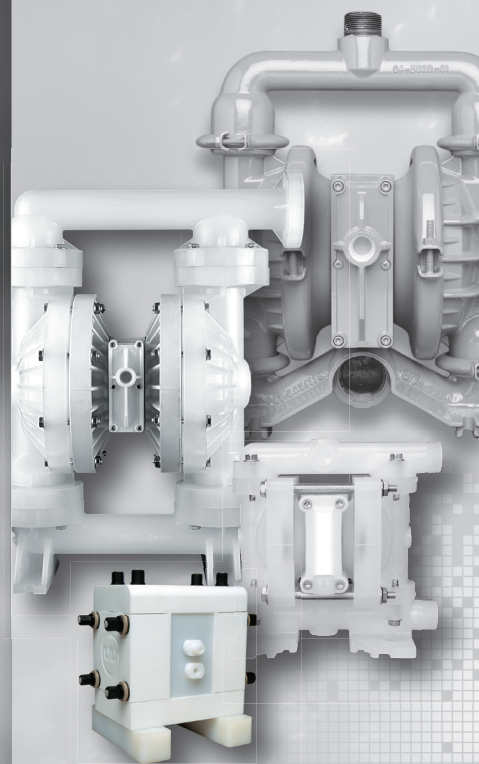


**WILDEN®**  
Part of Pump Solutions Group  
A **DOVER** COMPANY

# AODDP

Chemical Resistance Guide

## Compatibility Listings



*Where Innovation Flows*

[www.wildenpump.com](http://www.wildenpump.com)

WIL-21000-C-08  
REPLACES WIL-21000-C-07

## CHEMICAL RESISTANCE GUIDE

This information is compiled from numerous sources and believed to be reliable to this date. **It is intended as a guideline to be used with all available information to determine suitability of elastomers and wetted portions of Wilden pumps for various applications.** We suggest thorough research which should include known applications when determining pump construction. This chart is to be used at your discretion and risk. The accuracy of these ratings cannot be guaranteed.

### SELECTING THE BEST DIAPHRAGM FOR A WILDEN AIR-OPERATED DOUBLE-DIAPHRAGM PUMP

In the absence of previous experience (which is always the best guide) diaphragm material may be selected from available resistance charts. The Wilden Chemical Resistance Guide is compiled from numerous reliable sources and cross-checked; however, it is only intended as an additional source of information.

Diaphragm life not only depends on a diaphragm's chemical compatibility with the process fluid but also on the process conditions. These conditions will vary depending on the abrasiveness of your process fluid, temperature, size of diaphragm, pumping media and lift conditions. Consult your authorized Wilden distributor regarding which diaphragm material will work best for your application requirements.

#### AS A GENERAL RULE:

1. Neoprene or Wil-Flex™ diaphragms should generally be used unless the chart shows them to be unsatisfactory. Even though Buna-N, EPDM and Viton® may show "A" ratings, if neoprene or Wil-Flex™ have at least a "B" rating, it will probably be the most economical choice on a "cost of diaphragms per gallon pumped" basis.
2. This is especially true when considering the use of Viton® diaphragms due to their replacement cost being over six times that of neoprene. Viton® should only be considered for aggressive media at extreme temperatures if it shows an "A" rating and neoprene, Buna-N and EPDM show an unsatisfactory rating.

These guides for best diaphragm selection do not hold for the valve ball material. Because the diaphragms are securely gripped by their inner and outer beads, they can stand up to 20% swell without affecting pump performance. If the valve balls swell even a very small

amount, they cannot function properly. Therefore, there will be cases where Neoprene diaphragms will be the best selection but PTFE, Buna-N, EPDM or polyurethane balls will be required.



**CAUTION:** Temperature limits are based upon mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperatures. Consult engineering guides for chemical compatibility and temperature limits.

It must be emphasized that none of these figures are absolute and are only general guidelines.

### SELECTION OF PLASTIC MATERIALS

Many factors can affect the chemical resistance of plastics. These include, but are not limited to, exposure time, extremes of temperature and pressure, frequency of temperature and/or pressure cycling, attrition due to abrasive particles and the type of mechanical stress imposed. The fact that certain combinations of chemicals and mechanical load can induce stress cracking in many otherwise chemically resistant materials, both metallic and non-metallic, is of particular significance.

The chemical/temperature ratings presented are based on well-processed or well fabricated test specimens being essentially resistant to either chemical attack and/or severe swelling which would normally impair their performance under moderate mechanical stresses.

Operating parameters are dependent upon the particular application of polypropylene or PVDF and may differ from those experienced in either laboratory testing or apparently similar field service. Because corrosive fluids or vapors are often mixtures of various individual chemicals, it is strongly recommended that trial installations be evaluated under actual service conditions.

For example, immersion testing in individual chemicals at a specific operating temperature doesn't predict the performance of polypropylene or PVDF should an exothermic reaction take place when mixtures of chemicals are involved.

**The ratings given on the following pages are a guide and do not constitute a warranty of any kind, expressed or implied, with respect to the performance of the materials Wilden offers in any specific application.**

## CHEMICAL RESISTANCE GUIDE

| CHEMICALS                         | ELASTOMERS |          |          |       |              |               |      |        |           | METALS  |          |           |                     |                       | PLASTICS |       |              |               |       |       |
|-----------------------------------|------------|----------|----------|-------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|----------|-------|--------------|---------------|-------|-------|
|                                   | BUNA-N     | GEOLAST® | NEOPRENE | EPDM  | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL   | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| ACETALDEHYDE                      | D          | D        | D        | A     | D            | B             | A    | D      | B         | A       | B        | A         | -                   | A                     | A        | A     | C            | C             | D     | D     |
| ACETAMIDE                         | A          | A        | B        | A     | D            | D             | A    | A      | A         | A       | A        | A         | A/200               | A                     | A        | A     | A/70         | A/70          | D     | A/75  |
| ACETATE SOLV                      | D          | D        | D        | A     | D            | D             | A    | D      | B         | A       | A        | D         | A/100               | A                     | A/70     | A     | B/72         | B             | D     | A/70  |
| ACETIC ACID, GLACIAL              | C          | D        | C        | A     | D            | D             | A    | C      | B         | A       | B        | D         | A                   | A                     | D        | B     | -            | B             | D     | A     |
| ACETIC ACID                       | C          | C        | C        | A     | D            | D             | A    | B      | B         | A       | B        | D         | A                   | B                     | D        | D     | A/120        | B             | D     | C     |
| ACETIC ANHYDRIDE                  | D          | D        | B        | B     | D            | C             | A    | D      | A         | A       | B        | D         | A                   | A                     | D        | A/72  | D            | C             | D     | D     |
| ACETONE                           | D          | D        | D        | A     | D            | C             | A    | D      | B         | A       | A        | A         | A                   | A                     | B        | A     | A            | D             | D     | D     |
| ACETONITRILE                      | D          | -        | D        | A     | -            | -             | A    | D      | A/70      | A       | A        | A         | A                   | A                     | -        | -     | -            | B             | -     | B     |
| ACETOPHENONE                      | D          | D        | D        | B     | -            | -             | A    | D      | B         | B       | B        | A         | A/200               | A                     | -        | -     | -            | B/70          | -     | A/70  |
| ACETYL CHLORIDE                   | D          | D        | D        | D     | D            | D             | A    | B      | B/70      | A       | D        | A         | A/100               | B                     | -        | B     | D            | D             | C     | A/120 |
| ACETYLENE                         | A          | B        | B        | A     | B            | A             | A    | A      | -         | A       | A        | A         | A                   | A                     | A        | A     | D            | D             | A/72  | A     |
| ACRYLONITRILE                     | D          | D        | D        | D     | D            | D             | A    | C      | D         | A       | A        | A         | -                   | A                     | -        | A/72  | A            | B             | B/72  | A/70  |
| ADIPIC ACID                       | A          | C        | A/140    | A     | A            | D             | A    | A      | B         | A       | B        | B         | -                   | B                     | A/70     | -     | A            | A             | A/120 | A     |
| ALCOHOLS                          |            |          |          |       |              |               |      |        |           |         |          |           |                     |                       |          |       |              |               |       |       |
| ALLYL                             | A          | -        | A        | A     | -            | D             | A    | B      | A         | A       | B        | A         | -                   | A                     | -        | -     | -            | A             | -     | A     |
| AMYL                              | B          | B        | A        | A     | D            | A             | A    | A      | A         | B       | B        | C         | A/200               | A                     | A        | A/120 | B/120        | B             | A/120 | A     |
| BENZYL                            | D          | D        | C        | C     | D            | C             | A    | A      | D         | B       | A        | A         | A/200               | A                     | A        | B/72  | D            | A             | D     | A     |
| BUTYL                             | A          | C        | A        | B     | D            | B             | A    | A      | A         | A       | A        | B         | -                   | A                     | A        | D     | A            | A/70          | A/120 | A     |
| DIACETONE                         | D          | D        | D        | A     | D            | C             | A    | D      | B         | A       | A        | A         | -                   | A                     | A        | A     | B/72         | B             | B/72  | A/70  |
| ETHYL                             | A          | C        | A        | A     | D            | A             | A    | A      | A         | A       | B        | A         | -                   | A                     | A        | A/72  | B            | A             | C     | A     |
| HEXYL                             | B          | B        | B        | A     | D            | D             | A    | B      | B         | A       | A        | A         | -                   | A                     | A        | A     | A            | A/70          | A/120 | A     |
| ISOBUTYL                          | B/80       | C        | A/80     | A/160 | D            | B             | A    | A/75   | A         | A       | B        | C         | -                   | A                     | A        | A/72  | A/120        | A/70          | A/72  | A     |
| ISOPROPYL                         | A          | C        | B        | A     | D            | A             | A    | A      | B         | A       | A        | A         | A                   | A                     | A        | D     | A            | A             | A/72  | A     |
| METHYL                            | A          | A        | C        | A     | D            | A             | A    | C      | A         | A       | B        | A         | A/70                | B                     | A        | B/72  | A/70         | A             | A/72  | A     |
| OCTYL                             | B          | -        | B        | B     | D            | D             | A    | B      | B         | C       | A        | A         | -                   | A                     | A        | A     | A            | -             | -     | -     |
| PROPYL                            | A          | A        | A        | A     | D            | D             | A    | A      | A         | A       | A        | A         | A/70                | A                     | A        | D     | A/120        | A             | A/72  | A     |
| ALLYL CHLORIDE                    | B          | -        | D        | D     | -            | D             | A    | B      | -         | -       | D        | C         | -                   | B                     | -        | -     | -            | A             | -     | A     |
| ALKAZENE                          | D          | D        | D        | -     | B            | D             | A    | A      | D         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| ALUM-NH3-CR-K                     | A          | A        | A        | A     | -            | -             | A    | D      | A         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | A     |
| ALUMINUM ACETATE                  | B          | -        | B        | A     | -            | -             | A    | D      | A         | B       | A        | D         | -                   | B                     | A        | -     | -            | A             | -     | -     |
| ALUMINUM CHLORIDE 100%            | A          | -        | A        | A     | B            | B             | A    | A      | A         | A       | B        | D         | -                   | C                     | B        | B/72  | B            | A             | A/120 | A     |
| ALUMINUM CHLORIDE 20%             | A          | -        | A        | A     | A            | B             | A    | A      | A         | A       | D        | D         | -                   | C/72                  | C        | D     | B            | A             | A/72  | A     |
| ALUMINUM FLUORIDE                 | A          | B        | A        | B     | C            | -             | A    | A      | A         | B       | B        | D         | A                   | A                     | D        | A/72  | A/70         | A             | A/120 | A     |
| ALUMINUM HYDROXIDE                | A          | A        | A        | A     | B            | D             | A    | A      | A         | B       | A        | D         | A                   | A                     | A        | A/72  | A/120        | A             | A/120 | A     |
| ALUMINUM NITRATE                  | A          | A        | A/70     | A     | C            | -             | A    | A      | A         | B       | B        | D         | A                   | A                     | B        | A/72  | A/120        | A             | B/120 | A     |
| ALUMINUM PHOSPHATE                | A          | A        | A        | A     | -            | -             | A    | A      | A         | -       | -        | -         | -                   | A                     | A        | -     | -            | A             | -     | A     |
| ALUMINUM POTASSIUM SULFATE (ALUM) | A          | A        | A        | A     | -            | D             | A    | A      | A         | B       | C        | D         | A                   | B                     | A        | D     | A/120        | A             | A/120 | A     |
| ALUMINUM SULFATE                  | A          | A        | A        | A     | B            | B             | A    | A      | A         | A       | A        | D         | A                   | A                     | B/70     | A/120 | A            | A             | A/120 | A     |
| AMINES                            | D          | D        | D        | C     | -            | D             | A    | D      | A         | B       | A        | D         | D                   | A                     | C/70     | D     | C/70         | B/120         | D     | -     |
| AMMONIA, ANHYDROUS                | B          | B        | A        | A     | D            | D             | A    | D      | A         | A       | A/70     | A         | A                   | A                     | D        | A/72  | B/120        | A/70          | A/120 | D     |
| AMMONIA, GAS (COLD)               | A          | B        | A        | A     | -            | D             | A    | D      | A         | -       | -        | -         | A                   | -                     | A        | -     | A            | B             | -     | D     |
| AMMONIA, GAS (HOT)                | C          | -        | B        | C     | -            | -             | A    | D      | A         | -       | -        | -         | -                   | -                     | A        | -     | -            | -             | -     | -     |
| AMMONIA, LIQUIDS                  | B          | C        | A        | A     | D            | -             | A    | D      | A         | B       | D        | A         | A                   | A                     | D        | B/72  | C/70         | A/70          | A/72  | A     |
| AMMONIA NITRATE                   | A          | C        | C        | A     | -            | B/72          | A    | D      | A         | B       | C        | A         | -                   | A                     | B/70     | D     | A            | A             | B     | A     |
| AMMONIUM BIFLUORIDE               | A          | -        | A        | A     | -            | -             | A    | A      | A         | B       | B        | D         | A                   | B/72                  | -        | -     | A/120        | A             | A/120 | A     |
| AMMONIUM CARBONATE                | B          | D        | A        | A     | A            | -             | A    | A      | A         | B       | B        | B         | A                   | B                     | D        | A/72  | A            | A             | A/120 | A     |
| AMMONIUM CASENITE                 | -          | -        | A        | -     | -            | -             | A    | -      | A         | -       | -        | -         | -                   | A                     | A        | -     | -            | -             | -     | -     |
| AMMONIUM CHLORIDE                 | B          | B        | A        | A     | B            | A/70          | A    | A      | A         | A       | C        | D         | A                   | C                     | A        | B     | A            | A             | A/120 | A     |
| AMMONIUM FLUORIDE                 | B          | -        | B        | A     | -            | -             | A    | A      | B         | A       | D        | D         | -                   | D                     | -        | -     | -            | A             | -     | A     |
| AMMONIUM HYDROXIDE                | B          | D        | A        | A     | D            | B             | A    | B      | A         | A       | B        | B         | A/200               | B                     | B        | A     | A/70         | A             | A     | A     |
| AMMONIUM NITRATE                  | A          | A        | A        | A     | D            | B/72          | A    | A      | A         | A       | B        | A         | A                   | A                     | B        | A/72  | A/70         | A             | A/120 | A     |

**Ratings: A: Minor effect; B: Minor to moderate effect; C: Moderate to severe effect; D: Not recommended; —: Insufficient information.**

Wil-Flex is a trademark of Wilden Pump and Engineering, LLC. Saniflex is a trademark of Wilden Pump and Engineering, LLC.

Viton® is a registered trademark of DuPont Dow Elastomers. PTFE is a registered trademark of Dupont.

