ROTRON®

Motor Options

ROTRON strives to provide the most complete variety of desired options on our products including on our motors. By using motor vendors of high quality and versatility, we can provide motor features from multiple released designs to meet your needs (i.e., a Chem Processing Inverter Duty Explosion-proof motor with space heaters and drains wound for 380 V-50 Hz service).

Design Consistency

ROTRON motors are engineered for us to integrally mount with our blower and maximize blower performance. Our vendors are qualified by ROTRON (per motor part number) to ensure the blowers' mechanical and electrical needs merge with your required features. The basic motor requirements on our DR/EN/CP/HiE products include:

- NEMA approved
- CE conformity (non-XP models)
- UL & CSA approved with symbol and file on nameplate
- C-face mount
- Permanently sealed bearings
- Shaft end play, run out and perpendicularity requirements above NEMA standards
- Dual voltage and dual frequency (some models not feasible) to maximize use worldwide
- Single Shafted Totally Enclosed Fan Cooled (TEFC) and Explosion-proof (XP) models
- Double Shafted Open Drip Proof (ODP) models with dual internal fans for circulation
- Class I Group D minimum on explosion-proof motors; many are Class I Group D, Class II F & G
- Commercial Spa (SPA-ODP) motors with automatic thermal overload protection and industry specified terminal strip

Standard Motor Variations

Chemical Processing (CP) features are added to TEFC, XP or HiE designs for corrosive gas service, Marine Duty service and sanitary (food/pharmaceutical) service.

- 303 stainless steel shaft
- Cast iron and steel frame epoxy painted or zinc plated
- Zinc plated hardware
- Stainless steel nameplate
- Non-hygroscopic insulation; double dipped and baked stator
- Epoxy coating on rotor
- Gaskets and joint sealers on all metal-to-metal surfaces
- Oversized conduit box

High Efficiency (HiE) features are added to TEFC, ODP, XP or CP motors for maximum motor efficiency and life. ROTRON HiE motors carry extra phase-to-phase protection for use with inverters between a 1750-3500 RPM range.

Inverter Duty features are added to TEFC, ODP, XP or CP for use with Inverters/Variable Speed Drive Controllers. A wide range of RPM can be handled and should be specified at time of quote. For best compatibility, an inverter should be matched to the motor manufacturers design.

Project Specific Motor Variations

There are no limits to the options you can select or request for your product. Routine motor options include:

- International voltage & frequency (Hz)
- Different shaft material
- Oversized and/or Nema 4 intent T-box
- Space heaters
- Drains
- Regreasable bearings
- Tropicalized windings

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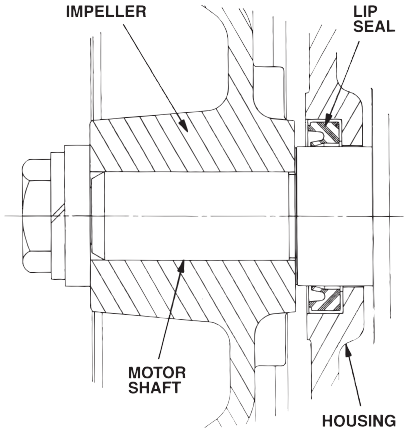
Typical Sealing Options

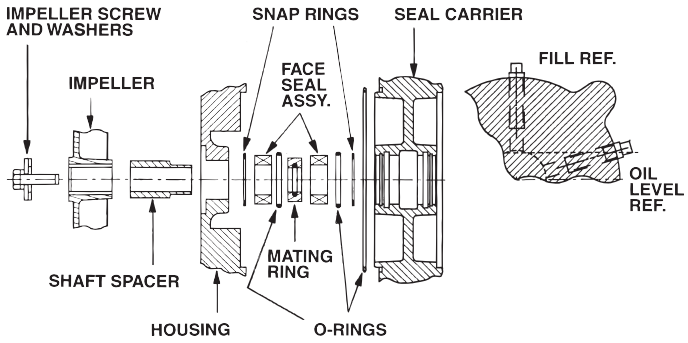
Lo-Leak™ LIP SEAL Option

The Lo-Leak™Lip Seal option is available to control gas leakage for all DR models and is standard on all EN and CP models. Features include: Lip seals to prevent leakage at the motor shaft. RTV sealing compound is used to cut off all leakage paths at the blower's metal-to-metal surfaces. Castings are vacuum impregnated to prevent leakage through castings. Estimate leakage rate = 25 cc/min or less



