

**BRAUDE**  
**SELF PRIMING CHEMICAL TRANSFER PUMP**  
**CHEMICAL RESISTANCE CHART**  
(FITTED WITH NON METALLIC SEAL)

The following table was compiled from information gathered from many sources and is intended as a guide for selecting Braude pumps from a chemical resistance stand point only. It does not imply any guarantee of service since many factors outside the control of E. Braude (London) Ltd may affect the suitability of materials in a particular situation.

Although the table may indicate satisfactory service for individual chemicals, combinations may have adverse effects upon pump materials. For any application not indicated in the table or any questionable uses, please consult the factory.

Unless otherwise indicated a maximum pumping temperature of 90°C can be tolerated.

Note: All the data relates to pumps supplied with Non Metallic Seals only.  
The following special instructions apply:

1. PTFE Rotating face to replace carbon in the seal
2. PTFE or Silicon Carbide to replace ceramic in the seal

Other seals available are:- Stainless Steel – SS spring with nitrile rubbers. To be used for weak solutions and to be treated as a disposable seal.

Liquid and formula	Note	Code
	See above	S – Satisfactory within limits indicated. N – Not Recommended
Acetone – CH <sub>3</sub> COCH <sub>3</sub>		N
Acetic Acid (10-100%) – CH <sub>3</sub> COOH		S
Alcohol		S
Aluminum Hydroxide – Al(OH) <sub>3</sub>		S
Aluminum Chloride - AlCl <sub>3</sub>		S
Aluminum Fluoride – AlF <sub>3</sub>		N
Aluminum Potassium Sulphate – AlK(SO <sub>4</sub> ) <sub>2</sub> • 12H <sub>2</sub> O		S
Ammonium Bicarbonate (Aqueous) – NH <sub>4</sub> HCO <sub>3</sub>		S
Ammonium Chloride – NH <sub>4</sub> Cl		S
Ammonium Fluoride – NH <sub>4</sub> F		N
Ammonium Hydroxide (to 10%) – NH <sub>4</sub> OH		S
Ammonium Metaphosphate – (NH <sub>4</sub> ) <sub>2</sub> HPO <sub>4</sub>		S
Ammonium Nitrate (to 60%) – NH <sub>4</sub> NO <sub>3</sub>		S
Ammonium PerSulphate – (NH <sub>4</sub> ) <sub>2</sub> S <sub>2</sub> O <sub>8</sub>		S
Ammonium Phosphate – NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>		S
Ammonium Sulphate (Aqueous) – (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>		S
Amyl Acetate – CH <sub>3</sub> COOC <sub>3</sub> H <sub>11</sub>		N
Amyl Alcohol – C <sub>5</sub> H <sub>11</sub> OH		N
Aqua Ammonia (to 10%) – NH <sub>4</sub> OH		S
Aqua Regia (to 24 °C) – HNO <sub>3</sub> And HCl		S
Aromatics		N
Barium Carbonate – BaCO <sub>3</sub>		S
Barium Chloride (Aqueous) (to 20%) – BaCl <sub>2</sub> • 2H <sub>2</sub> O		S
Barium Hydroxide – Ba(OH) <sub>2</sub>		S
Barium Sulphate – BaSO <sub>4</sub>		S
Barium Sulphide – BaS		S
Benzene – C <sub>6</sub> H <sub>6</sub>		N
Benzyl Alcohol – C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> OH		N
Bismuth Carbonate – (BiO) <sub>2</sub> CO <sub>3</sub>		S
Borax Solution – Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> • 10H <sub>2</sub> O		S
Boric Acid (to 50%) – H <sub>3</sub> BO <sub>3</sub>		S
Brine – NaCl		S
Bromine Water – Br <sub>2</sub> • H <sub>2</sub> O		S
Butyl Acetate – CH <sub>3</sub> COOCH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub>		N
Butyl Acrylate – CH <sub>2</sub> :CHCOOC <sub>4</sub> H <sub>9</sub>		N
Butyl Alcohol – CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CH <sub>2</sub> OH		N
Calcium Carbonate – CaCO <sub>3</sub>		S
Calcium Chloride – CaCl <sub>2</sub>		S
Calcium Hypochlorite (to 16%, 38°C) – Ca(OCl) <sub>2</sub>		S
Calcium Hydroxide – Ca(OH) <sub>2</sub>		S
Calcium Nitrate – Ca(NO <sub>3</sub> ) <sub>2</sub>		S