**The accuracy of these ratings cannot be guaranteed.**

## CHEMICAL RESISTANCE GUIDE

| CHEMICALS                       | ELASTOMERS |          |          |       |              |               |      |        | METALS    |         |          |           |                     | PLASTICS              |        |       |              |               |       |       |
|---------------------------------|------------|----------|----------|-------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|--------|-------|--------------|---------------|-------|-------|
|                                 | BUNA-N     | GEOLAST® | NEOPRENE | EPDM  | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| AMMONIUM NITRITE                | A          | A        | A        | A     | -            | -             | A    | A      | A         | -       | -        | -         | -                   | A                     | -      | -     | -            | A/70          | -     | A     |
| AMMONIUM OXALATE                | A          | D        | A        | A     | -            | -             | A    | -      | A         | A       | -        | D         | -                   | A                     | B      | -     | -            | A             | A     | -     |
| AMMONIUM PERSULFATE             | D          | D        | A        | B     | D            | -             | A    | A      | A         | A       | C        | D         | A/150               | A                     | -      | D     | A/120        | A             | A/120 | A     |
| AMMONIUM PHOSPHATE, DIBASIC     | A          | A        | A        | A     | -            | B             | A    | A      | A         | A       | B        | D         | A/70                | A                     | B      | C/72  | A/120        | A             | A/120 | A     |
| AMMONIUM PHOSPHATE, MONOBASIC   | A          | A        | A        | A     | B            | B/72          | A    | A      | A         | B       | B        | D         | -                   | C                     | B      | B     | A            | A             | A     | -     |
| AMMONIUM PHOSPHATE, TRIBASIC    | A          | A        | A        | A     | -            | -             | A    | A      | A         | B       | B        | D         | -                   | B                     | B      | B     | C            | A             | A     | -     |
| AMMONIUM SULFATE                | A          | A        | A        | A     | A            | B             | A    | A      | A         | B       | B        | C         | A                   | A                     | A      | A/72  | A/70         | A             | A/120 | A     |
| AMMONIUM THIO-SULFATE           | A          | A        | A        | A     | -            | -             | A    | A      | A         | -       | A        | D         | -                   | A                     | B      | -     | A            | -             | -     | -     |
| AMYL-ACETATE                    | D          | D        | D        | A     | D            | C             | A    | D      | D         | B       | B        | C         | A                   | A                     | D      | B/120 | D            | B             | D     | A/120 |
| AMYL-ALCOHOL                    | B          | B        | A        | A     | D            | A             | A    | A      | A         | B       | B        | C         | -                   | A                     | A      | A/72  | B/120        | B             | A/72  | A     |
| AMYL-BORATE                     | B          | -        | A        | D     | -            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| AMYL-CHLORIDE                   | D          | D        | D        | D     | -            | D             | A    | A      | C         | B       | D        | A         | -                   | A                     | A      | C     | D            | D             | D     | A     |
| AMYL-CHLORONAPHTHALENE          | B          | C        | D        | D     | -            | -             | A    | A      | C         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| AMYL-NAPHTHALENE                | D          | D        | D        | D     | -            | D             | A    | A      | C         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| ANILINE                         | D          | D        | D        | B     | D            | C             | A    | A      | A         | B       | C        | C         | A                   | B                     | A/70   | A/120 | A            | A/72          | C/72  | A/72  |
| ANILINE DYES                    | C          | D        | B        | A     | -            | D             | A    | A      | B         | -       | B        | A         | -                   | B                     | D      | -     | -            | -             | -     | -     |
| ANILINE HYDROCHLORIDE           | C          | D        | D        | B     | D            | -             | A    | B      | A         | D       | D        | D         | -                   | D                     | -      | D     | D            | D             | B/120 | A/100 |
| ANIMAL FATS                     | A          | B        | A        | A     | -            | B             | A    | A      | B         | A       | A        | A         | -                   | A                     | A      | -     | -            | A             | -     | A     |
| ANTIMONY TRICHLORIDE            | B          | -        | C        | B     | B            | D             | A    | A      | A         | B       | B        | A         | A                   | A                     | -      | D     | A            | A             | A/120 | A     |
| ANSUL ETHER                     | C          | D        | -        | C     | -            | D             | A    | D      | D         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| ANTI-FREEZE                     | A          | A        | A        | A     | D            | A/70          | A    | A      | A         | A       | B        | B         | -                   | A                     | B      | D     | -            | A             | A     | A     |
| AQUA REGIA (80%, HCl, 20% HNO3) | D          | D        | D        | B/140 | D            | D             | A    | A/70   | D         | C       | D        | D         | A                   | D                     | D      | D     | B/70         | B/72          | C/72  | A/70  |
| AROCHLOR(S)1248                 | C/72       | D        | D        | B     | B            | C/72          | A    | A      | D         | A       | A        | B         | -                   | -                     | -      | A/72  | C/70         | D             | -     | -     |
| AROMATIC HYDROCARBONS           | D          | D        | D        | D     | D            | C/70          | A    | A      | C         | -       | A        | A         | A                   | A                     | A      | -     | C            | D             | D     | -     |
| ARSENIC ACID                    | A          | A        | B        | A     | C            | D             | A    | A      | A         | B       | D        | D         | A                   | A                     | D      | C/72  | B/120        | A             | A/72  | A     |
| ARSENIC TRICHLORIDE             | A          | C        | A        | D     | -            | D             | A    | A      | B         | B       | D        | D         | -                   | D                     | D      | -     | -            | -             | -     | -     |
| ASKAREL                         | B          | C        | D        | D     | D            | D             | A    | A      | D         | -       | -        | -         | -                   | A                     | -      | -     | -            | -             | -     | -     |
| ASPHALT                         | B          | B        | C        | D     | B            | B             | A    | A      | B         | -       | A        | B         | -                   | A                     | B      | A     | A/70         | A             | A/120 | A     |
| BARIUM CARBONATE                | A          | A        | A        | A     | B            | -             | A    | A      | A         | A       | D        | A         | A                   | A                     | A      | A/72  | B/120        | A             | A/120 | A     |
| BARIUM CHLORIDE                 | A          | A        | A        | A     | A            | B/72          | A    | A      | A         | A       | D        | D         | A                   | B                     | A      | A     | A            | A             | A/72  | A     |
| BARIUM CYANIDE                  | C          | D        | A        | A     | -            | -             | A    | A      | A         | A       | C        | B         | -                   | A                     | B      | A/72  | B            | D             | D     | -     |
| BARIUM HYDROXIDE                | A          | A        | A        | A     | D            | B             | A    | A      | A         | B       | D        | B         | A                   | A                     | D      | A/72  | B/120        | A             | A/120 | A     |
| BARIUM NITRATE                  | A          | A        | A        | A     | B            | -             | A    | A      | A         | A       | B        | A         | A/73                | A                     | B      | A/72  | B/120        | A             | A     | A     |
| BARIUM SULFATE                  | A          | A        | A        | A     | A            | D             | A    | A      | A         | A       | D        | B         | A                   | A                     | B      | A/72  | A            | A             | B/72  | A     |
| BARIUM SULFIDE                  | A          | A        | A        | A     | A            | -             | A    | A      | A         | A       | D        | D         | A                   | B                     | A      | A/72  | B/120        | A             | A/120 | A     |
| BEER                            | A          | -        | A        | A     | D            | A/72          | A    | A      | A         | A/72    | A        | D         | A                   | A                     | A/72   | A/72  | A/120        | A/72          | A/120 | A     |
| BEET SUGAR LIQUIDS              | A          | -        | A        | A     | -            | -             | A/72 | A      | -         | -       | A        | A         | -                   | A                     | B      | A     | A/70         | A/72          | A/120 | A     |
| BEET SUGAR LIQUORS              | A          | -        | A        | A     | D            | -             | A    | A      | A         | -       | A        | B         | A/150               | A                     | A      | -     | -            | -             | -     | -     |
| BENZALDEHYDE                    | D          | D        | D        | A     | D            | B             | A    | D      | D         | A       | A        | A         | A                   | A                     | A      | A/72  | A/70         | D             | D     | A/70  |
| BENZENE                         | D          | D        | D        | D     | D            | B             | A    | B      | C         | A       | B        | B         | A                   | B                     | A      | A/72  | D            | B             | C/72  | A     |
| BENZENESULFONIC ACID            | D          | D        | B        | D     | D            | B             | A    | B      | A         | B       | D        | D         | A                   | B                     | C      | D     | A            | B/70          | A     | A     |
| BENZYL BENZOATE                 | D          | -        | D        | B     | -            | D             | A    | A      | C         | B       | A        | B         | -                   | B                     | -      | -     | -            | -             | -     | -     |
| BENZYL CHLORIDE                 | D          | D        | D        | D     | D            | D             | A    | A      | C         | A       | D        | D         | A/100               | B                     | A      | A/120 | -            | D             | -     | A     |
| BENZOIC ACID                    | D          | D        | D        | B     | D            | D             | A    | A      | A         | B       | B        | D         | A/250               | B                     | B      | D     | A/70         | A             | A     | A     |
| BENZOL                          | D          | D        | D        | D     | D            | B             | A    | B      | C         | A       | B        | B         | -                   | A                     | A      | D     | C/70         | D             | -     | A/70  |
| BLAST FURNACE GAS               | D          | -        | D        | D     | D            | B             | A    | A      | A         | -       | -        | -         | -                   | -                     | D      | -     | -            | -             | -     | -     |
| BLEACH SOLUTIONS                | D          | D        | D        | A     | D            | C             | A    | A      | B         | B       | D        | D         | A                   | B                     | D      | -     | B            | B             | -     | A     |
| BORAX (SODIUM BORATE)           | B          | B        | A        | A     | B            | A             | A    | A      | A         | A       | C        | A         | A                   | A                     | A      | A     | A/120        | B             | A/72  | A     |
| BORDEAUX MIXTURE                | A          | B        | A        | A     | D            | B             | A    | A      | A         | A       | D        | C         | -                   | A                     | -      | -     | -            | -             | -     | -     |
| BORIC ACID                      | A          | A        | A        | A     | A            | A/70          | A    | A      | A         | A       | B        | D         | A                   | A                     | C      | B     | A            | A             | A/120 | A     |
| BRINE                           | A          | A        | B        | A     | A            | B             | A    | A      | A         | A       | C        | D         | A                   | A                     | A      | -     | -            | A/70          | -     | A     |
| BREWERY SLOP                    | A          | -        | A        | A     | -            | D             | A    | A      | A         | -       | -        | A         | -                   | A                     | -      | -     | -            | -             | -     | -     |

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|----------------------------|------------|----------|----------|-------|--------------|---------------|-------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|----------|-------|--------------|---------------|-------|-------|
|                            | BUNA-N     | GEOLAST® | NEOPRENE | EPDM  | POLYURETHANE | SANIFLEX™ TPE | PTFE  | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL   | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| BROMINE                    | D          | D        | D        | C     | D            | D             | A     | A      | C         | A       | D        | D         | A/150               | D                     | D        | D     | D            | B/72          | C/72  | A/150 |
| BROMINE-ANHYDROUS          | D          | -        | D        | D     | D            | D             | A     | A      | C         | A       | D        | D         | A                   | D                     | D        | D     | -            | D             | -     | A/150 |
| BROMINE-TRIFLUORIDE        | D          | D        | D        | D     | D            | D             | A     | D      | C         | -       | D        | D         | -                   | B                     | D        | -     | A            | D             | -     | -     |
| BROMINE-WATER              | D          | -        | D        | D     | D            | D             | A     | B      | B         | -       | D        | D         | A/250               | B                     | D        | -     | -            | D             | -     | A     |
| BROMOBENZENE               | D          | D        | D        | D     | D            | D             | A     | B      | D         | B       | D        | B         | A/73                | B                     | D        | -     | -            | D             | -     | A     |
| BUNKER OIL                 | A/70       | B        | D        | D     | B            | D             | A     | A      | B         | A       | A        | A         | -                   | A                     | -        | -     | -            | -             | -     | -     |
| BUTADIENE                  | D          | D        | D        | D     | D            | D             | A     | B      | D         | C       | A        | A         | A/200               | A/72                  | A        | C/72  | D            | D             | C/72  | A     |
| BUTANE                     | A          | A        | B        | D     | D            | A             | A     | A      | D         | A       | A        | A         | A/200               | A                     | A        | A/120 | C/70         | B             | C/72  | A     |
| BUTTER                     | A          | A        | B        | A     | D            | B             | A     | A      | B         | -       | A        | D         | -                   | A                     | A        | -     | -            | A             | -     | A     |
| BUTTERMILK                 | A          | A        | A        | A     | A            | -             | A     | A      | A         | A       | A        | D         | -                   | A                     | A        | B/72  | A/70         | A             | A/72  | A     |
| BUTYL ACETYL RICINOLEATE   | C          | D        | B/70     | A/70  | D            | -             | A     | A/70   | B         | A       | A        | A         | -                   | A                     | -        | -     | -            | -             | -     | -     |
| BUTYL ACETATE              | D          | D        | D        | D     | D            | C             | A     | D      | B         | A       | A        | A         | A/150               | A                     | B        | A     | C/70         | B/70          | D     | A     |
| BUTYL ACRYLATE             | D          | D        | D        | D     | -            | D             | A     | D      | C         | -       | -        | -         | -                   | -                     | A        | -     | -            | D             | -     | A/70  |
| BUTYL ALCOHOL              | A          | -        | A        | B     | D            | B             | A     | A      | A         | A       | A        | B         | -                   | A                     | -        | B/72  | -            | A/70          | C/72  | A     |
| BUTYL AMINE                | B          | B        | D        | D     | D            | D             | A     | D      | A         | B       | A        | A         | -                   | A                     | C        | A/120 | -            | B             | D     | B/70  |
| BUTYL BENZOATE             | D          | -        | D        | A     | -            | -             | A     | A      | C         | B       | B        | B         | -                   | B                     | A        | -     | -            | -             | -     | -     |
| BUTYL CARBITOL             | D          | D        | C        | A     | -            | -             | A     | C      | B         | -       | -        | -         | -                   | -                     | A        | -     | -            | -             | -     | -     |
| BUTYL CELLOSOLVE           | C          | D        | D        | A     | D            | -             | A     | D      | A         | -       | -        | -         | A/73                | -                     | A        | -     | -            | -             | -     | B     |
| BUTYL CHLORIDE             | D          | -        | C        | -     | -            | -             | A     | A      | D         | A       | A/70     | A         | -                   | A                     | -        | -     | -            | D             | -     | A     |
| BUTYL ETHER                | A          | -        | B        | D     | -            | -             | A     | C      | C         | -       | A        | A         | -                   | A                     | -        | A/120 | -            | D             | A/120 | A/100 |
| BUTYL OLEATE               | D          | -        | D        | B     | -            | -             | A     | A      | C         | -       | -        | -         | -                   | -                     | A        | -     | -            | -             | -     | -     |
| BUTYL PHTHALATE            | D          | -        | D        | B/120 | D            | -             | A/120 | C/72   | -         | B/120   | B/120    | -         | -                   | B/120                 | -        | A/120 | -            | B/120         | -     | B/72  |
| BUTYL STEARATE             | B          | B        | D        | D     | -            | -             | A/70  | A      | C         | B       | B        | B         | A/73                | B                     | A        | -     | -            | -             | -     | A/100 |
| BUTYLENE                   | A          | C        | C        | C     | C            | B             | A     | A      | C         | -       | A        | -         | A                   | A                     | A        | B/72  | B/70         | B             | A/72  | A     |
| BUTRALDEHYDE               | D          | D        | D        | C     | C            | D             | A     | D      | C         | A       | A        | A         | -                   | A                     | A        | -     | -            | D             | -     | B     |
| BUTYRIC ACID, AQUEOUS      | D          | D        | D        | B     | D            | B             | A     | B      | A         | A       | A        | D         | A                   | B                     | D        | C/72  | D            | A             | B/72  | A     |
| CALCIUM BISULFATE          | A          | -        | C        | A     | A            | -             | A     | A      | -         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| CALCIUM BISULFIDE          | A          | A        | A        | D     | C            | B             | A     | A      | D         | A       | C        | D         | A                   | B                     | A        | A     | B/70         | A             | A/120 | A     |
| CALCIUM CARBONATE          | A          | A        | A        | A     | D            | -             | A     | A      | A         | A       | C        | B         | A                   | A                     | A        | A     | B/70         | A             | A/120 | A     |
| CALCIUM CHLORIDE           | A          | A        | A        | A     | A            | A             | A     | A      | A         | A       | C        | C         | A                   | C                     | D        | A/72  | B/70         | A             | C     | A     |
| CALCIUM HYDROXIDE          | A          | A        | A        | A     | D            | B             | A     | A      | A         | A       | C        | A         | A                   | A                     | A/150    | A/120 | A/120        | A             | B     | A     |
| CALCIUM HYPOCHLORITE       | C          | C        | D        | A     | D            | B             | A     | A      | A         | A       | C        | D         | A                   | A                     | A        | D     | A            | A             | B/72  | A     |
| CALCIUM NITRATE            | B          | A        | B        | B     | D            | -             | A     | A      | A         | B       | B        | C         | A                   | B                     | D        | A/72  | A/70         | A             | A/120 | A     |
| CALCIUM SULFATE            | A          | A        | D        | A     | B            | -             | A     | A      | A         | B       | B        | A         | A                   | A                     | D        | D     | B/70         | A             | B/120 | A     |
| CALCIUM SULFIDE            | A          | A        | B        | A     | A            | -             | A     | A      | A         | A       | A        | B         | -                   | B                     | -        | -     | -            | A/120         | -     | A     |
| CALGON                     | A          | A        | A        | A     | D            | D             | A     | A      | A         | -       | -        | D         | -                   | A                     | A        | A     | -            | A             | -     | -     |
| CANE JUICE                 | A          | B        | A        | A     | A            | -             | A     | A      | A         | -       | B        | A         | -                   | A                     | A        | A     | -            | B/72          | A/72  | B     |
| CANE SUGAR LIQUORS         | A          | A        | A        | A     | D            | B             | A     | A      | A         | -       | A        | B         | A/150               | A                     | -        | -     | -            | A             | -     | A     |
| CARBAMATE                  | C          | D        | B        | B     | D            | -             | A     | A      | A         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| CARBITOL                   | B          | C        | B        | B     | D            | -             | A     | A      | B         | -       | B        | B         | -                   | B                     | -        | -     | -            | C             | -     | A     |
| CARBOLIC ACID (SEE PHENOL) | D          | D        | C        | C     | D            | D             | A     | A      | A         | A       | B        | D         | A/150               | A                     | D        | D     | D            | B             | D     | A/70  |
| CARBON BISULFIDE           | D          | D        | D        | D     | D            | B             | A     | A      | D         | B       | A        | B         | -                   | B                     | B        | A     | -            | D             | D     | A     |
| CARBON DIOXIDE             | A          | B        | A        | A     | D            | C             | A     | B      | A         | A       | A        | D         | A                   | A                     | A        | A/72  | A/70         | A             | A/72  | A     |
| CARBON DISULFIDE           | D          | D        | D        | D     | D            | C             | A     | A      | D         | B       | A        | B         | A/200               | B                     | B        | B/72  | C/70         | D             | D     | A/70  |
| CARBON MONOXIDE            | A          | A        | B        | C     | A            | A             | A     | A      | A         | A       | A        | A         | A/150               | A                     | B        | A/72  | A/120        | A             | A/120 | A     |
| CARBON TETRACHLORIDE       | C          | D        | D        | D     | D            | D             | A     | A      | D         | A       | D        | C         | A/200               | A                     | A        | D     | D            | B/70          | D     | A     |
| CARBONATED WATER           | A          | A        | A        | A     | B            | -             | A     | A      | A         | A       | C        | D         | -                   | A                     | A        | A     | A            | A             | A     | A     |
| CARBONIC ACID              | A          | B        | A        | A     | A            | C             | A     | A      | A         | A/120   | D        | B         | A                   | A                     | A        | A/72  | B/120        | A             | A/120 | A     |
| CATSUP (KETCHUP)           | A          | A        | D        | A     | D            | -             | A     | A      | A         | A       | D        | D         | -                   | A                     | B        | A     | -            | A             | A     | -     |
| CELLOSOLVE                 | D          | D        | D        | B     | D            | D             | A     | D      | C         | A       | B        | B         | A/200               | B                     | A        | A     | -            | A             | -     | A     |
| CELLOSOLVE ACETATE         | D          | D        | D        | B     | D            | D             | A     | D      | A         | A       | B        | B         | A/73                | A                     | A        | -     | -            | A             | -     | A/120 |
| CELLULUBE                  | D          | -        | D        | A     | D            | -             | A     | A      | D         | -       | -        | -         | -                   | -                     | A        | -     | -            | -             | -     | -     |