Double Face Carbon Seal Option

For further minimization of gas leakage on all DR, EN and CP models, a pair of face seals work against each other on opposite sides of a common mating ring to effectively reduce gas leakage at the motor shaft. The face shields are continually lubricated from a reservoir to prolong seal life. The seal is completed by installing the blower to motor bolts with O-rings and sealing the covers to the housing with an RTV sealing compound.
O-rings are also placed between the pipe flanges and the manifold.
All castings are vacuum impregnated.
Estimate leakage rate = 0.5 cc/min or less



Hermetically Sealed Spiral Containment Option

The containment option utilizes a series of O-rings to control gas leakage in Spiral blower models. The O-rings are placed at critical locations on the blower's housing and covers to contain gas leakage.

Hermetically Sealed Mag Drive Option

On DR, EN and CP 101 units, a magnet drive option has been an alternative for complete gas containment.
O-rings are used throughout the product, and magnets attached to the motor shaft spin magnets inside the blower without shaft penetration. Estimated leakage rate = 0.001 cc/mi

Nitrogen Purge / Blanket Option

The nitrogen purge option is a carrier designed to accept a nitrogen line which will purge the space outside the shaft hole. Purges can be designed to bleed the nitrogen into the process called a blanket, or the carrier can have a second tap to carry away the leaking contaminants.

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Chem-Tough™ Chemical Resistance

To stand up in corrosive and hazardous environments, chemical processing blowers have to be tough. That's why Ametek ROTRON routinely applies Chem-Tough™, ROTRON'S own engineered and proprietary process, whenever it builds blowers for handling chemical (vapor) streams. Chem-Tough™ combines the advantages of aluminum oxide ceramic and selected fluorocarbons to give ROTRON blowers unheard-of levels of chemical resistance, hardness, abrasion resistance, permanent lubricity and more.

Chem-Tough™ Brings You the Rotron Advantage

Through this unique proprietary process, Chem-Tough™ gives ROTRON blowers these advantages:

- **Outstanding Chemical Resistance**
  Time after time, Chem-Tough™ finishing shows extremely high resistance to most common chemicals, as well as dramatically improved corrosion resistance over regular hard anodizing. Chem-Tough™ allows aluminum to achieve equivalent corrosion resistance as teflon®. 90-day immersion in acid or alkaline solution (pH 4.0-8.5) has no effect; neither does prolonged exposure to salt water. Far exceeds military specification requirements for salt spray.

- **Abrasion Resistance Equivalent to Steel**
  Excellent for smooth surfaces, Chem-Tough™ surface conversion provides higher wear resistance than either case-hardened steel or hard-chrome plate. Rub any other metal against the Chem-Tough™ finish, and the metal will show nothing but the slightest wear. Chem-Tough™ provides a perfect bond to the parent metal.

- **Increased Hardness**
  With an equivalent hardness of Rc 40-60, Chem-Tough™ is approximately file-hard – the hardness of nitrated steel. Because the Chem-Tough™ surface becomes an integral part of the metal, it simply cannot peel or chip – neither can it be scratched, flaked or nicked under ordinary conditions.

- **Permanent Dry Lubricity**
  By infusing polymers into aluminum, Chem-Tough™ gives the resulting surface a high degree of permanent lubricity and resistance to moisture. The polymers also level off surface asperities, significantly reducing surface tension. The result: blowers converted with Chem-Tough™ have a longer life, operate more efficiently and call for less maintenance.

- **Other Proprietary Processes**
  Food-Tough™ uses the same unique process as Chem-Tough™, and is designed for the food processing, medical and pharmaceutical markets. Food-Tough™ has USDA approval and meets FDA guidelines.

Chem-Tough™ at Work

Chem-Tough™ employs the advantages of anodizing, hardcoat plating, low-friction polymers and dry lubricants to become an integral part of the blower's molecular structure.

Specifically, Chem-Tough™ first converts the aluminum surface to aluminum oxide, forming a new ceramic-like surface. The water in the ceramic is replaced with Teflon®, adding a multi-functional dimension to the surface; in the process, the aluminum crystals expand and form anchor crystals that remain hygroscopic for a short time. Then, under controlled conditions, particles of the specified polymer are infused to interlock with these anchor crystals. The new surface extends .5 mil above and below the original aluminum surface – and forms a permanent molecular bond with the metal.