Liquid and formula	Note	Code
Calcium Phosphate (to 50%) – $\text{CaH}_4(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$		S
Calcium Sulphate - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$		S
Calcium Sulphite – $\text{CaSO}_3 \cdot 2\text{H}_2\text{O}$		S
Carbon Tetrachloride – $\text{CCl}_4$		N
Carbonic Acid – $\text{H}_2\text{CO}_3$		S
Caustic Lye (30% to 42 °C), (50% to 24 °C) – $\text{NaOH}$		S
Chlorinated Water - $\text{Cl}_2 \cdot \text{H}_2\text{O}$		S
Chloric Acid – $\text{HClO}_3 \cdot 7\text{H}_2\text{O}$		S
Chloroacetic Acid – $\text{CH}_2\text{ClCOOH}$		S
Chlorobenzene – $\text{C}_6\text{H}_5\text{Cl}$		N
Chloroform – $\text{CHCl}_3$		
Chrome Alum – $\text{CrK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$		S
Chrome Alum – $\text{CrK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$		S
Chromic Acid (3% Max to 24 °C) – $\text{H}_2\text{CrO}_4$ (Above 3%)		N
Chromium Potassium Sulphate – $\text{CrK}(\text{SO}_4 \cdot 12\text{H}_2\text{O})$		S
Citric Acid (to 10%) – $\text{HOOCCH}_2\text{C}(\text{OH})(\text{COOH})\text{CH}_2\text{COOH} \cdot \text{H}_2\text{O}$		S
Copper Chloride (to 24 °C) – $\text{CuCl}_2$		S
Copper Cyanide – $\text{Cu}(\text{CN})_2$		S
Copper Nitrate – $\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$		S
Copper Sulphate - $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$		S
Cupric Chloride (to 24 °C) – $\text{CuCl}_2$ Detergents (to 10%)		S
Diethanolamine – $(\text{HOCH}_2\text{CH}_2)_2\text{NH}$		S
Epsom Salts (Magnesium Sulphate)- $\text{Mg SO}_4 \cdot 7\text{H}_2\text{O}$		S
Ether – $(\text{C}_2\text{H}_5)_2\text{O}$		N
Ethanol – $\text{C}_2\text{H}_5\text{OH}$		S
Ethyl Acetate – $\text{CH}_3\text{COOC}_2\text{H}_5$		N
Ethyl Acrylate – $\text{CH}_3\text{CHCOOC}_2\text{H}_5$		N
Ethyl Chloride – $\text{C}_2\text{H}_5\text{Cl}$		N
Ethylene Dichloride 0 $\text{ClCH}_2\text{CH}_2\text{Cl}$		N
Ethylene Glycol (to 25 °C) – $\text{CH}_2\text{OHCH}_2\text{OH}$		S
Ferric Chloride - $\text{FeCl}_3$		S
Ferric Nitrate – $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$		S
Ferric Sulphate – $\text{Fe}_2(\text{SO}_4)_3$		S
Ferrous Sulphate – $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$		S
Fluosilicic Acid – $\text{H}_2\text{SiF}_6$ See Note 2		S
Formic Acid (to 10%) – $\text{HCOOH}$		S
Formaldehyde – $\text{HCHO}$		S
Freon		N
Gasoline		N
Glycerine – $\text{C}_3\text{H}_5(\text{OH})_3$		S
Halogenated Hydrocarbons		N
Heptane – $\text{CH}_3(\text{CH}_2)_5\text{CH}_3$		N

