

Iwaki America Chemical Compatibility Chart



The data presented in this chart is based on information furnished by the manufacturers of the raw materials and our experience. This information may be considered as a basis for recommendation, but NOT AS A GUARANTEE. Materials should be tested under actual service conditions to determine suitability for a particular purpose. Added considerations other than chemical compatibility, i.e. motor characteristics, available NPSH, system pressure, required shaft power etc, should be given to particular applications.

| Liquid | Molecular Formula | S.G. | Conc. % | MDM Series Temp. Max. °C | | | | MMP Series MP Series Metalic 316S | Temp °C | MXM Series | | | | | MX Series | | | MD Series | MD-F Series Temp 80°C | |
|---------------------------|------------------------------|------|-----------|--------------------------------|-----|------|-----|--|------------|-------------------------|-------|-------|----|----|------------|------|------|--------------|--------------------------------|------|
| | | | | PFA | | ETFE | | | | MX-F Series (Max. 80°C) | | | | | Temp °C | CV | RV | | | AV |
| | | | | KK | CF | KK | CF | | | CV | AA/AV | CF/FV | RV | KK | | | | | | |
| Acetic Acid | CH3COOH | 1.05 | 50 | 100 | 100 | 80 | 80 | O | 80 | OE | OE | OE | OE | O | 40 | OE | OE | OE | OE | OE |
| Aceton | CH3COCH3 | 0.79 | 100 | BP | BP | BP | BP | O | BP | OE | OE | O | O | OE | | X | X | X | X | BPE |
| Acetyl Chloride | CH3COCl | 1.10 | 100 | 80 | 80 | X | X | X | | X | X | X | X | X | | X | X | X | X | X |
| Adipic Acid | COOH(CH2)4COOH | 1.19 | 60 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 24 | O | O | OE | O | O |
| Aluminium Chloride | AlCl3 | 1.42 | 50 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | 10%O | 10%O | 10%O | 10%O | O |
| Aluminium Nitrate | Al(NO3)3 | 1.40 | 40 | 100 | 100 | 100 | 100 | 10% O | 100 | O | O | O | O | O | 80 | 20%O | 20%O | 10%O | 20%O | O |
| Aluminium Sulphate | Al2(SO4)3 | 1.21 | 27.6 | 100 | 100 | 100 | 100 | 50°C O | 100 | O | O | O | O | O | 55 | O | O | O | O | O |
| Ammonia Water | NH4OH | 0.89 | 30 | 120 | 120 | 100 | 100 | 50% O | 100 | OE | OE | OE | OE | OE | 50 | OE | OE | OE | OE | OE |
| Ammonium Chloride | NH4Cl | 1.07 | 27 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Ammonium Fluoride | NH4F | 1.00 | 50 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 60 | O | O | O | O | O |
| Ammonium Nitrate | NH4NO3 | 1.17 | 40 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Ammonium Oxalate | (NH4)2C2O4·H2O | 1.04 | 10.5 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 40 | O | O | O | O | O |
| Ammonium Perchlorate | NH4ClO4 | 1.11 | 20 | 120 | 40 | 100 | 40 | X | 40 | O | O | O | O | O | 40 | O | O | O | O | O |
| | | 1.11 | 20 | 120 | 40 | 100 | 40 | X | 100 | X | O | X | O | O | 25 | X | O | O | O | O |
| Ammonium Peroxydisulphate | (NH4)2S2O6 | 1.22 | 37 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Ammonium Phosphate | (NH4)3PO4 | | 17 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Aniline | C6H5NH2 | 1.02 | 100 | 120 | 120 | 40 | 40 | X | 20 | O | O | O | O | O | 20 | O | O | O | O | 40°C |
| Aqua Regia | HCl+HNO3 (3:1 Ratio) | | | 60 | X | 20 | X | X | 20 | X | O | X | O | O | | X | X | X | X | 20°C |
| Arsenic Acid | H3AsO4 | 1.02 | 14 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Barium Carbonate | BaCO3 | 1.00 | Saturated | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Barium Chloride | BaCl2 | 1.15 | 15 | 120 | 120 | 100 | 100 | 100°C O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Barium Nitrate | Ba(NO3)2 | 1.06 | 8.5 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | 5%O | 5%O | 5%O | 5%O | O |
| Benzaldehyde | C6H5CHO | 1.05 | 100 | 40 | 40 | 20 | 20 | O | 20 | O | O | O | O | O | | X | X | O | X | 20°C |
| Benzoyl Chloride | C6H5COCl | 1.22 | 100 | 60 | X | X | X | X | | X | X | X | X | X | | X | X | X | X | X |
| Bleach | | | | See Sodium Hypochlorite | | | | | | | | | | | | | | | | |
| Boric Acid | H3BO3 | 1.07 | 23 | 120 | 120 | 100 | 100 | 30% O | 100 | O | O | O | O | O | 70 | 2%O | 2%O | 2%O | 2%O | O |
| Brass Plating | Cu(CN)2, EN(CN)2, NaCN, KSCN | | | 120 | 120 | 100 | 100 | O | 100 | O | O | O | | O | | X | X | X | X | O |
| Bromine Water | Br2+H2O | | Saturated | 80 | 80 | X | X | X | 100 | <> | <> | <> | <> | X | | X | X | X | X | X |
| Butyl Alcohol | C4H9OH | 0.81 | 100 | BP | BP | BP | BP | O | BP | O | O | O | O | O | 50 | O | O | O | O | BP |
| Cadmium Plating | Cd, NaCN | | | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 30 | <> | <> | <> | <> | O |
| Calcium Chlorate | Ca(ClO3)2 | | 60 | 120 | 40 | 100 | 40 | 30% O | 40 | O | O | X | O | O | 40 | O | O | O | O | O |
| Calcium Chlorate | Ca(ClO3)2 | | 60 | 120 | 40 | 100 | 40 | 30% O | 100 | X | O | X | <> | O | 70 | X | O | O | O | O |