The result: a plastic/ceramic surface that's harder than steel, is continuously lubricating, and resists damage from chemicals like no other. The kind of protection you need for your chemical processing blowers.

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A – No effect – acceptable
B – Minor effect – acceptable
C – Moderate effect – questionable
D – Severe effect – not recommended
* – Not tested

Chemical	Aluminum	Cast Iron	Carbon Steel	Chem-Tough (Teflon®)	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Hastelloy C
Acetaldehyde	B	*	C	A	A	A	A	*	A
Acetate Solv.	B	B	A	A	A	B	A	B	*
Acetic Acid	B	D	C	A	*	B	A	B	A
Acetic Anhydride	B	B	D	A	B	A	A	B	A
Acetone	A	A	A	A	A	A	A	B	A
Acetylene	A	A	A	*	A	A	A	A	*
Acrylonitrile	B	C	*	*	A	A	C	*	B
Alcohols									
Amyl	C	C	C	A	A	A	A	*	A
BENZYL	B	*	*	*	*	A	A	*	A
Butyl	B	C	C	A	A	A	A	*	A
Diacetone	A	*	A	*	*	A	A	*	A
Ethyl	B	A	A	*	*	A	A	A	A
Hexyl	A	*	A	*	*	A	A	*	A
Isobutyl	B	*	A	*	*	A	A	*	A
Isopropyl	B	C	A	*	*	A	A	*	A
Methyl	B	A	A	A	*	A	A	A	A
Octyl	A	*	A	*	*	A	A	*	A
Propyl	A	*	A	A	*	A	A	*	A
Aluminum Chloride 20%	B	D	A	*	*	D	C	D	A
Aluminum Chloride	D	D	B	A	C	D	C	*	A
Aluminum Hydroxide	A	D	A	A	*	A	A	A	*
Alum Potassium Sulfate (Alum), 10%	A	D	A	A	*	A	*	*	B
Alum Potassium Sulfate (Alum), 100%	B	*	A	A	*	D	A	B	B
Aluminum Sulfate	A	D	A	A	*	C	C	A	A
Amines	A	A	B	A	A	A	A	*	A
Ammonia 10%	*	*	*	A	*	*	A	*	A
Ammonia, Anhydrous	B	D	B	A	A	B	A	A	A
Ammonia, Liquids	D	A	A	A	*	A	A	A	B
Ammonia, Nitrate	C	*	A	*	*	A	A	A	*
Ammonium Bifluoride	D	*	*	*	*	C	A	*	B
Ammonium Carbonate	C	C	B	A	B	A	A	A	B
Ammonium Chloride	C	D	D	A	C	A	C	A	A
Ammonium Hydroxide	C	A	C	A	A	A	A	A	A
Ammonium Nitrate	B	A	D	A	A	A	A	A	A
Ammonium Persulfate	C	D	A	A	*	A	A	A	A
Ammonium Phosphate, Dibasic	B	*	D	A	B	A	A	A	A
Ammonium Phosphate, Monobasic	B	*	A	A	*	A	A	A	A
Ammonium Phosphate, Tribasic	B	C	D	A	B	A	A	A	A
Ammonium Sulfate	B	C	C	A	C	A	B	A	A
Amyl-Acetate	B	*	C	A	B	A	A	C	A
Amyl Alcohol	B	*	A	A	*	A	A	*	A
Amyl Chloride	D	*	A	A	*	C	B	*	A
Aniline	C	*	C	A	B	A	A	A	B
Anti-Freeze	A	B	C	A	*	A	A	*	A
Antimony Trichloride	D	*	*	A	*	D	D	*	A
Aromatic Hydrocarbons	A	A	A	*	*	*	A	*	*
Arsenic Acid	D	D	D	A	B	A	A	*	*