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|------------------------------|------------|----------|----------|------|--------------|---------------|-------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|--------|-------|--------------|---------------|-------|-------|
|                              | BUNA-N     | GEOLAST® | NEOPRENE | EPDM | POLYURETHANE | SANIFLEX™ TPE | PTFE  | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| CHLORACETIC ACID             | D          | D        | D        | B    | D            | D             | A     | D      | D         | A/72    | D        | D         | A                   | A/72                  | D      | D     | -            | C/72          | B/72  | A/72  |
| CHLORINATE GLUE              | B          | -        | D        | B    | -            | -             | -     | A      | C         | -       | -        | D         | -                   | A                     | D      | -     | -            | -             | -     | -     |
| CHLORINE (DRY)               | D          | D        | D        | D    | D            | D             | A     | A/70   | C         | A       | D        | D         | A/150               | D                     | D      | D     | D            | B             | D     | A     |
| CHLORINE (WET)               | D          | D        | D        | A    | -            | D             | A     | A      | C         | A       | D        | B         | A/200               | B                     | D      | C/72  | B/70         | D             | A/120 | A     |
| CHLORINE, ANHYDROUS LIQUID   | D          | D        | D        | D    | -            | D             | A     | A      | D         | D       | D        | D         | -                   | D                     | D      | D     | D            | D             | D     | A     |
| CHLORINE DIOXIDE             | D          | D        | D        | C    | -            | D             | A     | B      | D         | A       | D        | D         | A/200               | D                     | -      | -     | -            | D             | -     | A     |
| CHLORINE TRIFLUORIDE         | D          | D        | D        | D    | D            | -             | A     | D      | D         | -       | D        | D         | -                   | A                     | -      | -     | -            | D             | -     | -     |
| CHLOROACETIC ACID            | D          | -        | D        | B    | D            | D             | A     | D      | D         | A/72    | D        | D         | -                   | A/72                  | -      | D     | -            | C/72          | B/72  | A/72  |
| CHLOROACETONE                | D          | D        | C        | D    | D            | D             | A     | B      | C         | B       | D        | B         | -                   | B                     | B      | -     | D            | D             | -     | -     |
| CHLOROBENZENE (MONO)         | D          | D        | D        | D    | D            | D             | A     | A      | C         | A       | D        | B/70      | A/100               | B                     | A      | D     | D            | B             | D     | A/70  |
| CHLOROBROMOMETHANE           | D          | D        | D        | B    | D            | D             | A     | A      | D         | -       | D        | B         | -                   | B                     | B      | C     | A            | D             | D     | -     |
| CHLOROBUTADIENE              | D          | D        | D        | D    | D            | D             | A     | A      | C         | B       | D        | B         | -                   | A                     | -      | -     | -            | D             | -     | -     |
| CHLORODODECANE               | D          | D        | D        | D    | D            | D             | A     | A      | D         | -       | D        | D         | -                   | -                     | -      | -     | -            | D             | -     | -     |
| CHLOROFORM                   | D          | D        | D        | D    | D            | C             | A     | A      | C         | B       | D        | D         | A/200               | A                     | A      | A     | C            | D             | D     | A     |
| 1-CHLORONAPHTHALENE          | D          | D        | D        | D    | -            | D             | A     | A      | D         | B       | D        | B         | -                   | B                     | -      | -     | -            | D             | -     | A     |
| 1-CHLORO 1-NITRO ETHANE      | D          | D        | D        | D    | D            | D             | A     | D      | C         | -       | D        | -         | -                   | -                     | -      | -     | -            | D             | -     | -     |
| CHLOROSULFONIC ACID          | D          | D        | D        | D    | D            | D             | A     | D      | D         | A/72    | C        | D         | A                   | B/120                 | D      | D     | D            | D             | D     | D     |
| CHLOROTOLUENE                | D          | D        | D        | D    | D            | D             | A     | A      | C         | A       | D        | B         | -                   | B                     | A      | -     | -            | D             | -     | -     |
| CLOROX® (BLEACH)             | D          | D        | B        | A    | D            | -             | A     | A      | B         | A       | A        | D         | -                   | A                     | D      | A     | -            | D             | A     | A     |
| CHOCOLATE SYRUP              | A          | -        | A        | A    | -            | -             | A     | A      | A         | -       | A        | D         | -                   | A                     | A      | A     | -            | A/120         | -     | -     |
| CHROMIC ACID 5%              | D          | D        | D        | A    | D            | D             | A     | A      | A         | A       | C        | D         | A/200               | A                     | D      | D     | A            | A/70          | A/120 | A     |
| CHROMIC ACID 50%             | D          | D        | D        | C    | D            | D             | A     | A      | A         | A       | C        | D         | A/200               | B                     | D      | D     | D            | B/140         | D     | A     |
| CHROMIUM ALUM                | -          | -        | -        | -    | -            | -             | -     | -      | -         | -       | -        | -         | -                   | -                     | -      | A     | -            | -             | A     | -     |
| CHROME PLATING SOLUTIONS     | D          | -        | D        | A    | D            | D             | A     | A      | A         | B       | C        | C         | -                   | A                     | D      | -     | -            | A             | -     | A     |
| CIDER                        | A          | B        | A        | A    | D            | D             | A/122 | A      | A         | A       | B        | D         | -                   | A                     | A      | A     | B            | A             | A     | -     |
| CITRIC ACID                  | A          | A        | A        | A    | A            | B/70          | A     | A      | A/70      | A       | C        | D         | A                   | A                     | C      | A/72  | A            | A             | B/120 | A     |
| CITRIC OILS                  | A          | B        | D        | B    | -            | -             | A     | A      | C         | -       | C        | D         | -                   | A                     | B      | -     | -            | A             | -     | -     |
| COBALT CHLORIDE (2N)         | A          | A        | A        | C    | D            | -             | A     | A      | A         | -       | D        | D         | -                   | -                     | -      | -     | -            | A             | -     | -     |
| COFFEE                       | A          | A        | A        | A    | D            | -             | A     | A      | A         | A       | A        | -         | -                   | A                     | A      | A     | -            | A             | -     | -     |
| COKE OVEN GAS                | C          | D        | C        | D    | D            | -             | A     | A      | B         | -       | -        | -         | A                   | -                     | -      | -     | -            | -             | -     | A     |
| COPPER ACETATE               | B          | -        | B        | A    | D            | D             | A     | D      | A         | B       | D        | D         | -                   | C                     | A      | -     | -            | -             | -     | A     |
| COPPER CHLORIDE              | A          | A        | A        | A    | B            | A             | A     | A      | A         | B       | D        | D         | A                   | D                     | A      | D     | -            | A             | A/72  | A     |
| COPPER CYANIDE               | A          | A        | A        | A    | A            | A             | A     | A      | A         | A       | D        | D         | A                   | A                     | A      | D     | B/120        | A             | A/120 | A     |
| COPPER FLUOBORATE            | B          | -        | A        | -    | -            | A             | A     | A      | A         | B       | D        | D         | -                   | D                     | B      | -     | -            | -             | A     | -     |
| COPPER FLUORIDE              | B          | -        | A        | -    | -            | A             | A     | A      | A         | B       | D        | D         | -                   | D                     | -      | -     | -            | -             | -     | -     |
| COPPER NITRATE               | A/140      | B        | A/140    | A    | B            | A             | A     | A      | A         | A       | D        | D         | A                   | A                     | A      | D     | B/120        | A             | A/120 | A     |
| COPPER SULFATE (5% SOLUTION) | A          | A        | A        | A    | -            | A             | A     | A      | A         | A       | D        | D         | A                   | A                     | D      | D     | A/120        | A             | A/120 | A     |
| CREAM                        | A          | -        | D        | -    | -            | -             | A     | A      | A         | -       | A        | D         | -                   | A                     | A      | A     | -            | A             | -     | -     |
| CRESOLS                      | D          | D        | D        | D    | D            | D             | A     | A      | C         | B       | B        | C         | A/150               | A                     | B      | D     | -            | D             | D     | A/150 |
| CRESYLIC ACID                | D          | D        | D        | D    | D            | D             | A     | A      | B         | B       | C        | A         | A                   | A                     | D      | D     | D            | C             | D     | A/150 |
| CRUDE OIL                    | B          | -        | B        | D    | -            | B             | A     | A      | C         | B       | A        | A         | -                   | A                     | D      | -     | -            | B/150         | -     | A/120 |
| CYCLOHEXANE                  | A          | B        | D        | D    | B            | A             | A     | A      | C         | B       | A        | B         | A                   | A                     | A      | A     | B/70         | C/70          | D     | A     |
| CYCLOHEXANOL                 | B          | C        | A        | C    | -            | -             | A     | A      | D         | A       | C        | B         | A                   | B                     | A      | B     | D            | B/70          | -     | A/150 |
| CYCLOHEXANONE                | D          | D        | D        | C    | D            | D             | A     | D      | D         | B       | B        | B         | A/73                | B                     | A      | A     | D            | D             | D     | B/70  |
| CYANIC ACID                  | C          | D        | D        | A    | D            | -             | A     | D      | B         | -       | -        | D         | -                   | A                     | D      | -     | -            | -             | -     | -     |
| DECALIN (DEKLIN)             | D          | D        | D        | D    | D            | -             | A     | A      | C         | -       | -        | -         | -                   | -                     | -      | -     | -            | B/120         | -     | A/175 |
| DECANE                       | B          | B        | D        | D    | B            | -             | A     | A      | B         | -       | -        | -         | -                   | -                     | -      | -     | -            | A/70          | -     | A     |
| DENATURED ALCOHOL            | A          | A        | A        | A    | D            | -             | A     | B      | B         | A       | A        | A         | -                   | A                     | A      | -     | -            | A             | -     | A     |
| DETERGENTS                   | A          | B        | B        | A    | B            | B             | A     | A      | B         | B       | A        | A         | A/200               | A                     | A      | A/72  | -            | A             | A     | A     |
| DEVELOPING FLUIDS            | A          | -        | A        | B    | D            | D             | A     | A      | A         | A       | -        | D         | -                   | A                     | A      | -     | -            | -             | -     | -     |
| DIACETONE                    | D          | D        | D        | A    | D            | C             | A     | D      | B         | A       | A        | A         | A/100               | A                     | A      | A/72  | A            | B             | D     | A/70  |
| DIBENZYL ETHER               | D          | -        | D        | C    | B            | -             | A     | C      | C         | B       | B        | B         | -                   | B                     | -      | -     | -            | -             | -     | C     |

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|---------------------------------|------------|----------|----------|-------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|--------|-------|--------------|---------------|------|-------|
|                                 | BUNA-N     | GEOLAST® | NEOPRENE | EPDM  | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC  | PVDF  |
| DIBENZYL SEBECATE               | D          | D        | D        | B     | D            | -             | A    | B      | C         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -    | -     |
| DIBUTYL AMINE                   | C          | D        | D        | D     | -            | -             | A    | B      | C         | -       | -        | -         | -                   | -                     | -      | -     | -            | D             | -    | B     |
| DIBUTYL ETHER                   | D          | D        | D        | C     | B            | -             | A    | C      | B         | -       | B        | B         | -                   | B                     | -      | -     | -            | D             | -    | A/20  |
| DIBUTYL PHTHALATE               | D          | D        | D        | A     | C            | A             | A    | B      | B         | A       | A        | A         | -                   | A                     | -      | A     | -            | B             | -    | D     |
| DIBUTYL SEBECATE                | D          | D        | D        | B     | D            | A             | A    | B      | B         | -       | -        | A         | A/200               | A                     | -      | -     | -            | B/72          | -    | D     |
| DICHLOROBENZENE                 | D          | -        | D        | D     | D            | -             | A    | C      | -         | A/72    | B/72     | -         | -                   | B/72                  | -      | D     | -            | C/72          | D    | A     |
| O-DICHLOROBENZENE               | D          | D        | D        | D     | D            | D             | A    | A      | D         | A       | D        | B         | -                   | B                     | B      | -     | -            | B             | -    | A/150 |
| DICHLORO-ISOPROPYL ETHER        | D          | D        | D        | C     | B            | D             | A    | C      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | D             | -    | -     |
| DICYCLOHEXYLAMINE               | D          | D        | D        | D     | D            | -             | A    | D      | B         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -    | -     |
| DIESEL FUEL                     | A          | B        | D        | D     | C            | B             | A    | A      | D         | A       | A        | A         | A/200               | A                     | A      | A     | -            | B/70          | A/72 | A     |
| DIETHYL BENZENE                 | D          | D        | D        | D     | D            | -             | A    | A      | C         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -    | -     |
| DIETHYL ETHER                   | D          | D        | D        | D     | A            | C             | A    | D      | B         | B       | B        | B         | A/200               | B                     | A      | A/72  | -            | D             | D    | A/70  |
| DIETHYL SEBECATE                | D          | D        | D        | B     | D            | A             | A    | A      | B         | A       | A        | A         | -                   | A                     | -      | -     | -            | A/120         | -    | A/120 |
| DIETHYLAMINE                    | C          | C        | B        | B     | C            | -             | A    | D      | C         | A       | B        | D         | A/73                | B                     | -      | -     | A            | D             | A    | A/70  |
| DIETHYLENE GLYCOL               | A          | A        | A        | A     | D            | A             | A    | A      | A         | A       | A        | A         | A/70                | A                     | D      | A/72  | B/120        | A             | C/72 | A     |
| DIISOBUTYLENE                   | B          | C        | C        | D     | D            | D             | A    | A      | C         | -       | B        | B         | -                   | B                     | A      | -     | -            | A/120         | -    | A     |
| DIISOPROPYL BENZENE             | D          | D        | D        | D     | -            | D             | A    | A      | C         | -       | -        | -         | -                   | -                     | A      | -     | -            | -             | -    | -     |
| DIISOPROPYL KETONE              | D          | D        | D        | A     | D            | -             | A    | D      | C         | -       | -        | -         | A/73                | A                     | A      | -     | -            | -             | -    | A     |
| DIMETHYL ANILINE                | D          | D        | D        | B     | D            | -             | A    | C      | B         | B       | A        | -         | A/200               | B/120                 | D      | A     | -            | A             | D    | A/70  |
| DIMETHYL FORMAMIDE              | C          | C        | D        | B     | D            | B             | A    | D      | A         | A       | A        | A         | A/100               | A                     | C      | A     | A            | A             | D    | D     |
| DIMETHYL PHTHALATE              | D          | D        | D        | B     | D            | A             | A    | A      | A         | A       | A        | A         | A/200               | A                     | -      | C     | -            | A             | -    | A/70  |
| DINITROTOLUENE                  | D          | -        | D        | D     | D            | -             | A    | C      | B         | -       | -        | -         | -                   | A                     | -      | -     | -            | -             | -    | C     |
| DIISOCTYL PHTHALATE             | D          | -        | -        | B     | C            | -             | A    | C      | C         | -       | A        | A         | A/200               | A                     | B      | A     | -            | -             | -    | -     |
| DIISOCTYL SEBECATE              | C          | -        | D        | C     | B            | -             | A    | B      | D         | -       | -        | -         | -                   | -                     | B      | -     | -            | -             | -    | -     |
| DIOXANE                         | D          | -        | D        | D     | D            | -             | A    | D      | D         | -       | A        | A         | A/150               | A                     | -      | A     | -            | C/120         | -    | -     |
| DIOXOLANE                       | D          | -        | D        | B     | D            | -             | A    | B      | C         | -       | -        | -         | -                   | -                     | B      | -     | -            | -             | -    | C     |
| DIPENTENE                       | A          | C        | D        | D     | D            | -             | A    | A      | C         | A       | A        | A         | -                   | A                     | -      | -     | -            | -             | -    | -     |
| DIPHENYL                        | D          | D        | D        | D     | D            | -             | A    | A      | C         | A       | A        | A         | -                   | A                     | -      | -     | -            | D             | -    | A/120 |
| DIPHENYL OXIDE                  | D          | D        | D        | D     | D            | -             | A    | A      | C         | B       | B        | A         | -                   | A                     | D      | -     | -            | D             | D    | A     |
| DOWTHERM OIL                    | D          | -        | D        | D     | B            | B             | A    | A      | D         | -       | C        | B         | A/200               | A                     | -      | A     | -            | B             | -    | -     |
| DRY CLEANING FLUIDS             | C          | D        | D        | D     | C            | -             | A    | A      | D         | -       | A        | A         | -                   | A                     | -      | -     | -            | D             | -    | A     |
| DYES                            | -          | -        | C        | -     | D            | -             | -    | A      | B         | -       | B        | -         | -                   | A                     | C      | A     | -            | -             | B    | -     |
| EPICHLOROHYDRINE                | D          | D        | D        | C     | D            | D             | A    | D      | B         | A       | D        | A         | A/200               | A                     | A      | A     | -            | A             | -    | C     |
| EPSOM SALTS (MAGNESIUM SULFATE) | A          | A        | A        | A     | D            | -             | A    | A      | A         | B       | A        | A         | A                   | A                     | B      | A/72  | A/120        | A             | A/72 | A     |
| ETHANE                          | A          | C        | B/70     | D     | C            | -             | A    | A      | C         | A       | A        | A         | -                   | A                     | A      | D     | -            | C             | A/72 | A     |
| ETHANOLAMINE                    | B          | B        | B        | B     | C            | -             | A    | D      | A         | B       | B        | B         | -                   | A                     | D      | A     | -            | B             | D    | C     |
| ETHER                           | D          | D        | D        | C     | D            | -             | A    | D      | C         | B       | A        | C         | A/200               | A                     | A      | A     | D            | C             | D    | A/70  |
| ETHYL ACETATE                   | D          | D        | D        | B     | D            | B             | A    | D      | A         | B       | B        | A         | A/150               | A                     | A/120  | A/120 | C            | A             | D    | A     |
| ETHYL ACETOACETATE              | D          | D        | D        | A     | C            | D             | A    | D      | B         | A       | A        | A         | A/73                | A                     | A      | -     | -            | -             | -    | A/70  |
| ETHYL ACRYLATE                  | D          | D        | D        | B     | D            | -             | A    | D      | C         | A       | A        | A         | A/150               | A                     | A      | -     | -            | D             | -    | C     |
| EHTYL ALCOHOL (ETHANOL)         | A          | -        | A        | A     | D            | A             | A    | A      | A         | A       | B        | A         | -                   | A                     | A      | A/72  | -            | A             | C    | A     |
| ETHYL BENZENE                   | D          | D        | D        | D     | D            | -             | A    | A      | D         | A       | A        | B         | -                   | B                     | A      | -     | -            | D             | -    | C     |
| ETHYL BENZOATE                  | D          | D        | D        | D     | D            | -             | A    | A      | C         | A       | A        | A         | -                   | A                     | A      | -     | C/120        | B/70          | D    | D     |
| ETHYL CELLOSOLVE                | D          | D        | D        | B     | D            | -             | A    | D      | B         | -       | -        | -         | -                   | -                     | A      | -     | -            | -             | -    | -     |
| ETHYL CELLULOSE                 | B          | B        | B        | B     | B            | B             | A    | D      | A         | B       | B        | A         | -                   | B                     | A      | -     | -            | -             | -    | -     |
| ETHYL CHLORIDE                  | A          | C        | D        | A/140 | C            | C             | A    | A      | D         | B       | D        | C         | A                   | A                     | A      | A/72  | C/70         | D             | D    | A     |
| ETHYL CHLOROCARBONATE           | D          | -        | D        | D     | D            | D             | A    | A      | A         | -       | D        | A         | -                   | -                     | A      | -     | -            | -             | -    | -     |
| ETHYL CHLOROFORMATE             | D          | -        | D        | D     | D            | D             | A    | A      | C         | -       | D        | -         | -                   | -                     | A      | -     | -            | D             | -    | -     |
| ETHYL ETHER                     | D          | D        | D        | D     | D            | -             | A    | D      | D         | B       | B        | B         | A/150               | A                     | A/70   | A/72  | D            | C/70          | D    | B/170 |
| ETHYL FORMATE                   | D          | D        | B        | B     | -            | D             | A    | A      | B         | B       | C        | A         | A/120               | B                     | A      | -     | -            | -             | -    | -     |
| ETHYL MERCAPTAN                 | D          | D        | D        | D     | -            | -             | A    | B      | C         | B       | B        | A         | -                   | B                     | -      | -     | -            | -             | -    | -     |
| ETHYL OXALATE                   | D          | D        | D        | A     | A            | D             | A    | B      | B         | -       | A        | -         | -                   | -                     | -      | -     | -            | -             | -    | -     |