Iwaki America Chemical Compatibility Chart

| Liquid | Molecular Formula | S.G. | Conc. % | MDM Series Temp. Max. °C | | | | MMP Series MP Series | Temp °C | MXM Series | | | | | MX Series | | | MD Series | MD-F Series | | |
|----------------------------------|----------------------|------|-----------|-----------------------------|-----|------|-----|-------------------------|---------|------------|-------------------------|-------|-------|----|-----------|---------|------|-----------|-------------|------|-----------|
| | | | | PFA | | ETFE | | Metallic 316S | | Temp °C | MX-F Series (Max. 80°C) | | | | | Temp °C | CV | | RV | AV | Temp 80°C |
| | | | | KK | CF | KK | CF | | | | CV | AA/AV | CF/FV | RV | KK | | | | | | |
| Calcium Chloride | CaCl2 | 1.39 | 40 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Calcium Hydroxide | Ca(OH)2 | 1.00 | 0.13 | 120 | 120 | 100 | 100 | 50% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Calcium Nitrate | Ca(NO3)2 | 1.17 | 25 | 120 | 120 | 100 | 100 | 100°C 40% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Calcium Sulphate | CaSO4 | 1.00 | 0.19 | 120 | 120 | 100 | 100 | 10% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Carbonic Acid | H2CO3 | | Saturated | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Caustic Potash | KOH | | | See Caustic Soda | | | | | | | | | | | | | | | | | |
| Caustic Soda | NaOH | 1.11 | 10 | 120 | 120 | 100 | 100 | 50% O | 30 | OE | OE | OE | OE | OE | 30 | OE | OE | OE | OE | OE | |
| | | 1.22 | 20 | 120 | 120 | 100 | 100 | 50% O | 60 | X | X | OE | OE | OE | | X | X | X | X | OE | |
| | | 1.53 | 50 | 120 | 120 | 100 | 100 | 50% O | 80 | X | X | OE | OE | OE | | X | X | X | X | OE | |
| Chlorine Dioxide | ClO2 | 1.04 | 6 | 40 | 40 | 20 | 20 | X | 20 | O | O | O | O | O | | X | X | X | X | 20°C | |
| Chlorine Water | Cl2+H2O | | 0.7 | 120 | 40 | 100 | 40 | O | 40 | O | O | O | O | O | | X | X | X | X | O | |
| | | | 0.7 | 120 | 40 | 100 | 40 | O | 100 | X | O | X | X | O | | X | X | X | X | O | |
| Chloroacetic Acid | CH2ClCOOH | 1.19 | 50 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O | |
| Chloroform | CHCl3 | 1.50 | 100 | 60 | 60 | X | X | X | | X | X | X | | X | | X | X | X | X | X | |
| Chromic Acid | H2CrO4 | 1.94 | 60 | 80 | X | 80 | X | X | 80 | X | O | X | O | O | 50 | X | 15%O | 15%O | 15%O | O | |
| Chromium Plating | CrO3, H2SO4, Na2SiF6 | | | 120 | X | 100 | X | X | 100 | X | O | X | O | O | | X | X | X | X | O | |
| Chromium Sulphate | | | | 120 | X | 100 | X | X | 80 | X | | X | O | O | | X | | X | X | O | |