Chemical	Aluminum	Cast Iron	Carbon Steel	Chem-Tough (Teflon®)	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Hastelloy C
Barium Carbonate	B	B	B	A	B	A	A	A	A
Barium Chloride	D	D	C	A	C	A	A	A	A
Barium Hydroxide	D	C	C	A	B	C	A	A	B
Barium Sulfate	D	C	C	A	B	A	A	A	A
Barium Sulfide	D	C	C	A	B	A	A	*	*
Benzaldehyde	B	B	A	A	A	A	A	*	A
Benzene	B	B	C	A	B	A	A	A	B
Benzoic Acid	B	D	*	A	B	A	A	A	A
Benzol	B	*	*	A	*	A	A	*	A
Borax (Sodium Borate)	C	A	C	A	*	A	A	A	A
Boric Acid	B	D	*	A	B	A	A	A	A
Bromine (Wet)	D	D	D	A	D	D	D	D	A
Butadiene	A	C	C	A	A	A	A	*	*
Butane	A	C	C	A	A	A	A	*	*
Butanol	A	*	*	A	*	A	A	*	A
Butylene	A	A	A	A	A	*	A	*	*
Butyl Acetate	A	*	A	A	*	*	C	*	A
Butyric Acid	B	D	*	A	B	B	A	A	A
Calcium Bisulfate	D	D	*	A	C	D	A	*	*
Calcium Bisulfide	C	*	*	A	*	*	B	*	A
Calcium Bisulfite	C	*	*	A	*	D	A	*	A
Calcium Carbonate	C	D	*	A	B	A	A	A	A
Calcium Chloride	C	C	*	A	C	A	D	C	A
Calcium Hydroxide	C	*	*	A	B	A	A	*	A
Calcium Hypochlorite	C	D	*	A	D	A	C	C	B
Calcium Sulfate	B	*	*	A	B	A	A	A	B
Carbon Bisulfide	A	B	*	*	B	A	A	A	*
Carbon Dioxide (Wet)	C	C	*	A	*	A	A	*	A
Carbon Disulfide	C	B	C	A	*	B	A	*	*
Carbon Monoxide	A	*	*	*	*	A	A	*	*
Carbon Tetrachloride	C	C	D	A	B	C	B	A	A
Carbonated Water	A	D	*	*	B	A	A	A	*
Carbonic Acid	A	D	*	A	B	A	B	A	A
Chloracetic Acid	C	D	*	A	D	D	D	D	A
Chlorinated Glue	D	D	*	*	*	A	A	*	*
Chlorine, Anhydrous Liquid	D	C	*	A	*	D	D	D	A
Chlorine (Dry)	D	A	*	A	B	A	A	*	A
Chlorine Water	D	D	*	A	D	*	D	*	B
Chlorobenzene (Mono)	B	B	C	A	A	A	A	*	A
Chloroform	D	D	C	A	A	A	A	A	A
Chlorosulfonic Acid	D	*	D	A	D	D	*	D	B
Chlorox (Bleach)	C	D	C	A	*	A	A	*	A
Chromic Acid 5%	C	D	*	*	*	A	A	B	A
Chromic Acid 50%	C	D	*	A	C	B	B	*	A
Citric Acid	C	D	*	A	*	A	A	A	A
Citric Oils	C	*	*	*	*	A	A	*	*
Copper Chloride	D	D	*	A	C	D	D	B	A
Copper Cyanide	D	D	*	A	*	A	A	A	A
Copper Floborate	D	D	*	A	*	D	D	*	B
Copper Nitrate	D	*	*	A	B	A	A	B	A