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|                          | BUNA-N     | GEOLAST® | NEOPRENE | EPDM  | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| ETHYL PENTOCHLOROBENZENE | D          | D        | D        | D     | C            | -             | A    | A      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | D             | -     | -     |
| ETHYL SILICATE           | A          | B        | A        | A     | -            | B             | A    | A      | B         | A       | B        | A         | -                   | A                     | -      | -     | -            | -             | -     | -     |
| ETHYL SULFATE            | D          | D        | A        | A     | D            | -             | A    | D      | B         | -       | -        | -         | -                   | D                     | -      | -     | -            | -             | -     | -     |
| ETHYLENE                 | A          | B        | C        | D     | -            | D             | A    | A      | C         | -       | A        | A         | -                   | A                     | A      | -     | -            | -             | -     | -     |
| ETHYLENE BROMIDE         | D          | -        | C        | C     | D            | -             | A    | A      | -         | B       | B        | A         | -                   | A                     | -      | -     | -            | D             | D     | A     |
| ETHYLENE CHLORIDE        | D          | D        | D        | C     | D            | C             | A    | C      | D         | B       | B        | C         | A                   | A                     | A      | A     | D            | C/70          | D     | A     |
| ETHYLENE CHLOROHYDRIN    | D          | D        | B        | B     | D            | D             | A    | A      | C         | B       | B        | B         | A/73                | B                     | C/70   | D     | D            | D             | D     | A/70  |
| ETHYLENE DIAMINE         | B          | B        | A        | A     | D            | -             | A    | D      | A         | C       | A        | A         | A/73                | A                     | A      | D     | A            | A             | D     | B/70  |
| ETHYLENE DICHLORIDE      | D          | D        | D        | C     | D            | C             | A    | B      | C         | A       | B        | A         | A/73                | A                     | A      | A/72  | D            | D             | D     | A     |
| ETHYLENE GLYCOL          | A          | A        | A        | A     | B            | A/70          | A    | A      | A         | A       | B        | B         | A                   | A                     | B      | A     | A            | A             | A     | A     |
| ETHYLENE OXIDE           | D          | D        | D        | B     | D            | A             | A    | D      | A         | A       | D        | C         | A                   | A                     | A      | A/72  | A            | C/125         | D     | A/70  |
| ETHYLENE TRICHLORIDE     | D          | -        | D        | D     | D            | -             | A    | A      | D         | -       | D        | A         | -                   | A                     | -      | -     | -            | D             | -     | A     |
| FATTY ACIDS              | B          | C        | B/70     | D     | B            | D             | A    | A      | B         | A       | B        | D         | A                   | A                     | B      | A/72  | D            | B/140         | A     | A     |
| FERRIC CHLORIDE          | A/150      | A        | A/140    | A/176 | A            | B/140         | A    | A/176  | A         | B       | D        | D         | A                   | D                     | D      | A     | A/70         | A             | A     | A     |
| FERRIC NITRATE           | A          | A        | B        | A     | A            | D             | A    | A      | A         | A       | D        | D         | A                   | A                     | A      | A/72  | A/120        | A             | A     | A     |
| FERRIC SULFATE           | A          | B        | A        | A     | B            | A             | A    | A      | A         | A/72    | D        | D         | A                   | A                     | B      | A/72  | A/120        | A             | A     | A     |
| FERROUS CHLORIDE         | B          | B        | A        | A     | B            | A             | A    | A      | A         | B       | D        | D         | A                   | D                     | B      | D     | A/120        | A             | A     | A     |
| FERROUS SULFATE          | B          | B        | A        | A     | A            | A             | A    | A      | A         | B       | D        | D         | A                   | A                     | B/70   | D     | A/120        | A             | A     | A     |
| FISH OIL                 | A          | A        | B        | D     | -            | B             | A    | A      | B         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| FLUOBORIC ACID           | A          | B        | A        | A     | D            | D             | A    | A      | A         | A       | D        | D         | A/73                | B                     | A      | D     | A/120        | A             | A     | A     |
| FLUORINE (LIQUID)        | D          | D        | D        | A/72  | D            | D             | D    | C      | D         | B/72    | A        | D         | A                   | A                     | A      | D     | C            | D             | D     | A/72  |
| FLUOROBENZENE            | D          | D        | D        | D     | -            | -             | A    | A      | C         | -       | D        | -         | A                   | -                     | A      | -     | -            | D             | -     | -     |
| FLUOROCARBON OILS        | -          | -        | A        | A     | -            | -             | A    | -      | D         | A       | D        | A         | -                   | A                     | -      | -     | D            | D             | -     | -     |
| FLUOROLUBE               | A          | -        | A        | A     | -            | D             | A    | B      | D         | A       | A        | A         | -                   | A                     | -      | -     | -            | D             | -     | -     |
| FLUORINATE CYCLIC ETHERS | D          | -        | D        | A     | -            | -             | A    | A      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | D             | -     | -     |
| FLUOSILICIC ACID         | A          | A        | A        | B     | D            | B             | A    | A/140  | A         | B       | D        | D         | A                   | B                     | A      | D     | A            | A             | D     | A/72  |
| FORMALDEHYDE             | C          | C        | B        | A     | D            | B             | A    | A      | A/70      | B       | A        | D         | A/200               | A                     | A      | D     | A            | A             | A     | A/120 |
| FORMIC ACID              | D          | D        | D        | B     | D            | B             | A    | B      | A         | A       | D        | D         | A/250               | A                     | D      | D     | D            | A             | A/72  | A     |
| FREON 11                 | A          | C        | B        | D     | D            | A             | A    | C      | B         | A       | C        | A         | A/150               | A                     | A      | D     | C            | D             | A/120 | A     |
| FREON 12 (WET)           | A          | C        | A        | B     | A            | A             | A    | B      | D         | A       | A        | A         | A/150               | A                     | A      | A/72  | A/70         | B             | A/120 | A     |
| FREON 13                 | A          | D        | A        | A     | -            | C             | A    | A      | D         | A       | A        | A         | -                   | A                     | A      | -     | -            | D             | -     | A     |
| FREON 21                 | D          | D        | D        | D     | -            | A             | A    | D      | D         | -       | D        | -         | A/150               | -                     | A      | -     | -            | D             | -     | A     |
| FREON 22                 | D          | D        | A        | A     | D            | D             | A    | D      | D         | A       | D        | D         | A/150               | A                     | A      | B     | -            | D             | A     | A     |
| FREON 31                 | D          | D        | A        | A     | -            | A             | A    | D      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 32                 | A          | D        | A        | A     | -            | A             | A    | D      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 112                | B          | B        | B        | D     | -            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 113                | A          | D        | A        | D     | B            | A             | A    | B      | D         | A       | D        | -         | A/150               | A                     | A      | -     | -            | D             | B     | A     |
| FREON 114                | A          | B        | A        | D     | A            | A             | A    | A      | D         | -       | C        | -         | A/150               | A                     | A      | -     | -            | D             | -     | A     |
| FREON 15                 | A          | -        | A        | A     | -            | A             | A    | B      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 142B               | A          | -        | A        | A     | -            | A             | A    | D      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 152A               | A          | -        | A        | A     | -            | A             | A    | D      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 218                | A          | -        | A        | A     | -            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON C316               | A          | -        | A        | A     | -            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON C318               | A          | -        | A        | A     | -            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 13 B1              | A          | D        | A        | A     | A            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 114B2              | A          | -        | A        | D     | -            | A             | A    | B      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON 502                | B          | -        | A        | A     | -            | D             | A    | B      | D         | -       | D        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| FREON TF                 | A          | -        | A        | D     | B            | A             | A    | B      | D         | A       | D        | A         | -                   | A                     | A      | D     | -            | D             | B     | B     |
| FREON T-WD602            | B          | -        | B        | B     | A            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| FREON TMC                | B          | -        | B        | B     | B            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| FREON T-P35              | A          | -        | A        | A     | A            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| FREON TA                 | A          | -        | A        | A     | A            | A             | A    | C      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |

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|-----------------------------------|------------|----------|----------|------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|--------|-------|--------------|---------------|-------|-------|
|                                   | BUNA-N     | GEOLAST® | NEOPRENE | EPDM | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| FREON TC                          | A          | -        | A        | B    | A            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| FREON MF                          | A          | -        | D        | D    | C            | A             | A    | D      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| FREON BF                          | A          | -        | B        | D    | -            | A             | A    | A      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| FRUIT JUICE                       | A          | -        | A        | -    | A            | -             | A    | A      | A         | A       | A        | D         | A/150               | A                     | D      | A     | A            | B             | A     | A     |
| FUEL OIL                          | A          | B        | A        | D    | D            | B             | A    | A      | C         | A       | A        | A         | A                   | A                     | B      | A/72  | B            | A             | A/120 | A     |
| FUMARIC ACID                      | A          | -        | B        | B    | -            | B             | A    | A      | A         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| FURAN, FURFURAN                   | D          | D        | D        | D    | -            | -             | A    | D      | A         | -       | A        | A         | -                   | A                     | -      | -     | -            | C             | -     | D     |
| FURAN RESIN                       | D          | -        | D        | C    | D            | -             | A    | D      | C         | B       | A        | -         | -                   | A                     | D      | -     | D            | D             | A     | D     |
| FURFURAL                          | D          | D        | C        | A    | D            | B             | A    | D      | A         | B       | A        | B         | A/200               | A                     | B      | B     | D            | D             | D     | B/120 |
| GALLIC ACID                       | B          | D        | B        | B    | D            | D             | A    | A      | B         | B       | A        | D         | A/150               | B                     | -      | A     | A            | A             | B     | A/70  |
| GASOLINE - LEADED                 | A          | C        | D        | D    | C            | A             | A    | A      | C         | A       | A        | A         | A                   | A                     | A      | A/120 | -            | D             | B     | A     |
| GASOLINE - UNLEADED               | D          | D        | D        | D    | D            | -             | A    | A      | C         | A       | A        | A         | A                   | A                     | A      | A/120 | -            | D             | C/120 | A     |
| GELATINE                          | A          | A        | A        | A    | D            | B             | A    | A      | A         | A       | A        | D         | A/250               | A                     | B      | A/72  | A/120        | A             | B     | A     |
| GLUCOSE                           | A          | A        | A        | A    | D            | B             | A    | A      | A         | A       | A        | B         | A                   | A                     | A      | A/120 | A            | A/120         | A     | A     |
| GLUE P.V.A.                       | A          | D        | A        | A    | A            | A             | A    | A      | A         | A       | B        | A         | -                   | A                     | B      | A/72  | A/70         | A             | C     | A     |
| GLYCERINE                         | A          | A        | A        | A    | D            | A             | A    | A      | A         | A       | A        | B         | A                   | A                     | A      | A/72  | A            | A             | A     | A     |
| GLYCOLIC ACID                     | A          | A        | A        | A    | D            | -             | A    | A      | -         | A       | -        | -         | A/150               | -                     | A      | -     | A/120        | A             | B     | A/70  |
| GLYCOLS                           | A          | -        | A        | A    | B            | -             | A    | A      | A         | -       | B        | B         | A                   | B                     | A      | B/70  | -            | A             | -     | A     |
| GOLD MONOCYANIDE                  | A          | -        | A        | -    | -            | -             | D    | A      | A         | -       | -        | D         | -                   | A                     | A      | -     | -            | -             | -     | A     |
| GRAPE JUICE                       | A          | A        | A        | A    | D            | -             | A    | A      | A         | -       | B        | D         | -                   | A                     | B      | A     | B            | A             | A     | A     |
| GREASE                            | A          | A        | D        | D    | A            | A             | A    | A      | D         | A       | A        | A         | -                   | A                     | A      | -     | -            | A             | A     | A     |
| GREEN SULFATE LIQUOR              | B          | B        | B        | A    | D            | D             | A    | A      | A         | B       | B        | C         | -                   | A                     | -      | B/72  | -            | A             | B     | -     |
| HALOWAX OIL                       | D          | D        | D        | D    | -            | -             | A    | A      | D         | -       | D        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| HEPTANE                           | A          | B        | A        | D    | -            | B             | A    | A      | C         | A       | A        | A         | A                   | A                     | A      | A     | -            | B/70          | C/72  | A     |
| HEXANE                            | A          | B        | D        | D    | B            | A             | A    | A      | C         | A       | A        | A         | A                   | A                     | A      | B     | D            | B/70          | B/72  | A     |
| N-HEXALDEHYDE                     | D          | D        | A        | A    | B            | D             | A    | D      | C         | -       | A        | A         | -                   | A                     | -      | -     | -            | -             | -     | -     |
| N-HEXENE-1                        | A          | -        | B        | D    | A            | -             | A    | A      | C         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| HONEY                             | A          | -        | -        | A    | -            | -             | A    | A      | A         | A       | A        | A         | -                   | A                     | A      | A     | B            | A             | A     | A     |
| HYDRAULIC OILS (PETROLEUM)        | A          | A        | B        | D    | -            | A             | A    | A      | D         | A       | A        | A         | A/100               | A                     | B      | A/72  | C            | D             | A     | A     |
| HYDRAULIC OILS (SYNTHETIC)        | D          | D        | D        | D    | -            | A             | A    | A      | D         | A       | A        | A         | A/100               | A                     | B      | A/72  | A            | D             | A     | A     |
| HYDRAZINE                         | B          | D        | B        | A    | D            | D             | A    | D      | A         | A       | A        | D         | -                   | A                     | B      | -     | -            | C             | -     | A/120 |
| HYDROBROMIC ACID                  | D          | D        | D        | A    | D            | -             | A    | A      | B         | A       | D        | D         | A                   | D                     | D      | D     | -            | B             | A/72  | A     |
| HYDROCHLORIC ACID (20%)           | D          | D        | D        | A    | B            | D             | A    | A      | A         | A       | D        | D         | A/200               | D                     | D      | D     | A            | A             | A/120 | A     |
| HYDROCHLORIC ACID (37%) (HOT)     | D          | D        | D        | C    | C            | D             | A    | A      | C         | D       | D        | D         | -                   | D                     | D      | D     | B/120        | -             | -     | A     |
| HYDROCHLORIC ACID (37%) (COLD)    | B          | C        | D        | B    | C            | D             | A    | A      | B         | A       | D        | D         | -                   | D                     | D      | D     | B/120        | A             | -     | A     |
| HYDROCYANIC ACID                  | B          | D        | B        | A    | D            | D             | A    | A      | A         | A       | A        | D         | A                   | A                     | D      | B     | A/120        | A             | B     | A     |
| HYDROFLUORIC ACID (20%)           | D          | D        | D        | B    | D            | D             | A    | A      | D         | D       | D        | D         | A/250               | D                     | D      | C/72  | B            | A             | B     | A     |
| HYDROFLUORIC ACID (50%)           | D          | D        | D        | B    | D            | D             | A    | A      | D         | D       | D        | D         | A/250               | D                     | D      | D     | A/70         | B/70          | B/72  | A     |
| HYDROFLUORIC ACID (75%)           | D          | D        | D        | D    | D            | D             | A    | D      | D         | D       | D        | D         | A                   | D                     | D      | D     | C/70         | B/70          | C     | A     |
| HYDROFLUORIC ACID (CONC-) (HOT)   | D          | D        | D        | -    | D            | D             | A    | B      | D         | D       | D        | D         | -                   | D                     | D      | D     | D            | D             | -     | A     |
| HYDROFLUORIC ACID (CONC-) (COLD)  | D          | D        | D        | D    | D            | D             | A    | D      | D         | D       | D        | D         | -                   | D                     | D      | D     | D            | D             | -     | A     |
| HYDROFLUOSILICIC ACID (20%)       | B          | D        | B        | A    | D            | B             | A    | A      | B         | B       | D        | D         | -                   | D                     | -      | D     | B/120        | A             | A/120 | A     |
| HYDROGEN FLUORIDE                 | D          | -        | -        | B/70 | -            | D             | B/70 | A      | -         | A       | D        | -         | -                   | D                     | -      | -     | -            | A/70          | -     | -     |
| HYDROGEN GAS                      | A          | A        | A        | B    | A            | A             | A    | A      | A         | -       | -        | -         | A                   | -                     | -      | A/120 | A/120        | A             | A/120 | A     |
| HYDROGEN PEROXIDE                 | B          | D        | D        | C    | D            | D             | A    | A      | A         | A       | A        | D         | A/150               | A                     | D      | D     | -            | A/70          | A     | A/70  |
| HYDROGEN PEROXIDE (10%)           | D          | -        | D        | A    | B            | -             | A    | A      | -         | A       | A        | C         | A                   | B                     | D      | C/72  | A            | A             | A/72  | A     |
| HYDROGEN PEROXIDE (50%)           | D          | -        | D        | B    | D            | -             | A    | A      | -         | A       | A        | -         | A                   | A/120                 | D      | D     | -            | B/72          | A/72  | A/72  |
| HYDROGEN SULFIDE (WET)            | D          | D        | A        | A    | B            | A             | A    | D      | A         | A       | D        | D         | -                   | A                     | C      | C     | A            | A             | -     | A     |
| HYDROGEN SULFIDE (DRY)            | A          | -        | A        | A    | -            | A             | A    | D      | A         | A       | B        | D         | -                   | B                     | A      | D     | A            | A             | -     | A     |
| HYDROGEN SULFIDE AQUEOUS SOLUTION | D          | D        | A        | B    | D            | -             | A    | D      | A         | A       | B        | D         | A/150               | A                     | C      | C/72  | A            | A/72          | B/72  | A     |
| HYDROQUINONE                      | D          | D        | D        | D    | -            | -             | A    | C      | A         | B       | A        | B         | A/250               | B                     | A      | D     | A            | A             | B     | A     |
| HYDROXYACETIC ACID (70%)          | A          | A        | A        | A    | D            | -             | A    | A      | A         | -       | D        | B         | -                   | B                     | C      | -     | -            | -             | D     | A     |