| Citric Acid | (CH2COOH)O(CH)COOH | 1.33 | 50 | 120 | 120 | 100 | 100 | 30% O | 100 | O | O | O | O | O | 40 | O | O | O | O | O | |
| Copper Acid Bath | CuSO4,Cu,H2SO4 | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O | |
| Copper Alkali Bath | Cu(CN)2,NaCN,KCN | | | 100 | 100 | 80 | 80 | X | 80 | O | O | O | O | O | | X | X | X | X | O | |
| Copper Carbonate | CuCO3 | 1.10 | Saturated | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Copper Cyanide | Cu(CN)2 | 1.00 | Saturated | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Copper Fluoride | CuF | 1.00 | 0.75 | 80 | 50 | 70 | 50 | X | 50 | X | X | O | O | O | | X | X | X | X | 70°C | |
| Copper Nitrate | Cu(NO3)2 | 1.34 | 50 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Copper Sulphate | CuSO4 | 1.04 | 5 | 100 | 100 | 100 | 100 | 10% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Cresol | C6H4OHCH3 | 1.05 | 100 | 80 | 80 | 40 | 40 | O | 20 | O | O | O | O | O | 20 | O | O | O | O | 40°C | |
| Cyanic Acid | HCN | 0.96 | 20 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 50 | O | O | O | O | O | |
| Cyclohexane | C6H12 | 0.78 | 100 | 120 | 120 | 40 | 40 | O | 20 | O | O | O | O | O | | X | X | X | X | 40°C | |
| Cyclohexanol | C6H11OH | 0.97 | 100 | 80 | 80 | 40 | 40 | O | 20 | O | O | O | O | O | 20 | O | O | O | O | 40°C | |
| Dichloroethane | C2H4Cl2 | 1.25 | 100 | 80 | 80 | X | X | X | | X | X | X | | X | | X | X | X | X | X | |
| Dichloroethylene | C2H2Cl2 | 1.21 | 100 | 80 | 80 | X | X | X | | X | X | X | | X | | X | X | X | X | X | |
| Di-methyl Amine | (CH3)2NH | 0.69 | 100 | BP | BP | BP | BP | X | BP | O | O | O | O | O | | X | X | X | X | BP | |
| Ethyl Alcohol | C2H5OH | 0.79 | 100 | BP | BP | BP | BP | O | BP | O | O | O | O | O | BP | O | O | O | O | BP | |
| Ethylene Glycole | CH2OH·CH2OH | 1.11 | 100 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Ethylenediamine Tetraacetic Acid | | | 100 | 40 | 40 | 20 | 20 | X | 20 | OE | OE | OE | OE | OE | | X | X | X | X | 20°C | |
| Fatty acid | CH3(CH2)2COOH | | 100 | 120 | 120 | 40 | 40 | O | 20 | O | O | O | O | O | 20 | O | O | O | O | 40°C | |
| Ferric Chloride | FeCl3 | 1.50 | 47.9 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 60 | O | O | O | O | O | |
| Ferric Nitrate | Fe(NO3)3 | 1.07 | 16 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Ferric Sulphate | FeSO4 | 1.25 | 30 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Ferrous Chloride | FeCl2 | 1.40 | 38.5 | 120 | 120 | 100 | 100 | 20% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Ferrous Nitrate | Fe(NO3)2 | 1.22 | 45 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |

