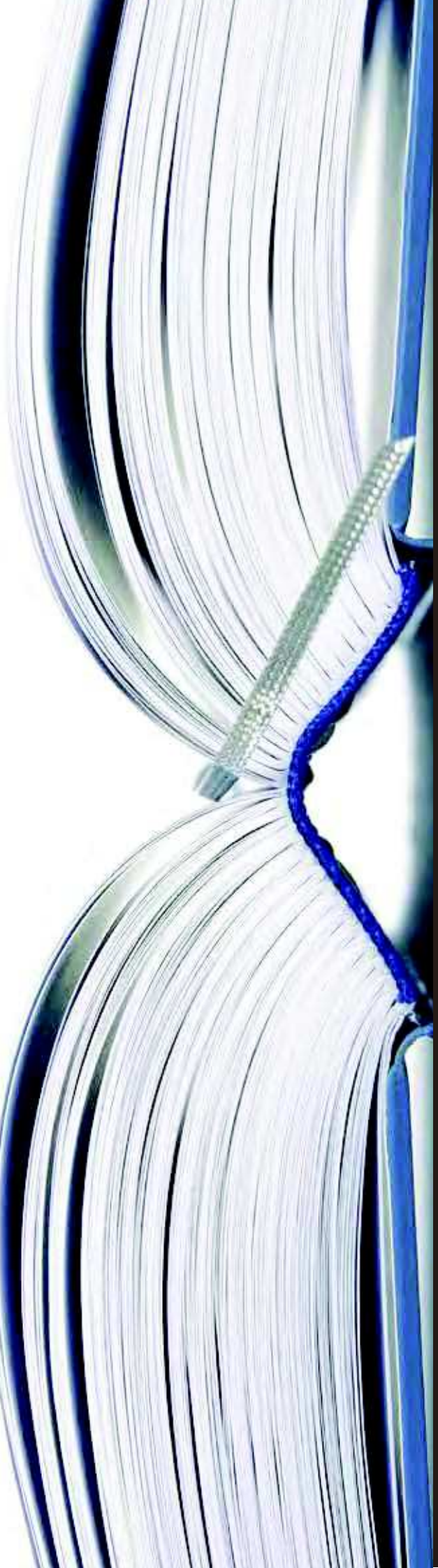


# APPENDIX

*(Reprinted from Assogomma "Recommendation regarding choice, storing, use and maintenance of rubber hoses" June 2004.)*

## 1. CHOICE CRITERIA

In order to choose a hose suitable for a specific use it is necessary to determine at least the following basic points:

### 1.1 Pressure - suction

It is necessary to determine the maximum working pressure or suction values. It should be taken into consideration that the normal life of the hose will be prejudiced in the case of a sudden pressure variation or pressure peaks exceeding the maximum allowed.

### 1.2 Compatibility of conveyed substances

The nature, designation, concentration, temperature and state ( liquid, solid, gaseous) must be determined. In the case of solid substances conveyed, it is necessary to indicate granulometry, density, quantity of the solid substance conveyed as well as the nature, speed and flow of the fluid carrying it.

### 1.3 Environment

It is necessary to know the place of usage, ambient temperature, hygrometric conditions and exposure to atmospheric agents. Specific environment conditions such as ultraviolet rays, ozone, sea water, chemical agents and other aggressive elements could cause early degeneration of the hose.

### 1.4 Mechanical stress

The minimum bend radius* must be established as well as any stress related to traction, torsion, bending, vibration, compression, deflection and longitudinal or transversal loads.

### 1.5 Cover abrasion

Even though the hoses are manufactured to guarantee good resistance to abrasion, it is advisable to use further protection when damage to the hose may be caused by shock, corrosion and/or dragging.

### 1.6 Working position

Indicate if the hose is either placed on the ground, suspended or immersed.

### 1.7 Used or foreseen couplings

This must be selected according to:
- couplings and flanges: type, dimension, type of thread, standard references and kind of application;
- hose shank: internal and external diameter and length;
- ferrules/clumps: type and dimension.

In order to guarantee good performance the compatibility between the hose and type of coupling must be ensured. The assembly must guarantee the working pressure suggested by the manufacturer.

### 1.8 Technical standards

National, European and International technical standards and rules must always be adhered to. In the case of hoses for peculiar purposes it is advisable to establish proper specification with the manufacturer.

### 1.9 Marking

Manufacturers must mark hoses at regular intervals with the information necessary for the proper use of the product.
When interpretation is not clear or information is insufficient, user should apply to the manufacturer.

## 2. RECOMMENDATION FOR CORRECT STORAGE

Rubber is subject, by nature, to changes in physical properties. These changes, which normally occur over the course of time, according to the kind of rubber used, can be accelerated by one particular factor or by a combination of these.
Reinforcement materials are also adversely affected by unsuitable conditions of storage. The following recommendations give some precautions to be taken to ensure the minimum deterioration to stored articles.