Liquid and formula	Note	Code
Hexane – $\text{CH}_3(\text{CH}_2)_4\text{CH}_3$		N
Hydrobromic Acid (to 20%) – HBr		S
Hydrochloric Acid (to 80 °C) – HCl		S
Hydrofluoric Acid (to 20% 26 °C) – HF	2	S
Hydrogen Peroxide (to 30%) – $\text{H}_2\text{O}_2$		S
Hydrofluosilicic Acid – $\text{H}_2\text{SiF}_6$		S
Isopropyl Alcohol – $(\text{CH}_3)_2\text{CHOH}$	2	S
Kerosene		N
Ketones		N
Lacquer Thinner		N
Lactic Acid – $\text{CH}_3\text{CHOHCOOH}$		S
Lead Acetate – $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 3\text{H}_2\text{O}$		S
Lemon Oil		N
Lestoil		N
Linseed Oil		N
Lithium Bromide (to 62%) – LiBr		S
Lube Oils		N
Lye (30% to 80 °C) (50% to 80 °C) – NaOH or KOH		S
Magnesium Chloride – $\text{MgCl}_2$		S
Magnesium Hydroxide – $\text{Mg}(\text{OH})_2$		S
Magnesium Sulphate (Epsom Salts) – $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$		S
Mercuric Chloride – $\text{HgCl}_2$		S
Mercuric Cyanide – $\text{Hg}(\text{CN})_2$		S
Methanol – $\text{CH}_3\text{OH}$		S
Methyl Acrylate – $\text{CH}_2:\text{CHCOOCH}_3$		N
Methyl Chloride – $\text{CH}_3\text{Cl}$		N
Methyl Ethyl Ketone – $\text{CH}_3\text{COC}_2\text{H}_5$		N
Mineral Oil		N
Muriatic Acid (to 80 °C) – HCl		S
Naptha		N
Naphthalene – $\text{C}_{10}\text{H}_8$		N
Nickel Chloride – $\text{NiCl}_2$		S
Nickel Nitrate – $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$		S
Nickel Sulphate – $\text{NiSO}_4$		S
Nitric Acid $\text{HNO}_3$ (10% to 80 °C) (30% to 54 °C)		S
Nitric Acid $\text{HNO}_3$ (Above 30%)		N
Nitrobenzene – $\text{C}_6\text{H}_5\text{NO}_2$		N
Nitroethane - $\text{CH}_3\text{CH}_2\text{NO}_2$		N
Nitrous Oxide – $\text{N}_2\text{O}$		S
Oleic Acid – $\text{CH}_3(\text{CH}_2)_7\text{CH}:\text{CH}(\text{CH}_2)_7\text{COOH}$		N
Oxalic Acid (to 175 °F) – $\text{HOCCOOH} \cdot 2\text{H}_2\text{O}$		S