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| Liquid | Molecular Formula | S.G. | Conc. % | MDM Series Temp. Max. °C | | | | MMP Series MP Series Metallic 316S | Temp °C | MXM Series | | | | | Temp °C | MX Series | | | MD Series | MD-F Series Temp 80°C |
|----------------------------|----------------------|------|-----------|-----------------------------|-----|------|-----|---|------------|-------------------------|-------|----|----|----|------------|-----------|------|------|--------------|--------------------------------|
| | | | | PFA | | ETFE | | | | MX-F Series (Max. 80°C) | | | | | | CV | RV | AV | | |
| | | | | KK | CF | KK | CF | CV | | AA/AV | CF/FV | RV | KK | | | | | | | |
| Ferrous Sulphate | Fe2(SO4)3 | 1.17 | 21 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Freon R-11 | CCI2F2 | 1.49 | 100 | BP | BP | X | X | X | | X | X | X | X | X | | X | X | X | X | X |
| Formic Acid (Formaldehyde) | HCOOH | 1.22 | 100 | 80 | 80 | 40 | 40 | X | 20 | OE | OE | OE | OE | OE | 20 | OE | OE | OE | OE | 40°C |
| Gasoline | | | 100 | 100 | 100 | 100 | 100 | O | 100 | O | O | O | O | O | | X | X | X | X | O |
| Glycerine | (CH2OH)2CHOH | 1.46 | 100 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Gold plating | AuC, (COOH)2-2H2O | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 40 | O | O | O | O | O |
| Gold plating | AuCN, H3PO4 | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 40 | O | O | O | O | O |
| Gold plating | AuCN, CN, H2CO3 | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O |
| Gold plating | Au(CN)2, HCl | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O |
| Gold plating | Au(CN)2, CN, H2CO3 | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O |
| Gold plating | (Non Cyanide), H2SO3 | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 40 | X | X | X | X | O |
| Heptane | C6H16 | 0.68 | 100 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | | X | X | X | X | O |
| Hydrazine | N2H4 | 1.01 | 100 | 50 | 50 | 50 | 50 | O | 50 | O | O | O | O | O | | X | X | X | X | 50°C |
| Hydrobromic Acid | HBrO3(HBr) | 1.46 | 50 | 120 | 120 | X | X | X | | <> | <> | <> | <> | <> | | X | X | X | X | X |
| Hydrochloric Acid | HCl | 1.18 | 38 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 40 | 10%O | 10%O | 10%O | 10%O | O |
| Hydrofluoric Acid | HF | 1.15 | 50 | 80 | 20 | 70 | 20 | X | 50 | X | X | O | O | O | | X | X | X | X | 70°C |
| Hydrogen Peroxide | H2O2 | 1.44 | 100 | 120 | X | 100 | X | 90% O | 25 | X | O | X | O | O | 25 | X | 30%O | 30%O | 30%O | O |
| Hydroiodic Acid | HI | 1.40 | 40 | 100 | 100 | 80 | 80 | X | 80 | O | O | O | O | O | | X | X | X | X | O |
| Hydrosilicofluoric Acid | H2SiF6 | 1.13 | 50 | 80 | X | 70 | X | X | 50 | X | X | O | O | O | | X | X | X | X | 70°C |
| Hypochlorous Acid | HClO | | 10 | 120 | X | 100 | X | X | 100 | X | O | X | O | O | | X | X | X | X | O |
| Kerosene | C10-16 | | 100 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | | X | X | X | X | O |
| Lactic Acid | C3H6O3 | 1.03 | 16 | 120 | 120 | 100 | 100 | 70% O | 100 | O | O | O | O | O | 20 | O | O | O | O | O |
| Lead Plating | | | 100 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O |
| Lead Acetate | Pb(CH3COO)2-3H2O | 1.40 | 40 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Liquid Petrolatum | | | 100 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O |
| Magnesium Carbonate | MgCO3 | 1.21 | 0.15 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Magnesium Chloride | MgCl2 | 1.30 | 34 | 120 | 120 | 100 | 100 | 40% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Magnesium Fluoride | MgF2 | 1.03 | 4 | 80 | 50 | 70 | 50 | X | 50 | X | X | O | O | O | | X | X | X | X | 70°C |
| Magnesium Hydroxide | Mg(OH)2 | 1.00 | Saturated | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Magnesium Nitrate | Mg(NO3)2 | 1.10 | 24 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Magnesium Sulphate | MgSO4 | 1.19 | 25.3 | 120 | 120 | 100 | 100 | 40% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Maleic Acid | HOOCCH=CHCOOH | 1.42 | 80 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | | X | X | X | X | O |
| Matting Acid | | | | See Sulfuric Acid | | | | | | | | | | | | | | | | |
| Manganese Chloride | MnCl2 | 1.18 | 20 | 120 | 120 | 100 | 100 | 100°C 30% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Mercuric Chloride | HgCl2 | 1.05 | 6 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Mercuric Nitrate | Hg(NO3)2 | 1.16 | 25 | 100 | 100 | 20 | 20 | O | 20 | O | O | O | O | O | 20 | O | O | O | O | 20°C |
| Mercurous Chloride | Hg2Cl2 | 1.05 | Saturated | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 40 | O | O | O | O | 100 |
| Mercurous Nitrate | Hg2(NO3)2 | 1.22 | 23 | 100 | 100 | 20 | 20 | 100°C O | 20 | O | O | O | O | O | 20 | O | O | O | O | 20°C |
| Methanol | CH3OH | 0.79 | 100 | BP | BP | BP | BP | O | BP | OE | OE | OE | OE | OE | 80 | OE | OE | OE | OE | BPE |
| Mixture Acid | H2SO4+HNO3 | 1.68 | | 80 | X | 50 | X | O | 50 | X | O | O | O | O | | X | X | X | X | 50°C |
| | H2SO4+H2CrO4 | 2.20 | | 60 | X | 20 | X | O | 20 | X | O | X | O | O | | X | X | X | X | 20°C |