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|-------------------------------------|------------|----------|----------|-------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|----------|-------|--------------|---------------|-------|-------|
|                                     | BUNA-N     | GEOLAST® | NEOPRENE | EPDM  | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL   | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| HYPOCHLOROUS ACID                   | D          | D        | D        | B     | -            | -             | A    | A      | A         | A       | D        | D         | A                   | D                     | D        | -     | -            | A             | -     | A     |
| INK                                 | A          | A        | A        | A     | A            | A             | A    | A      | A         | A       | C        | D         | -                   | A                     | A        | C     | -            | -             | C     | A     |
| IODINE (IN ALCOHOL)                 | B          | B        | D        | B     | -            | B             | A    | A      | A         | B       | D        | D         | A/150               | D                     | A        | C     | D            | A             | A     | A/150 |
| IODINE PENTAFLUORIDE                | D          | D        | D        | D     | D            | -             | A    | D      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| ODOFORM                             | D          | -        | B        | B     | -            | -             | A    | A      | B         | D       | B        | A         | -                   | B                     | -        | -     | -            | -             | A     | A     |
| ISOBUTYL ALCOHOL                    | B/80       | -        | A/80     | A/160 | D            | -             | A    | A/75   | A         | A       | B        | C         | -                   | A                     | A        | A/72  | -            | A/70          | A/72  | A     |
| ISOCTANE                            | A          | C        | B        | A/70  | B            | A/158         | A    | A      | C         | A       | A        | A/70      | A/73                | A/70                  | -        | A/72  | B            | A/120         | A/72  | A/70  |
| ISOTANE                             | A          | -        | D        | -     | -            | -             | -    | A      | D         | -       | D        | -         | -                   | -                     | -        | D     | -            | D             | A     | A     |
| ISOPHORONE                          | D          | D        | D        | A     | B            | -             | A    | D      | B         | A       | A        | A         | -                   | A                     | -        | -     | -            | -             | -     | -     |
| ISOPROPYL ACETATE                   | D          | D        | D        | B     | D            | C             | A    | D      | B         | B       | B        | A         | -                   | A                     | A        | B/72  | B/70         | A             | D     | D     |
| ISOPROPYL CHLORIDE                  | D          | D        | D        | D     | D            | -             | A    | A      | C         | -       | D        | A         | -                   | A                     | A        | -     | -            | D             | -     | -     |
| ISOPROPYL ETHER                     | B          | B        | D        | D     | B            | -             | A    | D      | C         | A       | A        | -         | A/73                | A                     | A        | A/72  | B            | B/70          | B     | D     |
| JET FUEL (JP3, JP4, JP5)            | A          | C        | D        | D     | C            | -             | A    | A      | C         | A       | A        | A         | A                   | A                     | A/72     | C     | D            | A/72          | C     | B     |
| KEROSENE                            | A          | A        | A        | D     | B            | A             | A    | A      | C         | B       | A        | A         | A                   | A                     | A        | A     | C/70         | B/72          | A/120 | A     |
| KETONES                             | D          | D        | D        | A     | D            | D             | A    | D      | C         | A       | B        | -         | A/200               | A                     | A        | A/120 | C/70         | D             | D     | A/70  |
| LACQUERS                            | D          | D        | D        | D     | D            | D             | A    | D      | C         | A       | A        | C         | A/70                | A                     | A        | A/72  | A            | C             | D     | D     |
| LACQUER SOLVENTS                    | D          | D        | D        | D     | D            | B             | A    | D      | C         | A       | A        | B         | A/70                | A                     | A        | A/72  | A            | C             | D     | D     |
| LACTIC ACID                         | A          | B        | A        | A     | B            | D             | A    | A      | A         | B       | C        | D         | A/300               | A                     | A        | B     | A            | A             | B/72  | A/70  |
| LARD                                | A          | -        | A        | B     | C            | B             | A    | A      | B         | A       | A        | A         | A                   | A                     | A        | A/72  | A            | B             | A/72  | A     |
| LATEX - WATER BASE                  | A          | A        | A        | A     | D            | -             | A    | A      | A         | -       | A        | -         | -                   | A                     | A        | A/72  | -            | A             | -     | A     |
| LAVENDER OIL                        | B          | B        | D        | D     | D            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| LEAD ACETATE                        | B          | B        | B        | A     | D            | -             | A    | A      | A         | B       | D        | A         | A                   | B                     | A        | A     | A            | A             | B     | A     |
| LEAD NITRATE                        | A          | -        | A        | A     | D            | -             | A    | A      | -         | B       | D        | B         | B                   | B                     | -        | -     | -            | A             | A/120 | A     |
| LEAD SULFAMATE                      | B          | B        | A        | A     | -            | -             | A    | A      | A         | -       | C        | -         | -                   | C                     | A        | B/72  | A/70         | A             | B     | A     |
| LIGROIN                             | A          | B        | B        | D     | C            | -             | A    | A      | B         | -       | D        | A         | -                   | A                     | B        | D     | A            | B/175         | -     | A     |
| LIME                                | A          | A        | A        | A     | B            | A             | A    | A      | A         | -       | C        | A         | -                   | A                     | B        | A/72  | A            | B             | B     | A     |
| LIME BLEACH                         | A          | B        | B        | A     | -            | -             | A    | A      | A         | -       | D        | -         | -                   | A                     | -        | -     | -            | B             | -     | -     |
| LIME SULFUR                         | A          | -        | A        | A     | -            | -             | A    | A      | B         | -       | D        | -         | A/150               | A                     | -        | B/70  | -            | A             | -     | A     |
| LINDOL (TRICRESYLPHOSPHATE)         | D          | D        | D        | A     | D            | -             | A    | B      | A         | A       | D        | B         | -                   | B                     | -        | A/120 | -            | A/72          | D     | D     |
| LINOLEIC ACID                       | B          | B        | D        | D     | -            | -             | A    | B      | B         | A       | A        | -         | -                   | A                     | -        | -     | A            | A             | A/120 | A     |
| LIQUEFIED PETROLEUM GAS             | A          | D        | C        | D     | A            | B             | A    | A      | C         | A       | -        | -         | -                   | -                     | A        | -     | -            | D             | -     | -     |
| LUBRICANTS                          | A          | A        | D        | D     | B            | A             | A    | A      | B         | A       | A/120    | A         | -                   | A/120                 | -        | A/72  | D            | A/72          | B/120 | A     |
| LUBRICATING OILS (PETROLEUM)        | A          | B        | B/150    | D     | B            | A             | A    | A      | D         | A       | A        | A         | -                   | A                     | A        | A/72  | C            | C             | -     | A     |
| LYE                                 | D          | D        | A        | A     | C            | C             | A    | B      | A         | -       | -        | -         | -                   | A                     | D        | A/70  | -            | A             | B     | A/150 |
| MAGNESIUM CARBONATE                 | A          | A        | A        | B     | B            | -             | A    | A      | A         | B       | D        | B         | A                   | A                     | A        | -     | B            | A             | B     | A     |
| MAGNESIUM CHLORIDE                  | A          | A        | A        | A     | A            | B             | A    | A      | A         | A       | D        | D         | A                   | D                     | B        | A/72  | A            | A             | B     | A     |
| MAGNESIUM HYDROXIDE                 | A          | B        | A        | A     | D            | B             | A    | A      | A         | A       | D        | B         | A                   | A                     | A        | B/72  | A/120        | A             | A/120 | A     |
| MAGNESIUM NITRATE                   | A          | A        | A        | A     | B            | -             | A    | A      | A         | A       | D        | D         | A                   | A                     | A        | A/72  | A/120        | A             | A/120 | A     |
| MAGNESIUM OXIDE                     | A          | A        | A        | A     | -            | -             | A    | A      | A         | A       | B        | A         | -                   | A                     | A        | -     | -            | -             | -     | -     |
| MAGNESIUM SULFATE                   | A          | B        | A        | A     | D            | B             | A    | A      | A         | B       | D        | C         | A                   | A                     | A        | A/72  | A/120        | B             | A/72  | A     |
| MALEIC ACID                         | C          | D        | D        | A     | D            | -             | A    | A      | A         | B       | B        | A         | A/250               | A                     | A        | A     | A            | B             | A/120 | A     |
| MALEIC ANHYDRIDE                    | D          | D        | D        | D     | -            | D             | A    | A      | A         | A       | A        | B         | -                   | A                     | A        | -     | D            | D             | -     | A     |
| MALIC ACID                          | A          | B        | B        | D     | -            | -             | A    | A      | A         | B       | B        | D         | A/250               | A                     | A        | A     | B/120        | B             | A/120 | A     |
| MASH                                | A          | A        | A        | A     | A            | -             | -    | A      | A         | -       | A        | -         | -                   | A                     | A        | A     | A            | -             | -     | -     |
| MAYONNAISE                          | A          | C        | A        | D     | D            | -             | A    | A      | A         | A       | D        | D         | -                   | A                     | A        | A     | D            | A             | D     | A     |
| MELAMINE                            | C          | C        | D        | A     | D            | -             | A    | A      | B         | A       | -        | D         | -                   | D                     | A        | A     | -            | A             | D     | -     |
| MERCURIC CHLORIDE (DILUTE SOLUTION) | A          | A        | A        | A     | A            | B             | A    | A      | A         | B       | D        | D         | A/250               | D                     | B        | D     | A            | A             | A     | A     |
| MERCURIC CYANIDE                    | A          | A        | B        | A     | -            | D             | A    | A      | A         | A       | D        | C         | A/250               | A                     | -        | A/120 | A            | A             | A     | A     |
| MERCUROUS NITRATE                   | B          | -        | B        | A     | -            | -             | A    | A      | -         | B       | D        | B         | -                   | B                     | -        | -     | -            | A             | A     | A     |
| MERCURY                             | A          | A        | A        | A     | A            | A             | A    | A      | A         | A       | C        | A         | A                   | A                     | A        | A/120 | A            | A             | A     | A     |
| MESITYL OXIDE                       | D          | D        | D        | B     | D            | -             | A    | D      | C         | A       | A        | A         | -                   | A                     | -        | B/120 | -            | A             | D     | -     |
| METHANE                             | A          | B        | B        | D     | C            | B             | A    | A      | C         | A       | A        | -         | A/250               | A                     | A        | A     | -            | B             | B     | A     |

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|-------------------------------------|------------|----------|----------|------|--------------|---------------|-------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|----------|-------|--------------|---------------|-------|-------|
|                                     | BUNA-N     | GEOLAST® | NEOPRENE | EPDM | POLYURETHANE | SANIFLEX™ TPE | PTFE  | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL   | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| METHANOL (METHYL ALCOHOL)           | A          | A        | A        | A    | D            | A             | A     | D      | A         | A       | B        | A         | A/70                | A                     | A        | B/72  | A/70         | A/120         | A/72  | A     |
| METHYL ACETATE                      | D          | D        | D        | B    | D            | C             | A     | D      | B         | A       | A        | A         | -                   | A                     | A        | A/120 | -            | C             | D     | B     |
| METHYL ACRYLATE                     | D          | D        | D        | B    | D            | -             | A     | D      | D         | -       | -        | A         | -                   | A                     | A        | -     | -            | D             | -     | B     |
| METHYL ACETONE                      | C          | D        | D        | A    | -            | -             | A     | D      | B         | A       | A        | A         | -                   | A                     | A        | A     | -            | D             | D     | D     |
| METHYL BROMIDE                      | B          | B        | A        | D    | D            | -             | A     | A      | D         | B       | D        | A         | A                   | A                     | A        | B/72  | C/70         | D             | D     | A     |
| METHYL BUTYL KETONE                 | D          | D        | D        | A    | D            | -             | A     | D      | C         | -       | A        | -         | -                   | A                     | A        | D     | -            | D             | A     | D     |
| METHYL CELLOSOLVE                   | C          | D        | B        | B    | D            | -             | A     | D      | B         | -       | A        | C         | A                   | B                     | A        | C     | -            | B             | D     | A     |
| METHYL CHLORIDE                     | D          | D        | D        | D    | D            | D             | A     | B      | D         | B       | D        | D         | A                   | A                     | A        | B/72  | D            | D             | D     | A     |
| METHYL CYCLOPENTANE                 | D          | D        | D        | -    | D            | -             | A     | A      | C         | -       | -        | -         | -                   | -                     | A        | -     | -            | -             | -     | -     |
| METHYL DICHLORIDE                   | D          | D        | D        | D    | -            | -             | A     | A      | D         | -       | D        | -         | -                   | -                     | A        | C     | -            | D             | A     | D     |
| METHYL ETHYL KETONE                 | D          | D        | D        | A    | D            | B             | A     | D      | B         | A       | B        | A         | A/150               | A                     | B        | A/72  | D            | C/125         | D     | D     |
| METHYL FORMATE                      | D          | D        | B        | B    | D            | -             | A     | D      | B         | A       | A        | B         | -                   | B                     | A        | D     | -            | -             | A/72  | A     |
| METHYL ISOBUTYL KETONE              | D          | -        | D        | B/72 | D            | B             | A     | D      | C         | A       | B        | C         | A/150               | B                     | A        | B/120 | C            | A             | D     | D     |
| METHYL ISOPROPYL KETONE             | D          | D        | D        | C    | D            | -             | A     | D      | C         | -       | A        | C         | -                   | A                     | A        | A     | D            | C             | D     | -     |
| METHYL METHACRYLATE                 | D          | D        | D        | D    | D            | -             | A     | D      | B         | -       | B        | C         | A/73                | A                     | A        | -     | -            | A             | A     | B     |
| METHYL OLEATE                       | D          | D        | D        | B    | -            | -             | A     | A      | C         | -       | -        | -         | -                   | -                     | A        | -     | -            | -             | -     | -     |
| METHYL SALICYLATE                   | D          | D        | D        | B    | -            | -             | A     | B      | B         | -       | A        | A         | -                   | -                     | A        | -     | -            | B             | -     | B     |
| METHYLACRYLIC ACID                  | D          | -        | C        | B    | -            | -             | A     | C      | A         | -       | -        | -         | -                   | -                     | A        | -     | -            | -             | -     | -     |
| METHYLAMINE                         | B          | B        | C        | A    | -            | -             | A     | D      | A         | B       | B        | A         | -                   | A                     | A        | -     | A/70         | A/120         | D     | C     |
| METHYLENE CHLORIDE                  | D          | D        | D        | C    | D            | D             | A     | B      | D         | A       | D        | B         | A/73                | A                     | A        | C/72  | D            | D             | D     | B     |
| MILK                                | A          | A        | A        | A    | D            | B             | A     | A      | A         | A       | A        | D         | A/150               | A                     | A        | A     | A            | A             | A/120 | A     |
| MOLASSES                            | A          | A        | A        | A    | B            | B             | A     | A      | A         | A       | A        | A         | A/150               | A                     | B        | A/72  | A            | A             | A     | A     |
| MONOCHLOROACETIC ACID               | D          | -        | A/72     | C    | D            | D             | A/120 | C      | D         | A/120   | D        | D         | -                   | A/72                  | B        | D     | -            | A             | -     | B/72  |
| MONOCHLOROBENZENE                   | D          | D        | D        | D    | D            | C             | A     | A      | D         | A       | D        | A         | A/100               | A                     | A        | D     | -            | D             | D     | A/150 |
| MONOMETHYL ANILINE                  | D          | D        | D        | D    | -            | D             | A     | B      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | C             | -     | -     |
| MONOETHANOLAMINE                    | B          | D        | B        | B    | D            | D             | A     | D      | A         | -       | B        | A         | -                   | A                     | D        | A     | C            | D             | D     | D     |
| MONOMETHYLETHER                     | A          | A        | B        | A    | -            | D             | A     | A      | C         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| MONOVINYL ACETYLENE                 | A          | -        | B        | A    | -            | -             | A     | A      | C         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| MUSTARD                             | B          | B        | A        | A    | B            | B             | A     | A      | A         | A       | B        | D         | -                   | A                     | A        | A     | A            | A             | B     | A     |
| NAPHTHA                             | A          | B        | D        | D    | C            | A             | A     | A      | C         | A       | A        | B         | A                   | A                     | A        | A     | A/70         | C             | A/72  | A     |
| NAPHTHALENE                         | D          | D        | D        | D    | B            | B             | A     | A      | C         | A       | B        | A         | A/150               | A                     | A        | A/72  | B            | B             | D     | A     |
| NAPHTHENIC ACID                     | B          | B        | D        | D    | -            | D             | A     | A      | B         | B       | B        | B         | -                   | A                     | A        | -     | -            | -             | -     | -     |
| NATURAL GAS                         | A          | A        | A        | D    | C            | B             | A     | A      | C         | -       | A        | A         | A/150               | A                     | A        | -     | A            | A             | A     | -     |
| NEATSFOOT OIL                       | A          | A        | D        | B    | -            | D             | A     | A      | B         | -       | A        | A         | -                   | A                     | B        | -     | -            | -             | -     | -     |
| NEVILLE ACID                        | D          | D        | D        | B    | -            | D             | A     | A      | A         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| NICKEL ACETATE                      | B          | B        | B        | A    | -            | -             | A     | D      | A         | -       | B        | -         | A/73                | A                     | -        | -     | -            | A             | -     | A     |
| NICKEL CHLORIDE                     | A          | A        | B        | A    | D            | D             | A     | A      | A         | A       | D        | D         | A                   | B                     | B        | C/72  | A            | A             | A     | A     |
| NICKEL NITRATE                      | A          | -        | A        | A    | -            | -             | A     | A      | A         | B       | D        | C         | -                   | A                     | D        | A/72  | -            | A             | A     | A     |
| NICKEL SULFATE                      | A          | A        | A        | A    | C            | D             | A     | A      | A         | B       | D        | D         | A                   | A                     | A        | A/72  | A            | A             | A     | A     |
| NITER CAKE                          | A          | B        | A        | A    | A            | C             | A     | A      | A         | B/120   | D        | D         | -                   | C                     | -        | A/72  | -            | A             | A/120 | A     |
| NITRIC ACID (5-10% SOLUTION)        | D          | D        | D        | B    | D            | B             | A     | A      | A         | A       | D        | D         | A                   | A                     | C        | D     | A            | A/120         | A/72  | A/120 |
| NITRIC ACID (20% SOLUTION)          | D          | D        | D        | B    | D            | D             | A     | A      | B         | B       | D        | D         | A                   | A                     | C        | D     | C            | B/70          | A/72  | A     |
| NITRIC ACID (50% SOLUTION)          | D          | D        | D        | D    | D            | D             | A     | A      | C         | A       | D        | D         | A/150               | A                     | C        | D     | B/70         | B/70          | B/72  | A/125 |
| NITRIC ACID (CONCENTRATED SOLUTION) | D          | D        | D        | D    | D            | D             | A     | A      | C         | B       | D        | D         | A/150               | A                     | C        | D     | A            | D             | B/72  | A/125 |
| NITRIC ACID - RED FUMING            | D          | -        | D        | D    | D            | D             | A     | B      | D         | B/70    | D        | D         | -                   | A                     | C        | D     | -            | D             | -     | D     |
| NITROBENZENE                        | D          | D        | D        | C    | D            | D             | A     | A      | B         | B       | C        | C         | A/150               | B                     | B        | B/72  | C/70         | B/70          | D     | A/70  |
| NITROBENZINE                        | -          | -        | D        | C    | -            | -             | A     | A      | B         | -       | -        | -         | -                   | -                     | B        | -     | -            | -             | -     | A     |
| NITRO ETHANE                        | D          | D        | C        | B    | -            | -             | A     | D      | A         | A       | A        | A         | -                   | A                     | B        | -     | -            | C             | -     | -     |
| NITROMETHANE                        | D          | D        | C        | B    | D            | D             | A     | D      | A         | A       | A        | A         | A/200               | A                     | B        | B/72  | A            | C             | B/120 | A/120 |
| NITROUS ACID                        | D          | -        | D        | B    | -            | -             | A     | A      | -         | A       | D        | D         | -                   | B                     | -        | -     | -            | D             | A     | A     |
| NITROUS OXIDE                       | A          | -        | B        | A    | B            | -             | A     | A      | -         | B       | B        | B         | -                   | D                     | -        | C     | -            | A             | A     | D     |
| NITROGEN (GAS)                      | A          | A        | A        | A    | A            | B             | A     | A      | A         | A       | A        | A         | A                   | A                     | A        | -     | -            | A             | -     | A     |