Liquid and formula	Note	Code
Photographic Developers		S
Phthalic Acid (to 100°F) – C <sub>6</sub> H <sub>4</sub> (CO <sub>2</sub> H) <sub>2</sub>		S
Phthalic Anhydride – C <sub>6</sub> H <sub>4</sub> (CO) <sub>2</sub> O		
Potash Alum (Aqueous) – AIK (SO <sub>4</sub> ) <sub>2</sub> • 12H <sub>2</sub> O		
Potassium Acetate – KC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>		S
Potassium Bicarbonate – KHCO <sub>3</sub>		S
Potassium Bromide – KBr		S
Potassium Carbonate (to 40%) – K <sub>2</sub> CO <sub>3</sub>		S
Potassium Chlorate – KClO <sub>3</sub>		S
Potassium Chloride (Aqueous) – KCl		S
Potassium Cyanides (Aqueous) – KCN		S
Potassium Dichromate (to 40%) – K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>		S
Potassium Ferricyanide – K <sub>2</sub> Fe(CN) <sub>6</sub>		S
Potassium Ferrocyanide – K <sub>4</sub> Fe(CN) <sub>6</sub> • 3H <sub>2</sub> O		S
Potassium Fluoride – KF		N
Potassium Hydroxide (30% to 80 °C) (50% to 24 °C) – KOH		S
Potassium Hypochlorite – KOCl		S
Potassium Nitrate – KNO <sub>3</sub>		S
Potassium Perchlorate (to 10%) – KClO <sub>4</sub>		S
Potassium Permanganate (to 20%) – KMnO <sub>4</sub>		S
Potassium Sulphate (Aqueous) – K <sub>2</sub> SO <sub>4</sub>		S
Potassium Sulphide – K <sub>2</sub> S		S
Potassium Sulphite – K <sub>2</sub> SO <sub>3</sub> • 2H <sub>2</sub> O		S
Propionic Dichloride - CH <sub>3</sub> CHClCH <sub>2</sub> Cl		S
Sal Ammoniac – NH <sub>4</sub> Cl		S
Salicylic Acid – C <sub>6</sub> H <sub>4</sub> (OH) (COOH)		S
Sea Water		S
Silver Bromide – AgBr		S
Silver Chloride – AgCl		S
Sodium Acetate – NaC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>		S
Sodium Bicarbonate (Aqueous) – NaHCO <sub>3</sub>		S
Sodium Bisulphate – NaHSO <sub>4</sub>		S
Sodium Bisulphite – NaHSO <sub>3</sub>		S
Sodium Borate – Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> • 10H <sub>2</sub> O		S
Sodium Chlorate (to 180°F) – NaClO <sub>3</sub>		S
Sodium Chlorite (to 20%) – NaClO <sub>2</sub>	1	S
Sodium Cyanide – NaCN		S
Sodium Ferricyanide – Na <sub>3</sub> Fe(CN) <sub>6</sub> • H <sub>2</sub> O		S
Sodium Ferrocyanide – Na <sub>4</sub> Fe(CN) <sub>6</sub> • 10H <sub>2</sub> O		S
Sodium Hydroxide (30% to 80 °C) (50% to 24 °C) – NaOH		S
Sodium Hypochlorite (to 16%, 100°F) – NaOCl		
Sodium Silicate – 2Na <sub>2</sub> O SiO <sub>2</sub>		
Sodium Sulphate – Na <sub>2</sub> SO <sub>4</sub>		S

Liquid and formula	Note	Code
Sodium Sulphide (to 30%) – Na <sub>2</sub> SO <sub>3</sub>		S
Sodium Tetraborate – Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> • IOH <sub>2</sub> O		S
Sodium Sulphide (to 30%) – Na <sub>2</sub> SO <sub>3</sub>		S
Sodium Tetraborate – Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> • IOH <sub>2</sub> O		S
Sodium ThioSulphate – Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> • 5H <sub>2</sub> O		S
Stannic Chloride – SnCl <sub>4</sub>		S
Stannous Chloride – SnCl <sub>2</sub>		S
Sulphuric Acid (60% to 26 °C)(10% to 55 °C) – H <sub>2</sub> SO <sub>4</sub> over 90% 26 °C max	1	S
Sulphurous Acid – H <sub>2</sub> SO <sub>3</sub>		S
Tartaric Acid (1%) – HOOC(CHOH)2COOH		S
Tannic Acid (to 10%) – C <sub>76</sub> H <sub>52</sub> O <sub>46</sub>		S
Tetra Hydro Furane 0 CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> O		N
Titanium Tetrachloride – TiCl <sub>4</sub>		N
Toluene – CH <sub>3</sub> C <sub>6</sub> H <sub>5</sub>		N
Tri-Sodium Phosphate – Na <sub>3</sub> PO <sub>4</sub> • 12H <sub>2</sub> O		S
Tri-iso Octyl Phosphate – (C <sub>8</sub> H <sub>17</sub> ) <sub>3</sub> PO <sub>4</sub>		N
Trichloroethylene – CHCl:CCl <sub>2</sub>		N
Trichloroactetic Acid (to 10%) – CCl <sub>3</sub> COOH		S
Turpentine		N
Vegetable Oils		S
Vinegar		S
Vinyl Acetate – CH <sub>3</sub> COOCH:CH <sub>2</sub>		
Water (Deionized)		S
Whiskey		S
Wine		S
Xylene – C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>		N
Zinc Chloride – ZnCl <sub>2</sub> (crystallizes)		S
Zinc Cyanide – Zn(CN) <sub>2</sub>		S
Zinc Sulphate – ZnSO <sub>4</sub> • 7H <sub>2</sub> O		