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| Liquid | Molecular Formula | S.G. | Conc. % | MDM Series Temp. Max. °C | | | | MMP Series MP Series Metallic 316S | Temp °C | MXM Series | | | | | MX Series | | | MD Series | MD-F Series Temp 80°C | |
|------------------------------------|-------------------|------|---------|-----------------------------|-----|------|-----|---|------------|-------------------------|-------|----|----|----|------------|------|------|-----------|-----------------------------|------|
| | | | | PFA | | ETFE | | | | MX-F Series (Max. 80°C) | | | | | Temp °C | CV | RV | | | AV |
| | | | | KK | CF | KK | CF | CV | | AA/AV | CF/FV | RV | KK | | | | | | | |
| Muriatic Acid | | | | See Hydrochloric Acid | | | | | | | | | | | | | | | | |
| Naphtha | | | 100 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | | X | X | X | X | O |
| Nickel Chloride | NiCl2 | 1.10 | 10 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Nickel Nitrate | Ni(NO3)2 | 1.33 | 48 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | 20%O | 20%O | 20%O | 20%O | O |
| Nickel Plating (Lucid & Non Lucid) | | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 70 | O | O | O | O | O |
| Nickel Sulphate | NiSO4 | 1.26 | 28 | 120 | 120 | 100 | 100 | 40% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Nitric Acid | HNO3 | 1.35 | 50 | 100 | X | 80 | X | O | 50 | X | O | O | O | O | 50 | X | X | X | X | O |
| | | 1.35 | 50 | 100 | X | 80 | X | O | 80 | X | OA | X | O | OA | 80 | X | X | X | X | O |
| | | 1.51 | 98 | 50 | X | 40 | X | 20°C O | 40 | X | <->A | X | O | OA | | X | X | X | X | 40°C |
| Nitrous Acid | HNO2 | | 40 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 25 | O | O | O | O | O |
| Oleic Acid | C18H34O2 | 0.89 | 100 | 120 | 120 | 100 | 100 | O | 100 | OE | OE | OE | OE | OE | 80 | OE | OE | OE | OE | 0 |
| Oleum | H2SO4+SO3 | 1.92 | | 40 | X | 20 | X | O | 20 | X | O | X | O | O | | X | X | X | X | 20°C |
| Oxalic Acid | (COOH)2 · 2H2O | 1.90 | 100 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 40 | 8%O | 8%O | 8%O | 8%O | O |
| Perchloric Acid | HClO4 | 1.46 | 40 | 120 | 40 | 100 | 40 | O | 40 | O | O | O | O | O | | X | X | X | X | O |
| | | 1.46 | 40 | 120 | 40 | 100 | 40 | O | 100 | X | O | X | O | O | | X | X | X | X | O |
| Perchloroethylene | C2Cl4 | 1.62 | 100 | 80 | 80 | X | X | X | | X | X | X | X | X | | X | X | X | X | X |
| Peroxide | | | | See Hydrogen Peroxide | | | | | | | | | | | | | | | | |
| Phenol | C6H5OH | 1.07 | 100 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 20 | O | O | O | O | O |