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|------------------------------|------------|----------|----------|------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|----------|-------|--------------|---------------|-------|-------|
|                              | BUNA-N     | GEOLAST® | NEOPRENE | EPDM | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL   | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| NITROGEN TETROXIDE           | D          | D        | D        | D    | -            | B             | A    | D      | D         | A       | D        | D         | -                   | A                     | -        | -     | -            | D             | -     | C     |
| OCTADECANE                   | A          | -        | B        | D    | A            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| N-OCTANE                     | B          | B        | D        | D    | -            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | D             | -     | A     |
| OCTACHLOROTOLUENE            | D          | D        | D        | D    | D            | -             | A    | A      | -         | -       | D        | -         | -                   | -                     | -        | -     | -            | D             | -     | -     |
| OILS                         |            |          |          |      |              |               |      |        |           |         |          |           |                     |                       |          |       |              |               |       |       |
| ANILINE                      | D          | D        | D        | B    | D            | D             | A    | C      | C         | B       | B        | A         | -                   | A                     | D        | A     | -            | -             | D     | -     |
| ANISE                        | -          | -        | D        | -    | -            | -             | A    | -      | C         | -       | -        | A         | -                   | A                     | D        | -     | -            | -             | -     | -     |
| BAY                          | -          | -        | D        | -    | -            | -             | -    | A      | C         | -       | -        | A         | -                   | A                     | D        | -     | -            | -             | -     | A     |
| BONE                         | A          | -        | D        | -    | -            | -             | A    | A      | C         | -       | -        | A         | -                   | A                     | D        | -     | -            | A             | -     | A     |
| CASTOR                       | A          | B        | A        | B    | A            | C             | A    | A      | B         | A       | A        | B         | -                   | A                     | A        | A     | -            | A             | A     | A     |
| CINNAMON                     | -          | -        | C        | -    | -            | -             | A    | A      | C         | -       | -        | D         | -                   | A                     | D        | -     | D            | D             | D     | -     |
| CITRIC                       | A          | D        | D        | B    | -            | B/72          | A    | A      | C         | A       | C        | D         | A                   | A                     | B        | A     | A            | A             | B     | A     |
| CLOVE                        | C          | -        | C        | -    | -            | -             | A    | A      | C         | A       | B        | D         | -                   | A                     | -        | -     | -            | -             | -     | -     |
| COCONUT                      | A          | B        | C/140    | B    | C            | -             | A    | A      | B         | A       | B        | A         | -                   | A                     | A        | -     | A            | A/72          | A/72  | A     |
| COD LIVER                    | A/70       | -        | B/70     | A    | A            | -             | A    | A      | C         | A       | A        | D         | -                   | A                     | B        | -     | -            | A/72          | A/72  | A     |
| CORN                         | A          | D        | C        | D    | A            | A             | A    | A      | D         | A       | B        | C         | A                   | B                     | A        | A     | A            | A             | B     | A     |
| COTTON SEED                  | A          | B        | C        | A/70 | A            | A/70          | A    | A      | B         | A       | A        | C         | -                   | A                     | B        | B     | A            | A             | B/120 | A     |
| CREOSOTE                     | D          | D        | C        | D    | D            | D             | A    | A      | D         | B       | B        | B         | -                   | B                     | D        | D     | C            | C             | C     | -     |
| DIESEL FUEL (20, 30, 40, 50) | A          | -        | D        | D    | C            | B             | A    | A      | D         | A       | A        | A         | -                   | A                     | A        | A     | A            | B/70          | B     | A     |
| FUEL (1, 2, 3, 5A, 5B, 6)    | A          | B        | A        | D    | D            | B             | A    | A      | C         | A       | A        | A         | -                   | A                     | B        | A     | B            | A             | A/120 | A     |
| GINGER                       | A          | -        | A        | A    | -            | -             | A    | A      | C         | -       | -        | -         | -                   | D                     | A        | -     | -            | -             | -     | A     |
| HYDRAULIC (SEE HYDRAULIC)    |            |          |          |      |              |               |      |        |           |         |          |           |                     |                       |          |       |              |               |       |       |
| LEMON                        | A          | -        | C        | C    | -            | -             | A    | A      | C         | -       | A        | -         | -                   | A                     | D        | -     | -            | -             | -     | A     |
| LINSEED                      | A          | A        | A        | C    | B            | B             | A    | A      | B         | A       | A        | A         | A                   | A                     | A        | A/72  | D            | A             | A/120 | A     |
| MINERAL                      | A          | A        | A        | D    | A            | A             | A    | A      | D         | A       | A        | A         | A                   | A                     | A        | A     | B            | B             | B     | A     |
| OLIVE                        | A          | D        | B        | B    | A            | -             | A    | A      | B         | A       | A        | A         | -                   | B                     | A        | A/72  | A/70         | A             | C     | B     |
| ORANGE                       | A          | -        | C        | -    | -            | -             | -    | A      | C         | A       | A        | -         | -                   | A                     | D        | -     | C/70         | A             | C/72  | A     |
| PALM                         | A          | -        | D        | D    | A            | -             | A    | A      | B         | -       | A        | A         | -                   | A                     | A        | -     | A            | -             | A     | A     |
| PEANUT                       | A          | A        | A        | C/70 | B            | -             | A    | A      | B         | A       | A        | A         | -                   | A                     | A        | -     | A            | A             | A/72  | A     |
| PEPPERMINT                   | D          | -        | D        | -    | -            | -             | A    | A      | C         | -       | D        | -         | -                   | A                     | D        | -     | -            | -             | -     | A     |
| PINE                         | B          | D        | D        | D    | A            | D             | A    | A      | C         | -       | A        | B         | -                   | A                     | A        | A     | D            | B             | D     | A     |
| RAPE SEED                    | B          | -        | B        | A    | B            | -             | A    | A      | B         | A       | -        | A         | -                   | A                     | A        | -     | D            | D             | -     | A     |
| ROSIN                        | A          | A        | A        | D    | -            | -             | A    | A      | A         | A       | A        | D         | -                   | A                     | B        | A/72  | B/120        | A             | C/72  | A     |
| SESAME SEED                  | A          | A        | C        | -    | -            | -             | A    | A      | B         | -       | -        | A         | -                   | A                     | D        | -     | -            | A             | A     | A     |
| SILICONE                     | A          | A        | A        | A    | A            | B             | A    | A      | C         | A       | B        | A         | -                   | A                     | A        | A/72  | A            | A             | A     | A     |
| SOYBEAN                      | A          | A        | A        | D    | B            | B             | A    | A      | C         | A       | A        | A         | -                   | A                     | B        | A     | A/70         | B             | A/72  | A     |
| SPERM                        | A          | -        | D        | D    | -            | -             | A    | A      | B         | A       | -        | A         | -                   | A                     | D        | -     | -            | -             | -     | A     |
| TANNING                      | A          | -        | D        | -    | -            | -             | A    | A      | -         | A       | A        | -         | -                   | A                     | D        | -     | -            | A             | -     | A     |
| TURBINE                      | B          | -        | B        | D    | D            | -             | A    | A      | -         | -       | A        | A         | -                   | A                     | A        | A     | C            | B/72          | A/72  | A     |
| OLEIC ACID                   | A          | D        | C        | C    | B            | A             | A    | A      | B         | A       | A        | B         | A/250               | A                     | A        | A     | A            | A             | C/120 | A     |
| OLEUM                        | D          | D        | D        | D    | D            | D             | A    | B      | D         | D       | D        | D         | A/73                | A                     | D        | D     | D            | D             | D     | D     |
| OLEUM SPIRITS                | B          | D        | D        | D    | C            | B             | A    | A      | D         | -       | D        | D         | -                   | B                     | -        | -     | D            | D             | -     | D     |
| O-DICHLOROBENZENE            | D          | -        | D        | D    | D            | D             | A    | C      | D         | A/72    | B/72     | -         | -                   | B/72                  | -        | D     | -            | C/72          | D     | A     |
| OXALIC ACID (COLD)           | B          | D        | B        | A    | D            | D             | A    | A      | A         | B       | B        | D         | A/150               | B                     | D        | B/120 | A            | A             | B     | A/120 |
| OXGEN - COLD                 | C          | -        | A        | B    | A            | -             | A    | A      | A         | -       | A        | A         | A                   | A                     | C        | B/70  | -            | C             | -     | A     |
| OXYGEN - 200°-400°F          | D          | -        | D        | D    | D            | -             | A    | B      | D         | -       | A        | A         | -                   | A                     | D        | D     | -            | D             | -     | A     |
| OZONE                        | D          | -        | C        | A    | A            | C             | A    | A      | A         | -       | B        | -         | A                   | A                     | D        | D     | D            | D             | B     | A     |
| PAINT THINNER, DUCO          | D          | D        | D        | D    | B            | -             | A    | B      | C         | B       | A        | A         | -                   | A                     | A        | A     | -            | D             | A     | -     |
| PALMITIC ACID                | A          | A        | B        | B    | A            | A             | A    | A      | B         | B       | C        | C         | A/250               | A                     | A        | A     | -            | A             | B/72  | A     |
| PARAFFIN                     | A          | B        | B        | D    | A            | -             | A    | A      | A         | B       | A        | -         | A/150               | A                     | A        | A/72  | -            | A             | B     | A     |
| PENTANE                      | A          | -        | B        | D    | D            | -             | A    | A      | A         | B       | A        | B         | -                   | B                     | A        | A/72  | D            | D             | A     | A     |
| PERCHLORIC ACID              | D          | D        | B        | B    | D            | D             | A    | A      | D         | B       | D        | D         | A/200               | B                     | C        | D     | B            | C             | C     | A/120 |

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|-------------------------------------|------------|----------|----------|-------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|----------|-------|--------------|---------------|-------|-------|
|                                     | BUNA-N     | GEOLAST® | NEOPRENE | EPDM  | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL   | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| PERCHLOROETHYLENE                   | D          | D        | D        | D     | D            | D             | A    | B      | D         | B       | D        | B         | A/200               | A                     | A        | C/72  | D            | D             | C/72  | A     |
| PETROLATUM                          | A          | A        | B        | D     | D            | -             | A    | A      | -         | A       | B        | -         | A                   | A                     | A        | D     | A            | A             | B     | A     |
| PETROLEUM - BELOW 250               | A          | -        | B        | D     | B            | -             | A    | A      | B         | -       | A        | A         | A                   | A                     | A        | A     | C/70         | A/70          | -     | A/200 |
| PETROLEUM - ABOVE 250               | C          | -        | D        | D     | D            | -             | A    | B      | C         | -       | A        | A         | -                   | A                     | A        | D     | C/70         | -             | -     | -     |
| PHENOL (CARBOLIC ACID)              | D          | D        | D        | B     | D            | D             | A    | A      | A         | A       | B        | D         | A/150               | A                     | A        | D     | -            | C             | D     | A/70  |
| PHENYLBENZENE                       | D          | -        | D        | D     | D            | -             | A    | A      | C         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| PHENYL ETHYL ETHER                  | D          | -        | D        | D     | D            | -             | A    | C      | C         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | C     |
| PHENYL HYDRAZINE                    | D          | -        | D        | D     | D            | -             | A    | A      | B         | -       | A        | D         | A/73                | -                     | -        | -     | -            | -             | -     | D     |
| PHORONE                             | D          | -        | D        | B     | D            | -             | A    | D      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| PHOSPHORIC ACID - 20%               | B          | -        | A        | A     | B            | -             | A    | A      | A         | A       | D        | D         | A                   | A                     | D        | D     | A            | A             | -     | A     |
| PHOSPHORIC ACID (TO 40% SOLUTION)   | D          | -        | B        | B     | D            | D             | A    | A      | C         | A/120   | C        | D         | A                   | D                     | D        | B/72  | B/70         | A/120         | B     | B     |
| PHOSPHORIC ACID - 50%               | D          | -        | B        | A     | B            | -             | A    | A      | A         | C       | D        | D         | A                   | A                     | D        | D     | -            | A/120         | -     | A     |
| PHOSPHORIC ACID (40%-100% SOLUTION) | D          | -        | A/140    | A/130 | C            | D             | A    | A      | C         | A       | D        | D         | A/250               | B                     | D        | C     | -            | A             | B     | A     |
| PHOSPHORIC ACID CRUDE               | D          | -        | D        | B     | -            | -             | A    | A      | C         | A/120   | C        | D         | A                   | B                     | D        | B/72  | B/70         | B/120         | B/120 | A     |
| PHOSPHOROUS TRICHLORIDE ACID        | D          | D        | D        | A     | -            | -             | A    | A      | B         | A/120   | D        | B         | A/250               | A                     | D        | -     | B            | D             | D     | A     |
| PHOTOGRAPHIC (DEVELOPER)            | A          | B        | A        | B     | D            | D             | A    | A      | A         | A       | C        | D         | A/150               | A                     | A        | -     | A            | A             | A     | A     |
| PTHALIC ACID                        | C          | -        | C        | A     | -            | -             | A    | A      | -         | B       | B        | A         | -                   | B                     | -        | B/72  | -            | A             | -     | A     |
| PTHALIC ANHYDRIDE                   | C          | -        | A        | A     | A            | -             | A    | A      | -         | A       | A        | -         | -                   | A                     | -        | -     | -            | D             | D     | A     |
| PICKLING SOLUTION                   | D          | -        | D        | C/70  | C            | D             | A    | B/70   | A         | A       | -        | -         | -                   | -                     | D        | -     | -            | -             | -     | -     |
| PICRIC ACID                         | D          | D        | C        | C     | B            | D             | A    | A      | B         | D       | C        | D         | A/73                | D                     | D        | C/72  | A            | B/70          | D     | A/70  |
| PINENE                              | B          | B        | D        | D     | B            | D             | A    | A      | C         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| PIPERIDINE                          | D          | -        | D        | D     | D            | D             | A    | D      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| PLATING SOLUTIONS:                  |            |          |          |       |              |               |      |        |           |         |          |           |                     |                       |          |       |              |               |       |       |
| ANTIMONY                            | A          | B        | A        | -     | -            | -             | A    | A      | A         | A       | D        | A         | -                   | A                     | A        | D     | -            | A             | A     | A     |
| ARSENIC                             | A          | B        | A        | -     | -            | -             | A    | A      | A         | A       | C        | A         | -                   | A                     | A        | A     | -            | A             | A     | -     |
| BRASS                               | A          | B        | A        | A     | -            | -             | A    | A      | A         | A       | C        | A         | A/150               | A                     | A        | A     | B            | A             | A     | A     |
| BRONZE                              | A          | B        | A        | A     | -            | -             | A    | A      | A         | A       | C        | A         | -                   | A                     | B        | A     | -            | A             | A     | -     |
| CADNIUM                             | A          | B        | A        | A     | -            | -             | A    | A      | A         | A/90    | C        | A/70      | A/150               | A/140                 | C        | D     | -            | A             | A     | A     |
| CHROME                              | D          | D        | D        | A     | -            | -             | A    | A      | A         | B       | C        | C         | A/150               | A                     | D        | D     | -            | A             | A     | A     |
| COPPER                              | A          | B        | A        | A     | D            | -             | A    | -      | A         | A/120   | C        | A/70      | A/150               | A/150                 | -        | D     | -            | A             | A     | A     |
| GOLD                                | A          | B        | A        | A     | -            | -             | A    | A      | A         | A/70    | C        | -         | A/150               | A/150                 | -        | A     | -            | A             | A     | A     |
| INDIUM                              | A          | B        | A        | -     | -            | -             | A    | A      | A         | A       | C        | -         | -                   | A                     | -        | D     | -            | A             | A     | -     |
| IRON                                | A          | B        | A        | -     | -            | -             | A    | A      | A         | A       | C        | -         | -                   | A                     | -        | D     | -            | A             | D     | A     |
| LEAD                                | B          | B        | A        | A     | -            | -             | A    | A      | A         | -       | C        | -         | A/150               | C                     | A        | D     | -            | A             | A     | A     |
| NICKEL                              | A          | B        | A        | A     | -            | -             | A    | A      | A         | A/140   | C        | -         | A/150               | A/70                  | -        | D     | -            | A             | A     | A     |
| SILVER                              | A          | B        | A        | A     | -            | -             | A    | A      | A         | A       | C        | -         | A/150               | A                     | -        | A     | -            | A             | A     | A     |
| TIN                                 | B          | B        | A        | A     | -            | -             | A    | A      | A         | A       | C        | -         | A/150               | A                     | -        | D     | -            | A             | A     | A     |
| ZINC                                | A          | B        | A        | A     | -            | -             | A    | A      | A         | A       | C        | -         | A/150               | A                     | -        | D     | -            | A             | A     | A     |
| POLYVINYL ACETATE EMULSION          | A          | -        | B        | A     | -            | -             | A    | D      | A         | -       | -        | B         | -                   | -                     | A        | -     | -            | B/70          | -     | A     |
| POTASH                              | A          | A        | A        | A     | D            | D             | A    | A      | A         | B       | C        | B         | A                   | A                     | A        | A     | A/70         | A             | A     | A     |
| POTASSIUM ACETATE                   | B          | B        | B        | A     | D            | -             | A    | D      | A         | B       | D        | A         | A/70                | B                     | A        | -     | -            | A             | -     | A     |
| POTASSIUM BICARBONATE               | A          | A        | A        | A     | D            | -             | A    | A      | A         | B       | C        | A         | -                   | B                     | A        | A/72  | D            | A             | A     | B     |
| POTASSIUM BROMIDE                   | A          | A        | A        | A     | D            | -             | A    | A      | A         | A       | C        | D         | A                   | A                     | A        | A/72  | A            | A             | A     | A     |
| POTASSIUM CARBONATE                 | A          | A        | A        | A     | -            | D             | A    | A      | A         | B       | C        | B         | A                   | A                     | A        | A/70  | -            | A             | -     | A     |
| POTASSIUM CHLORATE                  | A          | A        | A        | A     | A            | -             | A    | A      | A         | B       | B        | C         | -                   | A                     | A        | C/72  | A/70         | A             | A     | A     |
| POTASSIUM CHLORIDE                  | A          | A        | A        | A     | A            | D             | A    | A      | A         | B       | B        | B         | A                   | C                     | A        | A/72  | A            | A             | A     | A     |
| POTASSIUM CHROMATE                  | A          | A        | A        | A     | B            | -             | A    | A      | A         | A       | A        | A         | A                   | B                     | D        | B     | A            | A             | A     | B     |
| POTASSIUM CUPRO CYANIDE             | A          | -        | A        | B     | A            | -             | A    | A      | A         | -       | -        | -         | -                   | -                     | C        | -     | -            | A             | -     | A     |
| POTASSIUM CYANIDE SOLUTIONS         | A          | A        | A        | A     | A            | B             | A    | A      | A         | B       | D        | B         | A                   | A                     | C        | A/72  | -            | A             | A     | A     |
| POTASSIUM DICHROMATE                | A          | A        | A        | A     | B            | B             | A    | A      | A         | B       | A        | B         | A                   | A                     | D        | B/72  | A            | A             | A     | A     |
| POTASSIUM HYDROXIDE                 | B          | B        | B        | A     | D            | A             | A    | B      | A         | B       | D        | C         | A/150               | A                     | A        | C/72  | A            | A             | A/72  | A/150 |
| POTASSIUM HYPOCHLORITE              | B/70       | -        | B/120    | A     | B            | -             | B    | D      | -         | B       | D        | D         | -                   | D                     | D        | B/72  | -            | D             | B/72  | A     |