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A – No effect – acceptable
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Chemical	Aluminum	Cast Iron	Carbon Steel	Chem-Tough (Teflon®)	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Hastelloy C
Copper Sulfate (5% Solution)	D	D	*	A	*	A	A	A	A
Cresols	B	*	*	*	*	A	A	*	*
Cresylic Acid	C	*	*	A	B	A	A	*	B
Cyclohexane	A	*	A	*	*	A	*	*	*
Detergents	A	*	A	*	*	A	A	*	*
Diesel Fuel	A	A	A	*	A	A	A	*	*
Diethylamine	A	*	*	A	A	A	*	*	*
Dyes	B	*	*	*	*	A	A	*	*
Epsom Salts (Magnesium Sulfate)	A	*	*	*	B	A	A	A	B
Ethane	A	*	*	*	A	A	*	*	*
Ether	A	*	B	*	A	A	A	A	B
Ethyl Acetate	B	*	C	A	*	A	A	*	B
Ethyl Chloride	B	C	D	A	*	A	A	A	B
Ethylene Chloride	C	C	C	A	*	A	A	*	B
Ethylene Dichloride	D	*	C	A	*	A	A	*	B
Ethylene Glycol	A	B	C	A	*	A	A	*	A
Ethylene Oxide	A	*	*	A	*	*	A	*	*
Fatty Acids	B	D	*	A	*	A	A	*	A
Ferric Chloride	D	D	*	A	*	D	D	D	B
Ferric Nitrate	D	*	*	A	*	A	A	A	A
Ferric Sulfate	D	D	*	A	*	A	C	A	A
Ferrous Chloride	D	D	*	A	*	D	D	*	B
Ferrous Sulfate	D	D	D	A	B	A	C	*	B
Fluorine	D	D	D	C	D	D	D	*	A
Fluosilicic Acid	D	D	*	A	*	*	B	*	B
Formaldehyde	A	D	A	A	A	A	A	*	B
Formic Acid	D	D	D	A	C	A	B	B	A
Freon 11	B	C	B	A	A	*	A	*	*
Freon 12 (Wet)	B	*	*	A	*	*	D	*	*
Freon 22	B	*	*	*	*	*	A	*	*
Freon 113	B	*	*	*	*	*	A	*	*
Freon T.F.	B	*	*	*	*	*	A	*	*
Fuel Oils	A	C	B	A	A	A	A	*	A
Furan Resin	A	A	A	A	*	A	A	*	*
Furfural	A	*	A	A	A	A	A	*	B
Gallic Acid	A	D	D	A	B	A	A	*	A
Gasoline	A	A	A	A	A	A	A	A	A
Glycerine	A	B	B	A	A	A	A	A	A
Heptane	A	*	B	A	A	*	A	*	A
Hexane	A	*	B	A	A	A	A	*	A
Hydraulic Oils (Petroleum)	A	A	A	A	A	A	A	*	*
Hydraulic Oils (Synthetic)	A	A	*	*	*	A	A	*	*
Hydrobromic Acid	D	D	D	A	D	D	D	D	A
Hydrochloric Acid (Dry Gas)	D	*	D	A	D	C	A	*	A
Hydrochloric Acid (20%)	D	D	*	A	*	D	D	D	B
Hydrochloric Acid (37%)	D	D	*	A	*	D	D	D	B
Hydrochloric Acid 100%	D	D	*	A	*	D	D	*	C
Hydrocyanic Acid	A	*	C	A	A	A	A	C	A
Hydrofluoric Acid (20%)	D	D	*	A	*	D	D	D	B
Hydrofluoric Acid (75%)	D	D	*	A	*	C	D	*	C

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Hydrofluoric Acid 100%	D	D	D	A	D	D	D	*	B
Hydrofluosilicic Acid (20%)	D	D	*	A	*	D	D	*	B
Hydrofluosilicic Acid	C	*	*	A	*	D	D	*	C
Hydrogen Gas	A	B	B	A	A	A	A	*	*
Hydrogen Peroxide 10%	A	D	*	A	*	C	C	*	A
Hydrogen Peroxide	A	D	D	A	*	A	B	A	A
Hydrogen Sulfide, Aqueous Solution	C	D	*	A	*	A	A	C	A
Hydrogen Sulfide (Dry)	D	B	B	A	A	C	A	*	A
Hydroxyacetic Acid (70%)	D	*	*	*	*	*	*	*	*
Ink	C	D	D	*	A	A	A	*	*
Iodine	D	D	*	A	*	D	D	D	B
Iodoform	A	C	B	A	B	D	A	*	*
Isotane	A	*	*	*	*	*	*	*	*
Isopropyl Acetate	C	*	*	*	*	*	B	*	*
Isopropyl Ether	A	*	A	A	A	*	A	*	*
Jet Fuel (JP3, JP4, JP5)	A	A	A	A	A	A	A	*	*
Kerosene	A	A	B	A	A	A	A	A	A
Ketones	B	A	A	A	A	A	A	*	A
Lacquers	A	C	C	*	A	A	A	*	*
Lactic Acid	C	D	D	A	A	A	B	C	A
Lead Acetate	D	*	D	A	B	A	A	*	A
Lubricants	A	*	*	A	*	A	A	*	A
Magnesium Chloride	D	D	C	A	B	B	B	A	A
Magnesium Hydroxide	D	B	B	A	A	A	A	*	A
Magnesium Sulfate	B	C	B	A	B	B	A	*	B
Maleic Acid	B	*	B	A	C	A	A	A	A
Malic Acid	C	*	D	A	B	A	A	*	A
Mercuric Chloride (Dilute Solution)	D	D	D	A	D	D	D	D	B
Mercuric Cyanide	D	*	D	A	A	A	A	*	*
Mercury	C	A	A	A	A	A	A	A	A
Methane	A	A	A	A	A	A	A	A	A
Methyl Acetate	A	*	B	A	A	*	A	*	A
Methyl Acetone	A	A	A	A	A	*	A	*	*
Methyl Alcohol 10%	C	*	B	A	A	*	A	*	A
Methyl Butyl Ketone	A	*	*	*	*	*	A	*	*
Methyl Cellosolve	A	*	*	*	*	*	*	*	*
Methyl Chloride	D	*	*	A	*	C	A	*	A
Methyl Ethyl Ketone	A	*	*	A	*	A	A	*	A
Methylamine	A	B	B	*	A	*	A	*	*
Methylene Chloride	A	*	B	A	A	A	A	*	A
Naptha	A	B	B	A	A	A	A	A	A
Napthalene	B	B	A	A	B	A	B	*	A
Nickel Chloride	D	D	*	A	*	A	B	*	A
Nickel Sulfate	D	D	D	A	B	A	B	*	B
Nitric Acid (10% Solution)	D	D	D	A	A	A	A	A	A
Nitric Acid (20% Solution)	D	D	*	A	*	A	A	A	A
Nitric Acid (50% Solution)	D	D	*	A	*	A	A	A	A
Nitric Acid (Concentrated Solution)	B	D	*	A	*	D	B	A	B

