

Chemical resistance chart

ACO Qmax® is manufactured from MDPE. MDPE has a high resistance to dilute acids and alkalis, and is unaffected by road salt, fuel, oil, deicing agents and other commonly encountered chemicals. Further details of the chemical resistance can be obtained from the ACO Water Management Design Services Team or for particular chemicals, samples of MDPE can be supplied to customers for their own testing. The chemical resistance will also depend on the temperature of the effluent.

The resistance of the gratings and edge rails should also be considered.

This chemical resistance chart refers to chemical at ambient temperatures (20°C) and the results are for general guidance only.

Important considerations for chemical environments.

When reviewing potential applications for ACO Qmax® in chemical environments, the following issues should be considered:

- ▶ Type(s) & mixture of chemical(s)
- ▶ Concentration percentages
- ▶ Contact time with drainage system
- ▶ Temperatures of chemicals flowing into the drainage system (80°C max)
- ▶ Flushing system employed to clear chemicals from the drainage system
- ▶ Cleaning agents should be checked for compatibility with channel materials
- ▶ ACO material samples can be used for final determination of chemical resistance
- ▶ Edge rails, seals, access and silt chamber materials should be checked for chemical resistance

| Chemical medium | % conc | Resistance: Medium Density Polyethylene |
|------------------------|------------------|--------------------------------------------------|
| Acetic acid, glacial | Greater than 96% | YES |
| Acetic acid | 10% - 100% | YES |
| Acetic anhydride | 100% | YES |
| Acetone | 100% | YES |
| Alum | SOL | YES |
| Aluminium Sulphate | SAT SOL | YES |
| Ammonium Chloride | SAT SOL | YES |
| Ammonium Nitrate | SAT SOL | YES |
| Ammonium Phosphate | SAT SOL | YES |
| Ammonium Sulphate | SAT SOL | YES |
| Aniline (aminobenzene) | 100% | YES |
| Barium Chloride | SAT SOL | YES |
| Benzaldehyde | 100% | YES |
| Benzene | 100% | Limited |
| Benzyl Alcohol | 100% | YES |
| Borax | SAT SOL | YES |
| Boric Acid | SAT SOL | YES |
| Bromine | 100% | NO |
| Bromine Water | 100% | NO |
| Butyl Acetate | 100% | YES |
| Butyric acid | 100% | YES |
| Calcium Carbonate | SAT SOL | YES |
| Calcium Chloride | SAT SOL | YES |
| Calcium Hydroxide | SAT SOL | YES |
| Calcium Nitrate | SAT SOL | YES |
| Carbon Disulphide | 100% | Limited |
| Carbon Tetrachloride | 100% | Limited |
| Castor Oil | SOL | YES |
| Chlorine Gas, wet | 100% | Limited |
| Chlorine Water | 2% SAT SOL | YES |
| Chlorobenzene | 100% | NO |
| Chloroform | 100% | NO |
| Chromic Acid | 50% | YES |
| Citric Acid | SAT SOL | YES |
| Citric Acid | 20% | YES |
| Citric Acid | 50% | YES |
| Copper Chloride | SAT SOL | YES |
| Copper Nitrate | SAT SOL | YES |
| Diesel (DERV) | 100% | YES |
| Dimethyl Formamide | 100% | YES |
| Dicotyl Phthalate | 100% | YES |
| Ethanol | 40% | YES |
| Ethanol | 96% | YES |
| Ethyl Acetate | 100% | YES |
| Ethylene Glycol | 100% | YES |
| Ferric Chloride | SAT SOL | YES |
| Ferrous Chloride | SAT SOL | YES |
| Ferrous Sulphate | SAT SOL | YES |
| Formaldehyde | 40% | YES |
| Formic Acid | 40% | YES |
| Fuel Oil | 100% | YES |
| Glycerine | 100% | YES |
| Hydrobromic Acid | 100% | YES |
| Hydrochloric Acid | Concentrate | YES |

| Chemical medium | % conc | Resistance: Medium Density Polyethylene |
|---------------------------------|-------------|--------------------------------------------------|
| Hydrofluoric Acid | Concentrate | YES |
| Hydrogen Peroxide | 30-90% | YES |
| Lactic Acid | 100% | YES |
| Lead Acetate | SAT SOL | YES |
| Magnesium Chloride | SAT SOL | YES |
| Magnesium Sulphate | SAT SOL | YES |
| Maleic Acid | Concentrate | YES |
| Motor Oil | 100% | YES |
| Nickel Chloride | SAT SOL | YES |
| Nickel Sulphate | SAT SOL | YES |
| Nitric Acid | 25% | YES |
| Nitrobenzine | 100% | NO |
| Oleic Acid | 100% | YES |
| Oxalic Acid | 100% | YES |
| Phosphoric Acid | 98% | YES |
| Phosphorous Trichloride | 100% | YES |
| Petrol | 100% | Limited |
| Potassium Carbonate | SAT SOL | YES |
| Potassium Chloride | SAT SOL | YES |
| Potassium Dichromate | SAT SOL | YES |
| Potassium Hydroxide | 10% | YES |
| Potassium Nitrate | SAT SOL | YES |
| Potassium Permanganate | 20% | YES |
| Potassium Sulphate | SAT SOL | YES |
| Pyridine | 100% | YES |
| Sodium Acetate | SAT SOL | NO |
| Sodium Bromide | SAT SOL | YES |
| Sodium Carbonate | SAT SOL | YES |
| Sodium Chlorate | SAT SOL | YES |
| Sodium Chloride | SAT SOL | YES |
| Sodium Hydroxide (Caustic Soda) | Concentrate | YES |
| Sodium Hypochlorite | 15% | YES |
| Sodium Nitrate | SAT SOL | YES |
| Sodium Nitrite | SAT SOL | YES |
| Sodium Phosphate | SAT SOL | YES |
| Sodium Sulphate | SAT SOL | YES |
| Sodium Sulphide | SAT SOL | YES |
| Stearic Acid | SAT SOL | YES |
| Styrene | SOL | Limited |
| Sulphuric Acid | 10% | YES |
| Sulphuric Acid | 50% | YES |
| Sulphuric Acid | 70% | YES |
| Sulphuric Acid | 80% | YES |
| Sulphuric Acid | 98% | YES |
| Sulphuric Acid | FUMING | NO |
| Tetrachloroethylene | 100% | NO |
| Thionyl Chloride | 100% | NO |
| Toluene | 100% | Limited |
| Turpentine | 100% | Limited |
| Water | 100% | YES |
| Xylene | 100% | Limited |
| Zinc Sulphate | SAT SOL | YES |