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|---------------------------------|------------|----------|----------|------|--------------|---------------|-------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|--------|-------|--------------|---------------|-------|-------|
|                                 | BUNA-N     | GEOLAST® | NEOPRENE | EPDM | POLYURETHANE | SANIFLEX™ TPE | PTFE  | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| POTASSIUM IODIDE                | A          | -        | A        | A    | -            | -             | A     | A      | -         | B       | B        | A         | -                   | B                     | -      | A/72  | -            | A             | A/120 | A     |
| POTASSIUM NITRATE               | A          | A        | A        | A    | A            | B             | A     | A      | A         | B       | A        | B         | A                   | B                     | B      | B/72  | A            | A             | A     | A     |
| POTASSIUM PERMANGANATE          | B          | C        | A        | A    | B            | D             | A     | A      | A         | A       | B        | B         | -                   | B                     | C      | D     | A            | B             | A/72  | A     |
| POTASSIUM SULFATE               | A          | A        | A        | A/72 | A            | B             | A     | A      | A         | A       | B        | B         | A                   | A                     | B      | A/72  | A/120        | A             | A/120 | A     |
| POTASSIUM SULFIDE               | A          | -        | A        | A    | A            | B             | A     | A      | -         | B       | D        | B         | -                   | B                     | -      | A     | -            | A             | A/120 | A     |
| PRODUCER GAS                    | A          | -        | B        | D    | A            | -             | A     | A      | -         | -       | -        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| PROPANE (LIQUIFIED)             | A          | B        | B        | D    | C            | B             | A     | A      | -         | A       | A        | A         | A                   | A                     | A      | A/72  | -            | B/70          | A/72  | B/20  |
| PROPYL ACETATE                  | D          | D        | D        | B    | D            | -             | A     | D      | B         | A       | A        | -         | A/120               | A                     | A      | -     | -            | C             | -     | A/70  |
| PROPYL ALCOHOL                  | A          | -        | A        | A    | D            | -             | A     | A      | A         | A       | A        | A         | -                   | A                     | A      | D     | -            | A             | A/72  | A     |
| PROPYL NITRATE                  | D          | -        | D        | B    | -            | -             | A     | D      | B         | -       | B        | B         | -                   | A                     | A      | -     | -            | C             | -     | D     |
| PROPYLENE                       | D          | -        | D        | D    | D            | -             | A     | A      | B         | A       | A        | A         | -                   | A                     | A      | -     | -            | A             | B/72  | A     |
| PROPYLENE GLYCOL                | A          | A        | C        | A    | B            | -             | A     | A      | A         | B       | A        | B         | -                   | A                     | D      | A     | B/70         | A             | C/72  | A     |
| PROPYLENE OXIDE                 | D          | -        | D        | B    | D            | -             | A     | D      | A         | -       | B        | B         | D                   | A                     | A      | -     | -            | A/70          | -     | D     |
| PYRANOL                         | A          | -        | D        | D    | B            | -             | A     | A      | -         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| PYDRAULS                        | -          | -        | -        | -    | -            | -             | -     | -      | -         | A       | -        | A         | A/70                | A                     | -      | A/70  | -            | -             | -     | -     |
| PYRIDINE                        | D          | -        | D        | B    | D            | C             | A     | D      | A         | A       | B        | A         | D                   | B                     | B      | C/72  | B/70         | C             | D     | D     |
| PYROGALLIC ACID                 | D          | -        | A        | B    | D            | -             | A     | A      | -         | B       | -        | D         | A/150               | A                     | D      | -     | -            | A             | A     | A     |
| PYROLIGNEOUS ACID               | D          | D        | D        | B    | -            | -             | A     | D      | -         | -       | B        | D         | A/100               | A                     | D      | -     | -            | A             | -     | A     |
| PYRROLE                         | D          | -        | D        | D    | B            | -             | A     | D      | C         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| RADIATION                       | B          | -        | C        | C/70 | A            | -             | A     | D      | A         | -       | -        | -         | -                   | -                     | D      | -     | -            | -             | -     | -     |
| RED OIL                         | A          | -        | B        | D    | B            | -             | A     | A      | B         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| ROSINS                          | A          | A        | A        | D    | D            | -             | A     | A      | A         | A       | A        | D         | -                   | A                     | B      | A/72  | B/70         | A             | C/72  | -     |
| RUM                             | A          | A        | A        | A    | D            | -             | A     | A      | A         | A       | -        | -         | -                   | A                     | A      | A     | -            | A             | A     | -     |
| RUST INHIBITORS                 | A          | A        | C        | -    | A            | -             | -     | A      | B         | -       | -        | C         | -                   | A                     | A      | -     | -            | A             | -     | -     |
| SALAD DRESSING                  | D          | D        | D        | D    | -            | D             | -     | D      | A         | -       | B        | D         | -                   | A                     | A      | A     | -            | A             | -     | -     |
| SALICYLIC ACID                  | A          | -        | D        | A    | A/72         | -             | A     | A      | A         | A       | A        | D         | A                   | B                     | -      | A/72  | D            | A             | B/72  | A     |
| SAL AMMONIAC                    | A          | -        | A        | A    | A            | A             | A     | A      | A         | A       | D        | D         | -                   | B                     | D      | -     | -            | A             | -     | A     |
| SEA WATER                       | A          | A        | A        | A    | D            | A             | A     | A      | A         | A       | D        | D         | A/250               | C                     | A      | A/120 | A/120        | A             | A/120 | A     |
| SEWAGE                          | A          | A        | A        | A    | D            | A             | A     | A      | A         | A       | B        | B         | -                   | A                     | A      | -     | -            | A             | -     | A     |
| SHELLAC (BLEACHED)              | A          | A        | D        | A    | D            | D             | A     | A      | B         | A       | A        | A         | -                   | A                     | A      | A/72  | A/70         | A             | -     | -     |
| SHELLAC (ORANGE)                | A          | A        | D        | A    | D            | D             | A     | A      | B         | A       | A        | A         | -                   | A                     | A      | A/72  | A/70         | A             | -     | -     |
| SILICATE ESTERS                 | A          | A        | A        | D    | A            | C             | A     | A      | B         | -       | -        | -         | -                   | -                     | -      | -     | -            | -             | -     | -     |
| SILICONE                        | A          | A        | A        | A    | A            | A             | A     | A      | B         | A       | A        | A         | A                   | A                     | A      | A/72  | -            | A             | A     | A     |
| SILICONE GREASES                | A          | A        | A        | A    | A            | A             | A     | A      | B         | -       | -        | -         | -                   | -                     | A      | -     | -            | -             | -     | -     |
| SILVER BROMIDE                  | -          | -        | -        | -    | -            | -             | A/70  | -      | A         | A       | D        | D         | -                   | B                     | A      | -     | A            | -             | -     | -     |
| SILVER CHLORIDE                 | -          | -        | -        | -    | -            | -             | A/70  | -      | -         | -       | -        | -         | -                   | -                     | -      | -     | -            | A             | -     | -     |
| SILVER CYANIDE                  | A          | -        | A        | A    | -            | -             | A     | A      | -         | A       | D        | A         | -                   | A                     | -      | -     | -            | A             | -     | A     |
| SILVER NITRATE                  | B          | C        | A        | A    | A            | D             | A     | A      | A         | A       | D        | D         | A                   | A                     | A      | A/72  | A            | A             | A/72  | A     |
| SKYDROL 500                     | D          | D        | D        | A    | D            | A             | A     | D      | B         | A       | -        | -         | A/70                | A                     | A      | C     | -            | -             | -     | -     |
| SKYDROL 7000                    | D          | -        | D        | A    | D            | D             | A     | B/70   | B         | A       | -        | -         | A/70                | A                     | A      | C     | -            | -             | -     | -     |
| SOAP SOLUTIONS                  | A          | A        | A        | A    | A            | A             | A     | A      | A         | A       | C        | D         | A/150               | A                     | A      | A/72  | A            | A             | A     | A     |
| SODA ASH (SEE SODIUM CARBONATE) |            |          |          |      |              |               |       |        |           |         |          |           |                     |                       |        |       |              |               | -     |       |
| SODIUM ACETATE                  | B          | -        | B        | A    | D            | -             | A     | D      | A         | A       | B        | B         | A                   | B/72                  | B      | B/72  | A            | A             | B/72  | A     |
| SODIUM ALUMINATE                | A          | A        | A        | A    | -            | -             | A     | A      | A         | A       | C        | A         | A                   | A                     | A      | A/72  | -            | A             | -     | A     |
| SODIUM BENZOATE                 | B          | -        | A/72     | A    | -            | -             | A/120 | A/72   | -         | A/72    | A/72     | -         | -                   | -                     | -      | B/72  | -            | A/120         | B/72  | A/120 |
| SODIUM BICARBONATE              | A          | A        | A        | A    | A            | B             | A     | A      | A         | B       | A        | C         | A                   | A                     | A      | A     | A            | A             | A/120 | A     |
| SODIUM BICHROMATE               | A          | -        | A        | A    | -            | -             | A     | A      | A         | C       | C        | C         | -                   | B                     | D      | -     | -            | A             | -     | A     |
| SODIUM BISULFATE                | A          | B        | A        | A    | A            | A             | A     | A      | A         | B       | D        | D         | A                   | A                     | A      | A/72  | A/120        | A             | A/120 | A     |
| SODIUM BISULFITE                | A          | A        | A        | A    | A            | B             | A     | A      | A         | A       | A        | D         | A                   | A                     | A      | C/72  | A/120        | A             | A/120 | A     |
| SODIUM BORATE                   | A          | A        | A        | A    | B            | B             | A     | A      | A         | A       | C        | B         | A                   | B                     | A      | A/72  | A/120        | A/140         | A/120 | A     |
| SODIUM BROMIDE                  | -          | -        | A        | A    | -            | -             | A     | A      | A         | B       | C        | C         | -                   | B                     | -      | B/72  | -            | A             | B/120 | A     |
| SODIUM CARBONATE                | A          | A        | A        | A    | A            | B             | A     | A      | A         | A       | C        | B         | A                   | A                     | A      | B/72  | B/120        | A             | A/120 | A     |

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|-------------------------------------|------------|----------|----------|-------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|----------|-------|--------------|---------------|-------|-------|
|                                     | BUNA-N     | GEOLAST® | NEOPRENE | EPDM  | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL   | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| SODIUM CHLORATE                     | A          | B        | A        | A     | B            |               | A    | A      | A         | A       | B        | B         | A                   | A                     | A        | D     | B/120        | A             | A/72  | A     |
| SODIUM CHLORIDE                     | A          | A        | A        | A     | A            | A             | A    | A      | A         | A       | C        | B         | -                   | C                     | A        | A/72  | A/120        | A             | A/120 | A     |
| SODIUM CHROMATE                     | A          | A        | A        | -     | -            | -             | A    | A      | A         | A       | A        | A         | A                   | A                     | D        | C     | -            | A             | -     | A     |
| SODIUM CYANIDE                      | A          | A        | A        | A     | B            | B             | A    | A      | A         | A       | D        | B         | -                   | A                     | B        | A/72  | A/120        | A             | A/120 | A     |
| SODIUM DICHROMATE                   | A          | -        | B        | A     | -            | B             | A    | B      | A         | -       | -        | -         | -                   | -                     | -        | -     | -            | A             | -     | A     |
| SODIUM FLUORIDE                     | A          | -        | A        | A     | B            | -             | A    | A      | A         | B       | B        | C         | -                   | B                     | -        | B     | -            | A             | A/120 | A     |
| SODIUM HYDROXIDE (20%)              | A          | B        | B        | A     | B            | A             | A    | A      | A         | B       | D        | B         | -                   | A                     | A        | A     | D            | A             | A     | A     |
| SODIUM HYDROXIDE (50% SOLUTION)     | D          | D        | C        | A     | B            | B             | A    | A      | A         | A       | D        | C         | A/250               | B                     | A        | A     | D            | A             | A     | C     |
| SODIUM HYDROXIDE (80% SOLUTION)     | D          | D        | C        | A     | B            | D             | A    | A      | -         | B       | D        | C         | -                   | D                     | A        | C     | D            | A             | A     | C     |
| SODIUM HYPOCHLORITE (TO 20%)        | B          | C        | C        | B     | D            | A             | A    | A/72   | B         | A       | D        | D         | A                   | C                     | D        | D     | A            | A             | A     | A     |
| SODIUM METAPHOSPHATE                | A          | -        | B        | A     | B            | -             | A    | A      | A         | -       | C        | C         | A                   | A                     | B        | A/72  | A/70         | A/72          | A     | A     |
| SODIUM METASILICATE                 | A          | A        | A        | A     | B            | -             | A    | A      | A         | A       | B        | A/72      | -                   | A                     | B        | -     | -            | A             | A     | A     |
| SODIUM NITRATE                      | A          | C        | B        | A     | B            | B             | A    | A      | A         | A       | A        | A         | A                   | A                     | A        | A/72  | A            | A             | A/120 | A     |
| SODIUM PERBORATE                    | B          | B        | B        | A     | B            | B             | A    | A      | A         | B       | D        | B         | -                   | A                     | B        | B/71  | A/70         | A             | A/120 | A     |
| SODIUM PEROXIDE                     | B          | B        | B        | A     | D            | B             | A    | A      | B         | B       | B        | A         | A                   | B                     | D        | A/72  | A            | B             | B/120 | A     |
| SODIUM PHOSPHATE                    | A          | B        | A        | A     | A            | C             | A    | A      | A         | A       | D        | B         | A                   | B                     | A        | A/70  | -            | A             | -     | A     |
| SODIUM POLYPHOSPHATE                | -          | -        | -        | -     | -            | -             | -    | -      | -         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| (MONO, DI, TRIBASIC)                | A          | B        | B        | A     | -            | B             | A    | A      | A         | A       | D        | D         | -                   | B                     | A        | A/72  | A            | A             | A/72  | A     |
| SODIUM SILICATE                     | A          | A        | A        | A     | B            | B             | A    | A      | A         | B       | C        | B         | A                   | A                     | C        | A/72  | A/120        | A             | A/120 | A     |
| SODIUM SULFATE                      | A          | A        | A        | A     | A            | B             | A    | A      | A         | B       | B        | A         | A                   | A                     | B        | A     | A/120        | A             | A/120 | A     |
| SODIUM SULFIDE                      | A          | A        | A        | A     | A            | B             | A    | A      | A         | B       | D        | A         | A                   | A                     | B        | A/72  | A/120        | A             | A/120 | A     |
| SODIUM SULFITE                      | A          | -        | A        | A     | A            | B             | A    | A      | A         | B       | A        | D         | -                   | A                     | A        | D     | -            | A             | A/120 | A     |
| SODIUM TETRABORATE                  | A          | B        | A        | A     | B            | B             | A    | A      | A         | B       | A        | B         | A                   | A                     | A        | A     | A/120        | A             | A/120 | A     |
| SODIUM THIOSULPHATE ("HYPO")        | B          | B        | A/120    | A/120 | -            | -             | A    | A      | A         | B       | A        | C         | A                   | A                     | B        | B     | A/70         | A             | A/120 | A     |
| SORGHUM                             | A          | A        | A        | -     | -            | -             | -    | A      | A         | A       | -        | A         | -                   | A                     | A        | A     | -            | -             | -     | -     |
| SOY SAUCE                           | A          | A        | A        | -     | -            | -             | -    | A      | A         | -       | A        | D         | -                   | A                     | A        | A     | -            | -             | -     | -     |
| STANNIC CHLORIDE                    | A          | A        | C        | A     | B            | B             | A    | A      | A         | B       | D        | D         | A                   | D                     | B        | B/72  | A            | A             | A/120 | A     |
| STANNIC FLUOBORATE                  | A          | -        | A        | -     | -            | -             | -    | A      | A         | -       | D        | D         | -                   | A                     | C        | -     | -            | -             | -     | -     |
| STANNOUS CHLORIDE                   | A          | -        | A        | B     | C            | B             | A    | A      | B         | A       | D        | B         | -                   | A                     | -        | C/72  | -            | A             | A/72  | A     |
| STARCH                              | A          | A        | A        | A     | A            | B             | A    | A      | A         | A       | A        | C         | A/150               | A                     | B        | A/72  | B            | A             | A     | -     |
| STEAM TO 200°F                      | C          | -        | C        | A     | C            | B             | D    | D      | A         | -       | A        | A         | A                   | A                     | B        | D     | -            | -             | -     | -     |
| STEAM 220°F-300°F                   | D          | -        | D        | A     | D            | C             | D    | D      | B         | -       | A        | A         | A                   | A                     | D        | D     | -            | -             | -     | -     |
| STEARIC ACID                        | B          | C        | B        | B     | A            | B             | A    | A      | A         | A       | B        | C         | A/150               | A                     | A        | A/120 | A            | B/72          | B/120 | A     |
| STODDARD SOLVENT                    | A          | B        | D        | D     | B            | C             | A    | A      | D         | A       | A        | A         | A                   | A                     | A        | A     | C/120        | A/70          | C/72  | A     |
| STYRENE                             | D          | D        | D        | D     | C            | D             | A    | B      | C         | D       | A        | B         | A                   | A                     | A        | A     | -            | D             | D     | A     |
| SUCROSE SOLUTION                    | A          | A        | A        | A     | D            | B             | A    | A      | A         | A       | A        | B         | -                   | A                     | A        | A     | -            | -             | -     | -     |
| SUGAR (LIQUIDS)                     | A          | A        | A        | A     | D            | B             | A    | A      | A         | A       | A        | A         | -                   | A                     | A        | A/72  | -            | A             | -     | A     |
| SULFATE LIQUORS                     | B          | -        | A        | A     | D            | B             | A    | A      | A         | A       | B        | C         | A/73                | A                     | D        | B/72  | A/120        | A             | B     | A     |
| SULFITE LIQUORS                     | B          | B        | A        | B/70  | -            | -             | A    | A      | A         | A       | D        | D         | A/73                | B                     | -        | -     | -            | B             | -     | -     |
| SULFUR                              | B          | B        | B        | A     | B            | -             | A    | A      | A         | B       | A        | A         | A/250               | A                     | A        | A/70  | -            | A             | -     | A     |
| SULFUR CHLORIDE                     | D          | D        | A        | D     | C            | C/70          | A    | A      | D         | A       | B        | D         | A/73                | B                     | D        | A/72  | C/70         | C             | C/72  | A/70  |
| SULFUR DIOXIDE                      | D          | D        | A        | A     | D            | D             | A    | A      | A         | B       | D        | D         | A/150               | A                     | D        | C/72  | A            | A             | A/72  | A     |
| SULFUR HEXAFLUORIDE                 | B/70       | C        | B        | A     | B            | B             | A    | C      | B         | D       | D        | D         | -                   | -                     | D        | B     | B            | -             | B     | -     |
| SULFUR TRIOXIDE                     | D          | D        | A        | C     | D            | D             | A    | A      | D         | B       | D        | D         | -                   | B                     | D        | D     | -            | D             | A     | C     |
| SULFUR TRIOXIDE (DRY)               | D          | D        | A        | C     | D            | D             | A    | A      | D         | B       | D        | D         | -                   | B                     | D        | A/72  | C/70         | D             | A     | C     |
| SULFURIC ACID (DILUTE)              | D          | D        | C        | A     | C            | A             | A    | A      | A         | A       | D        | D         | -                   | B                     | D        | C     | A            | A             | -     | A     |
| SULFURIC ACID (TO 10%)              | D          | D        | D        | A     | D            | A             | A    | A      | A         | A       | D        | D         | A/250               | C                     | D        | C/72  | A/70         | A/120         | A/72  | A     |
| SULFURIC ACID (10%-75%)             | D          | D        | D        | C     | D            | B             | A    | A      | A         | B       | D        | D         | A/150               | C                     | D        | D     | B/70         | A/72          | A/72  | A/150 |
| SULFURIC ACID (CONCENTRATED TO 98%) | D          | D        | D        | C     | D            | C             | A    | A      | B         | A       | D        | D         | A/150               | B                     | D        | D     | B/70         | C/72          | D     | A/120 |
| SULFURIC ACID (20% OLEUM)           | D          | D        | D        | B     | D            | B             | A    | A      | A         | B       | C        | D         | -                   | B                     | D        | D     | -            | D             | -     | D     |
| SULFUROUS ACID                      | D          | D        | D        | D     | D            | D             | A    | D      | -         | B       | D        | D         | A/250               | B                     | D        | D     | A            | A             | A/120 | A     |
| SYRUP                               | A          | A        | B        | A     | -            | -             | -    | A      | A         | -       | A        | -         | -                   | A                     | A        | -     | -            | A             | -     | -     |