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Nitrobenzene	C	B	B	A	B	A	B	*	B
Oleum	B	*	B	A	B	*	A	*	*
Oxalic Acid (cold)	C	D	D	A	C	A	B	A	B
Pentane	A	B	B	A	A	C	C	*	B
Perchloroethylene	A	B	B	A	B	A	A	*	*
Petrolatum	B	C	C	A	A	*	A	*	*
Phenol 10%	A	B	D	A	B	A	A	*	B
Phenol (Carbolic Acid)	B	D	D	A	B	A	A	A	A
Phosphoric Acid (to 40% Solution)	D	D	*	A	*	B	A	A	A
Phosphoric Acid (40%-100% Solution)	D	D	*	A	*	C	B	B	A
Phosphoric Acid (Crude)	D	D	D	A	*	D	C	C	A
Phosphoric Anhydride (Molten)	D	*	*	A	*	A	A	*	*
Photographic (Developer)	C	D	*	*	*	C	A	C	A
Phthalic Anhydride	B	C	C	A	B	A	B	*	A
Picric Acid	C	D	D	A	B	A	A	*	A
Potash	C	B	*	*	*	A	*	A	A
Potasium Bicarbonate	C	D	*	A	*	A	*	B	B
Potassium Bromide	C	D	D	A	A	A	*	B	B
Potassium Carbonate	C	B	B	A	B	A	*	A	A
Potassium Chlorate	B	B	B	A	B	A	A	A	B
Potassium Chloride	B	B	B	A	C	A	A	B	A
Potassium Chromate	A	A	*	*	*	*	B	B	B
Potassium Cyanide Solutions	D	B	B	A	B	A	B	A	A
Potassium Dichromate	A	B	C	A	B	A	A	A	B
Potassium Ferrocyanide	C	*	C	A	B	A	*	A	B
Potassium Hydroxide (50%)	D	C	A	A	A	B	B	B	A
Potassium Nitrate	B	*	B	A	B	A	B	A	B
Potassium Permanganate	B	B	B	A	B	A	B	B	B
Potassium Sulfate	A	B	B	A	B	A	B	B	A
Potassium Sulfide	B	B	B	A	A	A	*	A	B
Propane (Liquified)	A	*	B	A	A	A	*	A	*
Propylene Glycol	A	B	B	A	B	B	*	A	*
Pyridine	B	B	A	A	*	C	*	B	*
Pyrogallic Acid	B	B	B	A	B	A	A	A	A
Silver Bromide	D	*	*	*	*	C	C	B	*
Silver Nitrate	D	D	D	A	B	A	B	A	A
Sodium Acetate	B	C	C	A	B	A	A	B	A
Sodium Aluminate	C	*	C	A	B	*	*	A	B
Sodium Bicarbonate	A	C	C	A	B	A	A	A	*
Sodium Bisulfate	D	D	D	A	A	A	*	A	B
Sodium Bisulfite	A	D	*	A	*	A	*	A	B
Sodium Borate	C	C	C	A	B	A	*	A	A
Sodium Carbonate	C	B	B	A	B	A	B	B	A
Sodium Chlorate	B	*	C	A	B	A	*	A	B
Sodium Chloride	C	B	C	A	B	A	C	B	A
Sodium Chromate	D	B	B	A	A	A	A	*	B
Sodium Cyanide	D	B	B	A	B	A	*	A	*
Sodium Fluoride	C	D	D	A	B	C	*	C	A