| Phosphoric Acid | H3PO4 | 1.25 | 40 | 120 | X | 100 | X | O | 100 | X | X | X | X | O | | X | X | X | X | O |
| | | 1.69 | 85 | 50 | X | 50 | X | X | 20 | X | X | X | X | O | | X | X | X | X | 50°C |
| Photographic Developer | | | | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Photographic Fixative | | | | 100 | 100 | 80 | 80 | X | 80 | O | O | O | O | O | 80 | O | O | O | O | O |
| Picric Acid | C6H3O7N3 | 1.03 | 6.2 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | | X | X | O | X | O |
| Potassium Bicarbonate | KNCO3 | 1.03 | 5 | 120 | 100 | 100 | 100 | 30% O | 100 | | | O | O | O | | | | | | O |
| Potassium Bromide | KBr | 1.37 | 40 | 120 | 120 | 100 | 100 | 100°C 90% O | 100 | O | O | O | O | O | 80 | 30%O | 30%O | 30%O | 30%O | O |
| Potassium Carbonate | K2CO3 | 1.45 | 53 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | 30%O | 30%O | 30%O | 30%O | O |
| Potassium Chlorate | KClO3 | 1.04 | 6.8 | 120 | 40 | 100 | 40 | 60% O | 40 | O | O | O | O | O | 40 | O | O | O | O | O |
| | | 1.04 | 6.8 | 120 | 40 | 100 | 40 | 60% O | 100 | X | O | X | O | O | 60 | X | O | O | O | O |
| Potassium Chloride | KCl | 1.28 | 36 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Potassium Chromate | K2CrO4 | 1.39 | 40 | 120 | X | 100 | X | O | 100 | X | O | X | O | O | 50 | X | 20%O | 20%O | 20%O | O |
| Potassium Cyanide | KCN | 1.16 | 40 | 120 | 120 | 100 | 100 | 100°C 90% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Potassium Dicarboxylate | KHCO3 | 1.03 | 5 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Potassium Dichromate | K2Cr2O7 | 1.07 | 10 | 120 | X | 100 | X | O | 100 | X | O | X | O | O | 40 | X | O | O | O | O |
| Potassium Ferricyanide | K3[Fe(CN)6] | 1.16 | 30 | 120 | 120 | 100 | 100 | 20°C O | 100 | O | O | O | O | O | 40 | 10%O | 10%O | 10%O | 10%O | O |
| Potassium Ferrocyanide | K4[Fe(CN)6] | 1.10 | 20 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 40 | 10%O | 10%O | 10%O | 10%O | O |
| Potassium Fluoride | KF | 1.42 | 50 | 80 | 50 | 70 | 50 | X | 50 | X | X | O | O | O | | X | X | X | X | 70°C |
| Potassium Hydroxide | | | | See Caustic Soda | | | | | | | | | | | | | | | | |
| Potassium Iodide | KI | 1.89 | 60 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Potassium Nitrate | KNO3 | 1.16 | 24 | 120 | 120 | 100 | 100 | 100°C 80% O | 100 | O | O | O | O | O | 80 | 15%O | 15%O | 15%O | 15%O | O |
| Potassium Perchlorate | KClO4 | 1.01 | 1.8 | 120 | 40 | 100 | 40 | X | 40 | O | O | O | O | O | | X | X | X | X | O |
| | | 1.01 | 1.8 | 120 | 40 | 100 | 40 | X | 100 | X | O | X | | O | | X | X | X | X | O |

