎                                   | ○             | ◎                   | ×                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ×               | —                     |
| Cellosolve   | —                            | △                       | △             | —      | ×                                   | ×             | ×                   | ○                                | —               | ◎                     | ◎   | ◎   | ◎   | ×               | ◎                     |
| Cellosolve acetate   | —                            | —                       | —             | —      | ×                                   | ×             | ×                   | ○                                | ○               | —                     | —   | —   | —   | ×               | △                     |
| Chlorinated solvent  | —                            | —                       | ×             | —      | ×                                   | —             | —                   | ×                                | ○               | ○                     | ○   | ○   | —   | —               | —                     |
| Chloroacetic acid  | —                            | —                       | —             | —      | —                                   | —             | —                   | ○                                | —               | ◎                     | ◎   | ◎   | ◎   | ×               | ○                     |
| Chlorobenzene (Monochlorobenzene)                          | —                            | —                       | △             | —      | ×                                   | ×             | ×                   | ×                                | ×               | ◎                     | ◎   | ◎   | ◎   | ◎               | ×                     |
| Chloroform   | —                            | △                       | ×             | —      | ×                                   | ×             | ×                   | ×                                | ×               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Chloronaphthalene  | —                            | —                       | —             | —      | ×                                   | ×             | ×                   | ×                                | ×               | —                     | —   | —   | —   | ◎               | ×                     |
| Chlorosulfonic acid  | —                            | ×                       | ×             | —      | ×                                   | ×             | ×                   | ×                                | ×               | ◎                     | ◎   | ◎   | ◎   | ×               | —                     |
| Chlorotoluene  | —                            | —                       | △             | —      | ×                                   | ×             | ×                   | ×                                | ×               | ◎                     | ◎   | ◎   | ◎   | ◎               | —                     |
| Chromic acid [2% 50°C ]                                    | —                            | △                       | ○             | —      | —                                   | ×             | ×                   | △                                | △               | ◎                     | ◎   | ◎   | ◎   | ○               | ◎                     |
| Chromic acid [2% 70°C ]                                    | —                            | △                       | ○             | —      | ×                                   | ×             | ×                   | △                                | △               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Chromic acid [5% 70°C ]                                    | —                            | △                       | ○             | —      | ×                                   | ×             | ×                   | —                                | △               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Chromic acid [10% 70°C ]                                   | —                            | △                       | △             | —      | ×                                   | ×             | ×                   | —                                | △               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Chromic acid [25% 70°C ]                                   | —                            | △                       | ×             | ×      | ×                                   | ×             | ×                   | —                                | △               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Citric acid  | —                            | △                       | ◎             | ×      | ◎                                   | ◎             | ◎                   | ◎                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ◎               | ◎                     |
| Coconut oil  | —                            | △                       | ◎             | —      | —                                   | △             | △                   | △                                | △               | ◎                     | ◎   | ◎   | ◎   | —               | —                     |
| Copper chloride  | —                            | —                       | ◎             | —      | ◎                                   | ◎             | ◎                   | ◎                                | ◎               | ◎                     | ◎   | ◎   | ◎   | ◎               | —                     |
| Corn oil   | —                            | ◎                       | ○             | —      | ◎                                   | △             | △                   | △                                | △               | ◎                     | ◎   | ◎   | ◎   | ◎               | —                     |
| Cotton seed oil  | ○                            | ◎                       | ○             | —      | ◎                                   | ○             | ○                   | ○                                | △               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Creosote oil   | ○                            | △                       | —             | ○      | ○                                   | △             | △                   | ×                                | △               | ◎                     | ◎   | ◎   | ◎   | ○               | —                     |
| Cresol   | ○                            | ◎                       | ○             | —      | ×                                   | ×             | ×                   | ×                                | △               | ◎                     | ◎   | ◎   | ◎   | ◎               | ◎                     |
| Cyclohexane  | ○                            | △                       | △             | ○      | ○                                   | ×             | ×                   | ×                                | ×               | ◎                     | ◎   | ◎   | ◎   | ◎               | △                     |
| Cyclohexanol   | —                            | △                       | ○             | —      | △                                   | △             | △                   | ×                                | —               | ◎                     | ◎   | ◎   | ◎   | ◎               | ◎                     |
| Cyclohexanone (Anone)                                      | ○                            | △                       | △             | —      | ×                                   | ×             | ×                   | ○                                | △               | ◎                     | ◎   | ◎   | ◎   | ×               | ×                     |