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|-------------------------------|------------|----------|----------|------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|----------|-------|--------------|---------------|-------|-------|
|                               | BUNA-N     | GEOLAST® | NEOPRENE | EPDM | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL   | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF  |
| TALL OIL                      | A          | -        | D        | D    | -            | -             | A    | A      | D         | A       | D        | C         | -                   | B                     | -        | -     | -            | A             | -     | A     |
| TALLOW                        | A          | B        | D        | A    | A            | A             | A    | A      | B         | -       | A        | -         | -                   | A                     | A        | A/72  | A            | B/70          | -     | -     |
| TANNIC ACID                   | A          | A        | A        | A    | A            | A             | A    | A      | A         | B       | D        | C         | A/250               | A                     | D        | C/72  | A            | A             | A/72  | A     |
| TANNING LIQUORS               | A          | -        | D        | B    | D            | -             | A    | A      | -         | A       | A        | -         | A/250               | A                     | D        | A/72  | A/70         | A             | A/72  | A     |
| TAR, BITUMINOUS               | B/70       | B        | C        | D    | -            | B             | A    | A      | B         | A       | A        | -         | A                   | A                     | A        | B     | -            | A             | -     | -     |
| TARTARIC ACID                 | A          | B        | A        | C    | A            | B             | A    | A      | A         | A       | A        | D         | A/250               | A                     | D        | B/120 | A/70         | A             | A/72  | A     |
| TERPINEOL                     | B/70       | D        | D        | C/70 | B            | -             | A    | A      | B         | A       | A        | A         | -                   | A                     | -        | -     | -            | D             | -     | B/120 |
| TERTIARY BUTYL ALCOHOL        | B          | D        | B        | B/70 | D            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | A        | -     | -            | B             | -     | -     |
| TERTIARY BUTYL CATECHOL       | D          | -        | B        | B/70 | D            | -             | A    | A      | B         | -       | C        | B         | -                   | B                     | A        | -     | -            | -             | -     | -     |
| TERTIARY BUTYL MERCAPTAN      | D          | -        | D        | D    | D            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | B        | -     | -            | -             | -     | -     |
| TETRA BROMOMETHANE            | D          | D        | D        | D    | -            | -             | A    | A      | D         | -       | D        | -         | -                   | -                     | -        | -     | -            | D             | -     | -     |
| TETRABUTYL TITANATE           | B/70       | -        | B        | A    | -            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| TETRACHLOROETHYLENE           | D          | D        | D        | D    | D            | -             | A    | A      | D         | -       | D        | A         | A/200               | A                     | A        | A/72  | B            | D             | D     | A/170 |
| TETRACHLOROETHANE             | D          | -        | D        | D    | D            | -             | A    | A      | D         | A       | C        | A         | -                   | A                     | A        | C/72  | -            | C             | C     | A     |
| TETRAETHYL LEAD               | B          | B        | C        | D    | -            | B             | A    | A      | C         | -       | B        | A         | -                   | A                     | -        | -     | -            | A             | -     | A     |
| TETRAHYDROFURAN               | D          | D        | D        | D    | D            | B             | A    | D      | B         | A       | -        | -         | D                   | A                     | A        | A     | C/70         | C             | D     | B/70  |
| TETRALIN                      | D          | D        | D        | D    | -            | -             | A    | A      | C         | A       | A        | A         | -                   | A                     | -        | -     | -            | D             | -     | -     |
| THIONYL CHLORIDE              | -          | -        | -        | -    | -            | -             | -    | -      | -         | A       | C        | D         | A/150               | D                     | B        | C     | -            | B             | -     | D     |
| TITANIUM TETRACHLORIDE        | B          | C        | D        | D    | D            | -             | A    | A      | D         | B       | D        | A         | -                   | B                     | -        | A/70  | -            | D             | -     | B     |
| TOLUENE                       | D          | D        | D        | D    | C            | C             | A    | B      | D         | A       | A        | A         | A/200               | A                     | A        | A/70  | D            | D             | -     | A     |
| TOLUENE DIISOCYANATE          | D          | -        | D        | A    | -            | B             | A    | C      | B         | -       | -        | -         | -                   | -                     | C        | -     | -            | -             | -     | -     |
| TOLUENE, TOLUOL               | D          | D        | D        | D    | D            | C             | A    | B      | D         | A       | A        | A         | A/150               | A                     | A        | A/72  | C/70         | D             | D     | A     |
| TOMATO JUICE                  | A          | A        | A        | A    | A            | -             | A    | A      | A         | A       | B        | -         | A/250               | A                     | A        | A/72  | A/70         | A             | A     | A     |
| TRANSFORMER OIL               | A          | B        | B        | D    | A            | -             | A    | A      | D         | A       | A        | A         | A/250               | A                     | A        | A/72  | -            | B/70          | B     | A     |
| TRANSMISSION FLUID TYPE A     | A          | -        | B        | D    | A            | B             | A    | A      | C         | A       | A        | A         | -                   | A                     | A        | -     | -            | -             | -     | -     |
| TRIACETIN                     | B          | -        | B        | A    | D            | -             | A    | D      | A         | -       | B        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| TRIBUTOXY ETHYL PHOSPHATE     | D          | -        | D        | A    | D            | -             | A    | B      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| TRIBUTYL PHOSPHATE            | D          | D        | D        | B    | D            | C             | A    | D      | B         | -       | A        | A         | A/73                | A                     | -        | -     | -            | B             | -     | A     |
| TRIBUTYL MERCAPTAN            | D          | -        | D        | D    | -            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| TRICHLOROACETIC ACID          | D          | D        | D        | B/70 | D            | D             | A    | D      | B         | B       | D        | D         | A/150               | D                     | D        | C     | A            | B/140         | B     | A/70  |
| TRICHLORETHANE                | D          | D        | D        | D    | D            | D             | A    | A      | D         | A       | D        | A         | -                   | A                     | A        | C/72  | -            | D             | C     | B/150 |
| TRICHLORETHYLENE              | D          | D        | D        | D    | D            | D             | A    | C      | D         | B       | B        | B         | A                   | B                     | B        | C/72  | D            | C/70          | D     | A     |
| TRICHLOROPROPANE              | A          | D        | A        | -    | A            | -             | A    | A      | D         | A       | D        | A         | -                   | A                     | A        | -     | -            | D             | -     | -     |
| TRICRESYLPHOSPHATE            | D          | D        | C        | A    | D            | C             | A    | A      | B         | A       | D        | A         | -                   | A                     | C        | A/120 | B/70         | B             | D     | D     |
| TRIETHYLAMINE                 | A          | D        | B        | A    | D            | -             | A    | A      | D         | A       | -        | A         | A/150               | A                     | A        | A/72  | -            | C             | B     | A/120 |
| TRIETHANOL AMINE              | C          | C        | A        | A    | D            | C             | A    | D      | A         | A       | B        | A         | A/73                | A                     | A        | A/70  | A            | A/70          | -     | A     |
| TRIETHYL ALUMINUM             | D          | -        | D        | -    | -            | D             | A    | B/70   | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| TRIETHYL BORANE               | D          | -        | D        | -    | -            | -             | A    | A      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| TRINITROTOLUENE               | D          | -        | B        | D    | -            | -             | A    | B/70   | A         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| TRIOCTYL PHOSPHATE            | D          | -        | D        | A    | -            | -             | A    | B      | B         | -       | -        | -         | -                   | -                     | -        | -     | -            | -             | -     | -     |
| TRISODIUM PHOSPHATE           | A          | -        | A        | A    | B            | A             | A    | A      | A         | A       | D        | A         | A                   | B                     | D        | A     | -            | A             | A     | A     |
| TRIARYL PHOSPHATE             | D          | D        | D        | A    | B            | -             | A    | A      | -         | -       | -        | -         | -                   | -                     | -        | -     | -            | B             | -     | A     |
| TUNG OIL                      | A          | D        | A        | D    | B            | B             | A    | A      | B         | A       | A        | B         | -                   | A                     | -        | -     | -            | A             | -     | A     |
| TURPENTINE                    | A          | B        | D        | D    | D            | B             | A    | A      | D         | B       | A        | B         | A/200               | A                     | A        | B     | D            | B/120         | D     | A     |
| UNLEADED GASOLINE             | D          | D        | D        | D    | -            | -             | A    | A      | C         | A       | A        | A         | -                   | A                     | A        | A/120 | -            | D             | C/120 | A     |
| URINE                         | A          | -        | D        | A    | -            | -             | A    | A      | A         | A       | B        | B         | -                   | A                     | C        | B     | -            | A             | A     | A     |
| VARNISH                       | B/70       | -        | D        | D    | D            | -             | A    | A      | D         | A       | A        | -         | -                   | A                     | -        | A     | -            | A             | D     | A     |
| VINEGAR                       | B/70       | -        | B        | A    | D            | C             | A    | A      | A         | A       | D        | C         | A                   | A                     | B        | A     | -            | A             | B     | A     |
| VINYL ACETATE                 | D          | -        | D        | B    | D            | -             | A    | A      | B         | A       | B        | A         | -                   | A                     | -        | -     | -            | B/80          | D     | A     |
| WATER, ACID, MINE             | A          | -        | C        | A    | D            | -             | A    | A      | A         | A       | D        | D         | A                   | A                     | A        | A     | -            | A             | B     | A     |
| WATER, DISTILLED, LAB GRADE 7 | A          | -        | B        | A    | A            | -             | A    | A      | A         | A       | B        | D         | A                   | A                     | A        | A/72  | -            | A             | A/120 | A     |
| WATER, FRESH                  | A          | -        | A        | A    | A            | A             | A    | B      | A         | A       | A        | B         | A                   | A                     | A        | A/72  | -            | A             | B     | A     |

**Ratings: A: Minor effect; B: Minor to moderate effect; C: Moderate to severe effect; D: Not recommended; -: Insufficient information.**

Wil-Flex is a trademark of Wilden Pump and Engineering, LLC. Saniflex is a trademark of Wilden Pump and Engineering, LLC.

Viton® is a registered trademark of DuPont Dow Elastomers.

The accuracy of these ratings cannot be guaranteed.

## CHEMICAL RESISTANCE GUIDE

| CHEMICALS                | ELASTOMERS |          |          |      |              |               |      |        | METALS    |         |          |           | PLASTICS            |                       |        |       |              |               |       |      |
|--------------------------|------------|----------|----------|------|--------------|---------------|------|--------|-----------|---------|----------|-----------|---------------------|-----------------------|--------|-------|--------------|---------------|-------|------|
|                          | BUNA-N     | GEOLAST® | NEOPRENE | EPDM | POLYURETHANE | SANIFLEX™ TPE | PTFE | VITON® | WIL-FLEX™ | ALLOY C | ALUMINUM | CAST IRON | HALAR® ECTFE-COATED | STAINLESS STEEL (316) | ACETAL | NYLON | POLYETHYLENE | POLYPROPYLENE | PVC   | PVDF |
| WATER, SALT              | A          | B        | A        | A    | A            | A             | A    | A      | A         | -       | D        | D         | -                   | C                     | A      | A/120 | A            | A             | A     | A    |
| WHITE LIQUOR (PULP MILL) | A          | -        | A        | A    | D            | -             | A    | A      | A         | A       | B        | C         | A/200               | A                     | -      | A/72  | -            | -             | A/120 | A/72 |
| WINES                    | A          | -        | A        | A    | D            | B             | A    | A      | A         | A       | D        | D         | A/200               | A                     | A      | A/72  | B            | A             | A     | A    |
| XYLENE                   | D          | -        | D        | D    | D            | B             | A    | A      | D         | A       | A        | A         | A/200               | A                     | A      | A/120 | -            | B             | D     | A    |
| ZINC CHLORIDE            | A          | -        | A        | A    | B            | A             | A    | A      | A         | A       | D        | D         | A                   | C                     | D      | A     | -            | A             | B     | A    |
| ZINC SULFATE             | A          | -        | A        | A    | B            | C             | A    | A      | A         | A/120   | D        | D         | -                   | A                     | C      | A     | -            | A             | A/120 | A    |

**Ratings: A: Minor effect; B: Minor to moderate effect; C: Moderate to severe effect; D: Not recommended; —: Insufficient information.**

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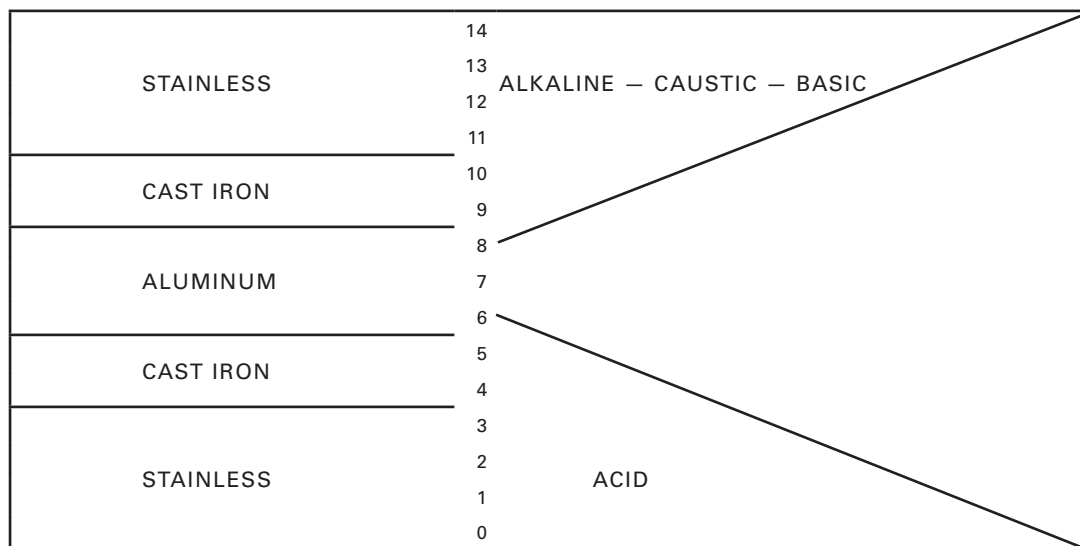
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## CHEMICAL RESISTANCE GUIDE

### HALOGENATED SOLVENTS WARNING

Halogenated solvents can, under certain circumstances, corrode aluminum or galvanized parts. If the wetted parts or a pressurizable fluid system contain aluminum or galvanized parts, this corrosive action could cause an EXPLOSION. Although manufacturers of these solvents typically add inhibitors, there is no known inhibitor that will prevent the corrosive reaction under ALL circumstances. Special caution should be exercised handling reclaimed or used solvents since the inhibitors are often degraded. ONLY stainless steel or PVDF pumps should be used for these materials. Typical examples of halogenated hydrocarbon solvents (H.H.C.) include, but are not limited to, the following: Trichlorethane, Trichlorethylene, Methylene Chloride, Methyl Chloride, Carbon Tetrachloride, Chloroform, Dichlorethylene.

- **Determine the pH value:**
- pH is a measure of hydrogen-ion concentration. pH of 7 is neutral — below 7, acid — above 7, alkaline.



### ELASTOMER SELECTION GUIDE FOR SOLVENTS

The liquids classified and listed below **cannot** be handled with Neoprene or Buna-N and will require Wil-Flex™, Viton®, EPDM and/or PTFE.

#### a. Ketones and Aldehydes

1. Methyl ethyl ketone
  2. Methylacetone
  3. Acetone
  4. Formaldehyde
- Wil-Flex™  
EPDM/PTFE

#### b. Acetates

1. Ethyl acetate
  2. Isopropyl acetate
  3. Amyl acetate
  4. Butyl acetate
- Wil-Flex™  
EPDM/PTFE

#### c. Aromatic Hydrocarbons

1. Benzene
  2. Toluol (toluene)
  3. Xylene (xyol)
  4. Benzol
  5. Hexane
  6. Cyclohexane
  7. Napthalene
- Viton®/PTFE

#### d. Chlorinated Hydrocarbons

1. Carbon tetrachloride
  2. Trichlorethylene
  3. Ethylene dichloride
  4. Methyl chloride
  5. Propyl chloride
  6. Chloroform
  7. Dichlorethylene
- Viton®/PTFE

#### TEMPERATURE LIMITS FOR ELASTOMERS

|                   |                                 |
|-------------------|---------------------------------|
| Wil-Flex™         | -40° to 107° C (-40° to 225° F) |
| Neoprene          | -18° to 93° C ( 0° to 200° F)   |
| Buna-N            | -12° to 82° C ( 10° to 180° F)  |
| EPDM              | -51° to 138° C (-60° to 280° F) |
| Viton®            | -40° to 177° C (-40° to 350° F) |
| PTFE <sup>1</sup> | 4° to 104° C ( 40° to 220° F)   |
| Polyurethane      | -12° to 66° C ( 10° to 150° F)  |
| Saniflex™ TPE     | -29° to 104° C (-20° to 220° F) |
| Geolast®          | -40° to 82° C (-40° to 180° F)  |

#### TEMPERATURE LIMITS FOR PLASTICS

|                       |                                 |
|-----------------------|---------------------------------|
| Polypropylene         | 0° to 79° C ( 32° to 175° F)    |
| Polyethylene          | 0° to 70° C ( 32° to 158° F)    |
| PVDF                  | -12° to 107° C ( 10° to 225° F) |
| PTFE PFA <sup>2</sup> | -29° to 107° C (-20° to 225° F) |
| Acetal                | -29° to 82° C (-20° to 180° F)  |
| Nylon                 | -18° to 93° C ( 0° to 200° F)   |

<sup>1</sup> 4° to 149° C (40° to 300° F) - 13 mm (1/2") and 25 mm (1") models only.

<sup>2</sup> -29° to 149° C (-20° to 300° F) - Ultrapure II and III models only.

**NOTE:** These are average temperatures. Chemicals and solvents can have an effect on temperature limits.

## CHEMICAL RESISTANCE GUIDE

### RUBBER COMPOUNDS

Listed below are the various rubber compounds manufactured for use as elastomers in Wilden pumps. These compounds consist of natural rubber and man-made additives to increase the compounds' resistance to specific types of fluids. Diaphragms made of these compounds will utilize a nylon fabric mesh. The mesh is centered within the diaphragm during the molding process. The fabric mesh lends dimensional stability and strength to the compound. The elastomers manufactured of these compounds are fabricated using compression molding process.

| COMPOUND | COLOR CODE | MOLD STAMP | TEMPERATURE LIMITS               | SUITABLE APPLICATIONS                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|------------|------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Neoprene | Green      | NE         | -18° to 93° C<br>0° to 200° F    | An excellent general purpose diaphragm for use in non-aggressive applications such as water-based slurries, well water or sea water. Exhibits excellent flex life and low cost.                                                                                                                                                                                                                                                         |
| Buna-N   | Red        | BN         | -12° to 82° C<br>10° to 180° F   | Excellent for applications involving petroleum/oil-based fluids such as leaded gasolines, fuel oils, non-synthetic hydraulic oils, kerosene, turpentine and motor oils.                                                                                                                                                                                                                                                                 |
| EPDM     | Blue       | ND         | -51° to 138° C<br>-60° to 280° F | Excellent for use in applications requiring extremely cold temperatures. May also be used as a low cost alternative when pumping dilute acids or caustics.                                                                                                                                                                                                                                                                              |
| Viton®   | Silver     | VT         | -40° to 177° C<br>-40° to 350° F | Excellent for use in applications requiring extremely hot temperatures. May also be used with aggressive fluids such as aromatic or chlorinated hydrocarbons and highly aggressive acids. PTFE would normally be used with these aggressive fluids as its flex life is better than Viton®. However, in applications involving suction lift outside the range of PTFE, Viton® will be the preferred choice for highly aggressive fluids. |

### THERMOPLASTIC COMPOUNDS

Listed below are the various thermoplastic (TPE) compounds manufactured for use as elastomers in Wilden pumps. These compounds are comprised entirely of man-made elements. Thermoplastic elastomers manufactured of these compounds are fabricated using an injection molding process. Diaphragms made of these compounds require no fabric reinforcement due to the dimensional stability and tensile strength inherent in TPE compounds.

| COMPOUND     | COLOR CODE | TEMPERATURE LIMITS               | SUITABLE APPLICATIONS                                                                                                                                                                                                                        |
|--------------|------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Polyurethane | Clear      | -12° to 66° C<br>10° to 150° F   | An excellent general purpose diaphragm for use in non-aggressive applications. This material exhibits exceptional flex life and durability. Wilden's least expensive diaphragm.                                                              |
| Wil-Flex™    | Orange     | -40° to 107° C<br>-40° to 225° F | Excellent choice as a low cost alternative to PTFE in many acidic and caustic applications such as sodium hydroxide, sulfuric or hydrochloric acids. Exhibits excellent abrasion resistance and durability at a cost comparable to neoprene. |
| Saniflex™    | Cream      | -29° to 104° C<br>-20° to 220° F | Exhibits excellent abrasion resistance, flex life and durability. This material is FDA approved for food processing applications. An outstanding general purpose diaphragm as well.                                                          |
| Geolast®     | Black      | -40° to 82° C<br>-40° to 180° F  | Excellent choice for applications requiring high oil resistance that meets or exceeds that of nitrile (Buna-N). This material exhibits exceptional performance for a variety of fluids.                                                      |

### PTFE COMPOUNDS

PTFE is one of the most chemically inert compounds available. PTFE diaphragms require an elastomeric back-up diaphragm to provide support and to aid sealing of the PTFE primary diaphragm.

Wilden offers two PTFE diaphragm configurations. The full-stroke PTFE configuration uses the same shafts and hardware as the corresponding rubber and TPE diaphragms in each size. The resulting diaphragms offer flow rates and

suction capabilities equivalent to that provided by rubber or TPE diaphragms. These diaphragms are not recommended for fluids containing hard solid particles due to their shape and longer stroke. Particulates can become lodged between the pump housing and the diaphragm, potentially leading to abrasion, perforation and premature failure.

Wilden was the first air-operated double-diaphragm pump manufacturer to offer PTFE diaphragms. Wilden continues

to offer this original PTFE diaphragm which features a reduced stroke and reduced displacement to minimize abrasive contact with the pump housing and provide long flex life. This design is ideal for pumping fluids that contain small solids such as those found in waste streams. This diaphragm configuration uses a smaller diameter outer piston and a shorter length shaft than those used for rubber and TPE diaphragms in each size, resulting lower flow rates and suction lift capabilities.

| COMPOUND | COLOR CODE | TEMPERATURE LIMITS             | SUITABLE APPLICATIONS                                                                                                                                                                                        |
|----------|------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PTFE     | White      | -4° to 104° C<br>40° to 220° F | Excellent choice when pumping highly aggressive fluids such as aromatic or chlorinated hydrocarbons, acids, caustics, ketones and acetates. Exhibits good flex life compared to a standard rubber diaphragm. |

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## Where Innovation Flows

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