Iwaki America Chemical Compatibility Chart

| Liquid | Molecular Formula | S.G. | Conc. % | MDM Series Temp. Max. °C | | | | MMP Series MP Series Metallic 316S | Temp °C | MXM Series | | | | | Temp °C | MX Series | | | MD Series | MD-F Series Temp 80°C |
|------------------------|---------------------------------|------|-----------|-----------------------------|-----|------|-----|---|------------|------------|-------------------------|-------|----|----|------------|-----------|------|------|--------------|--------------------------------|
| | | | | PFA | | ETFE | | | | CV | MX-F Series (Max. 80°C) | | | CV | | RV | AV | | | |
| | | | | KK | CF | KK | CF | | | | AA/AV | CF/FV | RV | | | | | KK | | |
| Potassium Permanganate | KMnO4 | 1.03 | 4 | X | 40 | X | 40 | X | 40 | O | O | O | O | X | | X | X | X | X | X |
| | | 1.03 | 4 | X | 40 | X | 40 | X | 100 | X | O | X | O | X | | X | X | X | X | X |
| Racemic Acid | | | 40 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Rhodium Phosphate | H3PO4 | | | 120 | 100 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O |
| Rhodium Sulphate | H2SO4 | | | 120 | 100 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O |
| Sea Water | | | | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Silver Alkali Bath | KCN, KLI, Kag, (CN)2, KO4, KL03 | | | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 50 | X | X | X | X | O |
| Silver Cyanide | AgCN | | Saturated | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Silver Nitrate | AgNO3 | 1.69 | 50 | 120 | 120 | 100 | 100 | 60% O | 100 | O | O | O | O | O | 80 | 25%O | 25%O | 25%O | 25%O | O |
| Sodium Bisulphite | NaHSO3 | | Saturated | 120 | 120 | 100 | 100 | 50% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Bisulphite | NaHSO4 | 1.04 | 5 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Carbonate | Na2CO3 | 1.10 | 100 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Chlorate | NaClO3 | 1.23 | 30 | 120 | 40 | 100 | 40 | O | 40 | O | O | O | O | O | 40 | O | O | O | O | O |
| | | 1.23 | 30 | 120 | 40 | 100 | 40 | O | 100 | X | O | X | O | O | 60 | X | O | O | O | O |
| Sodium Chloride | NaCl | 1.19 | 25 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Chlorite | NaClO2 | | 10 | 120 | X | 100 | X | X | 100 | X | O | X | O | O | | X | X | X | X | O |
| Sodium Cyanide | NaCN | 1.22 | 40 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Dichromate | Na2Cr2O7 | 1.40 | 60 | 120 | X | 100 | X | 100°C O | 100 | X | O | X | O | O | 40 | X | O | O | O | O |
| Sodium Ferricyanide | Na4[Fe(CN)6] | 1.10 | 30 | 120 | 120 | 100 | 100 | 20°C O | 100 | O | O | O | O | O | 40 | 10%O | 10%O | 10%O | 10%O | O |
| Sodium Ferrocyanide | Na[Fe(CN)6] | 1.17 | 50 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 40 | 10%O | 10%O | 10%O | 10%O | O |
| Sodium Fluoride | NaF | 1.03 | 4 | 120 | 120 | 100 | 100 | 10% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Hydroxide | | | | See Caustic Soda | | | | | | | | | | | | | | | | |
| Sodium Hypochlorite | NaClO | 1.14 | 12 | 100 | X | 100 | X | X | 100 | X | O | X | O | O | | X | X | X | X | O |
| Sodium Iodide | NaI | 1.61 | 64 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Nitrite | NaNO2 | 1.30 | 45 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Oxalate | Na2(COO)2 | 1.11 | 17.5 | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 40 | O | O | O | O | O |
| Sodium Perborate | NaBO3 | 1.04 | 5 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Peroxide | Na2O2 | 1.35 | 40 | 120 | X | 100 | X | 10% O | 100 | X | O | X | O | O | 80 | X | O | O | O | O |
| Sodium Phosphate | Na3PO4 | 1.02 | 4 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Sulphate | Na2SO4 | 1.10 | 14 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sodium Thiosulfate | Na2S2O3 | | 41 | 120 | 120 | 80 | 80 | 50% O | 80 | O | O | O | O | O | 80 | 25%O | 25%O | 25%O | 25%O | O |
| Solder Plating | Sn(BF4)2, Pb, HBF4 | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O |
| Stannic Chloride | SnCl4 | 2.20 | 100 | 120 | 120 | 100 | 100 | 10% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Stannous Chloride | SnCl2 | 1.77 | 60 | 120 | 120 | 100 | 100 | 10% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Sulphuric Acid | H2SO4 | 1.23 | 25 | 120 | 80 | 100 | 80 | X | 100 | O | O | O | O | O | 50 | 10%O | 10%O | 10%O | 10%O | O |
| | | 1.62 | 70 | 120 | 80 | 100 | 80 | X | 80 | O | O | O | O | O | | X | X | X | X | O |
| | | 1.84 | 98 | 100 | 50 | 100 | 50 | X | 50 | O | O | O | O | O | | X | X | X | X | O |
| Sulphurous Acid | H2SO3 | 1.06 | 10 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Tartaric Acid | C4H6O6 | 1.20 | 40 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O |
| Tetrachloro Carbon | CCl4 | 1.59 | 100 | 80 | 80 | X | X | X | | X | X | X | | X | | X | X | X | X | X |
| Tin Acid Bath | SnSO4, H2SO4, C7H8O4S | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 20 | O | O | O | O | O |