Chemical	Aluminum	Cast Iron	Carbon Steel	Chem-Tough (Teflon®)	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Hastelloy C
Sodium Hydrosulfite	A	*	*	A	*	*	*	*	A
Sodium Hydroxide (20%)	D	A	*	A	*	A	A	A	A
Sodium Hydroxide (50% Solution)	D	B	*	A	*	A	B	*	A
Sodium Hydroxide (80% Solution)	D	C	*	A	*	A	D	*	B
Sodium Hypochlorite (to 20%)	D	C	*	A	*	A	D	*	B
Sodium Hypochlorite	D	D	D	A	D	*	A	*	A
Sodium Hyposulfate	D	*	*	A	*	A	A	*	*
Sodium Metaphosphate	A	B	B	A	A	*	A	*	*
Sodium Metasilicate	B	C	C	A	A	*	A	*	*
Sodium Nitrate	A	A	B	A	B	A	A	A	B
Sodium Perborate	B	B	B	A	B	*	C	*	*
Sodium Peroxide	C	D	C	A	B	A	A	*	B
Sodium Polyphosphate (Mono, Di, Tribasic)	D	*	*	A	*	A	A	*	A
Sodium Silicate	C	*	B	A	B	A	B	A	B
Sodium Sulfate	B	A	B	A	B	A	A	C	B
Sodium Sulfide	D	A	B	A	B	A	B	*	B
Sodium Sulfite	C	A	*	A	*	C	C	*	A
Sodium Thiosulphate ("Hypo")	B	C	B	A	A	A	A	*	*
Stannic Chloride	D	D	D	A	D	D	D	*	B
Stannous Chloride	D	D	D	A	D	D	C	*	A
Stearic Acid	B	C	C	A	B	A	A	A	A
Stoddard Solvent	A	B	B	A	A	A	A	A	A
Styrene	A	*	A	A	A	A	A	*	*
Sulfate Liquors	B	*	*	*	*	C	C	*	A
Sulfur Chloride	D	*	*	A	*	D	D	D	*
Sulfur Dioxide	A	*	*	A	*	A	A	C	B
Sulfur Dioxide (Dry)	A	A	B	A	A	A	A	*	A
Sulfur Trioxide (Dry)	A	B	B	A	A	A	C	*	*
Sulfuric Acid (to 10%)	C	D	*	A	*	D	C	C	A
Sulfuric Acid (10%-75%)	D	D	*	A	*	D	D	D	B
Sulfurous Acid	C	D	D	A	C	C	B	C	B
Tannic Acid	C	C	C	A	B	A	A	A	B
Tanning Liquors	C	*	*	A	*	A	A	*	A
Tartaric Acid	C	D	D	A	B	A	B	B	B
Tetrahydrofuran	D	D	A	A	*	A	A	*	*
Toluene, Toluol	A	A	A	A	A	A	A	*	A
Trichlorethane	C	C	*	A	*	C	A	*	A
Trichlorethylene	B	C	B	A	B	A	A	*	A
Water, Acid, Mine	C	C	*	*	*	A	A	*	*
Water, Distilled, Lab Grade 7	B	D	*	A	*	A	A	*	*
Water, Fresh	A	B	D	A	A	A	A	*	*
Water, Salt	B	D	*	*	*	A	A	*	*
Weed Killers	C	*	*	*	*	A	A	*	*
Whiskey and Wines	D	D	D	A	A	A	A	A	*
Xylene	A	A	B	A	A	A	A	*	A
Zinc Chloride	D	D	D	A	D	A	B	B	B
Zinc Hydrosulphite	D	D	*	*	*	*	A	*	*
Zinc Sulfate	D	C	D	A	B	A	A	A	B

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