Iwaki America Chemical Compatibility Chart

| Liquid | Molecular Formula | S.G. | Conc. % | MDM Series Temp. Max. °C | | | | MMP Series | Temp °C | MXM Series | | | | | MX Series | | | MD Series | MD-F Series | | |
|--------------------|---|------|---------|-----------------------------|-----|------|-----|---------------|---------|------------|-------------------------|-------|-------|----|-----------|---------|------|-----------|-------------|------|-----------|
| | | | | PFA | | ETFE | | Metallic 316S | | Temp °C | MX-F Series (Max. 80°C) | | | | | Temp °C | CV | | RV | AV | Temp 80°C |
| | | | | KK | CF | KK | CF | | | | CV | AA/AV | CF/FV | RV | KK | | | | | | |
| Tin Alkali Bath | K ₂ SnO ₃ , Sn, Naoh, KOH | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | | O | | X | X | X | X | O | |
| Toluene | C ₆ H ₅ CH ₃ | 0.87 | 100 | 40 | 40 | 20 | 20 | O | 20 | O | O | O | O | O | | X | X | X | X | 20°C | |
| Trichloro Ethylene | C ₂ HCl ₃ | 1.33 | 100 | 80 | 80 | X | X | X | | X | X | X | | X | | X | X | X | X | X | |
| Vinegar | SME, LLYZ | | | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| White Gold | H ₂ SO ₄ , HOS ₀ 4, NH ₂ | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | | X | X | X | X | O | |
| Zinc Acid Bath | ZnSO ₄ , Na ₂ SO ₄ , MaSO ₄ | | | 120 | 120 | 100 | 100 | X | 100 | O | O | O | O | O | 65 | O | O | O | O | O | |
| Zinc Alkali Bath | Zn, NaCN, NaOH | | | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | | X | X | X | X | O | |
| Zinc Chloride | ZnCl ₂ | 1.57 | 100 | 120 | 120 | 100 | 100 | 10% O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Zinc Cyanide | Zn(CN) ₂ | 1.05 | 10 | 120 | 120 | 100 | 100 | 20°C O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |
| Zinc Nitrate | Zn(NO ₃) ₂ | 1.75 | 60 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | 30%O | 30%O | 30%O | 30%O | O | |
| Zinc Sulphate | ZnSO ₄ | 1.33 | 35 | 120 | 120 | 100 | 100 | O | 100 | O | O | O | O | O | 80 | O | O | O | O | O | |

Legend:

O = Excellent

OE = Use EPDM O-ring

<> = Fair to Poor

X = Not Recommended

BP = Boiling Point

□ = No Chemical Compatibility Information is available

OA = Use aflas o-ring

OS = Use SiC mouth ring