### 2.1 Storage life

Storage time should be reduced to the minimum through programme rotation.
When it is not possible to avoid long term storage, it is necessary that the user, as indicated in ISO 8331, carries out a complete check of the hose before its use according to the following criteria:
- maximum two years storage for assembly;
- maximum four years storage for hoses.

### 2.2 Temperature and humidity

The best temperature for the storage of rubber hoses varies from 10 to 25 degrees centigrade. Hoses should not be stored at temperature above 40 °C or below 0 °C. When the temperature is below –15 °C it is necessary to take precautions when handling.
Hoses should not be stored near sources of heat nor in conditions of high or low humidity. A humidity level of a maximum of 65% is recommended.

### 2.3 Light

Hoses must be stored in dark places, avoiding direct sun light or strong artificial light. Should store rooms have windows or glass openings, these must be screened.

### 2.4 Oxygen and ozone

Hoses should be protected from circulating air by suitable packing or by storage in air-tight containers. As ozone has a particularly aggressive action on all rubber products, the store house must not contain material producing ozone like devices under high electrical tension, electric engines or other materials provoking sparks or electric arcs.

### 2.5 Contact with other materials

Hoses should not come into contact with solvents, fuels, oils, greases, volatile chemical mixtures, acids, disinfectants and other organic liquids in general.
Furthermore direct contact with some metals ( for example manganese, iron, copper and its alloys) and relative mixture exercise harmful effects on some types of rubber.
Contact with PVC and creosote impregnated timber or fabrics should be avoided.

### 2.6 Heat sources

The temperature limits given in point 2.2 must be respected. When this is impossible, it is necessary to use a thermic shield at a distance not less than one meter.

### 2.7 Electric or magnetic field

Variation in electric or magnetic fields must be eliminated in store houses as these could provoke currents in metal coupling, heating them. Similar fields could be caused by high-tension cables or high frequency generators.

***** The **minimum bend radius** is the radius to which the hose can be bent in service without damage or appreciably shortening its life. The radius is measured to the inside of the curvature. **Formula to determine minimum hose length given bend radius and degree of bend required:**

$$L = \frac{A}{360°} \times 2\,\pi\,B$$

Where:
- L = Minimum length of hose to make bend (Bend must be made equally along this portion of hose length).
- A = Angle of bend
- B = Given bend radius of hose
- $\pi$ = 3.14

Example: To make a 60° bend at the hose's rated minimum bend radius of 15 cm

$$L = \frac{60}{360°} \times 2 \times 3.14 \times 15 = 15.7 \text{ cm} \cong 16 \text{ cm}$$

Thus, the bend must be made over approximately 16 cm of hose length. The bend radius used must be equal to or greater than the rated minimum bend radius. Bending the hose to a smaller bend radius than minimum may kink the hose and result in damage and early failure.

### 2.8 Storage conditions
Hoses must be stored in a relaxed condition free from tension, compression or other deformation and contact with objects that could pierce or cut must be avoided. It is preferable to store hoses on special shelves or on dry surfaces.
Coiled hoses must be stored horizontally avoiding piling. When this is not possible the height of the piles must be such to avoid permanent deformation of hoses stored underneath.
The inside diameter of the coil, during the storage, must be such as to not compromise the performances of the products. In particular, this diameter must not have value less than those indicated by the manufacturers.
It is advisable to avoid storing coiled hoses on poles or hooks. Furthermore it is advisable to store hoses to be delivered straight, horizontally, without bending.

### 2.9 Rodents and insects
Hoses must be protected from rodents and insects. When such a risk is probable adeguate precautions must be taken.

### 2.10 Marking or packaged items
It is advisable that hoses are always easy to identify even if packaged.

### 2.11 Exit from storage
Prior to delivery hoses must be checked for integrity and must correspond to the required use. After long storage if couplings are not clipped, swaged or built-in, it is necessary to check that locking collars are tight.

### 2.12 Return to storage
Hoses that have been used must be free from all substances prior to storage. Particular attention must be paid when chemical, explosive, inflammable, abrasive and corrosive substances have been conveyed. After cleaning, check whether the hose is suitable to use again.

## 3. NORMS AND METHOD OF USE
After having chosen the type of hose, the users must keep in mind the following hose installation criteria:

### 3.1 Preassembly checks
Prior to installation it is necessary to check the characteristics of the hose carefully to verify that type, diameter and length conform with the required specifications. Moreover a visual check must be effected to make sure that there are no obstructions, cuts, damaged cover or any other evident imperfections.

### 3.2 Handling
Hoses must be moved with care avoiding knocks, dragging over abrasive surfaces and compression. Hoses must not be pulled violently when twisted or knotted. Heavy hoses, normally delivered in a straight line, must be laid on special supports for transport (see attachment). Should wood supports be used these must not be treated with creosote or painted with substances which could damage the rubber.

### 3.3 Pressure and seal test
The working pressure generally indicated by manufacturer must be respected. Following installation, when air bubbles have been eliminated, increase the pressure to test the assembly and check possible leaks. This test must be carried out in a place free from danger.

### 3.4 Temperature
Hoses must always be used within the temperature limits generally indicated. In case of doubt apply to manufacturers.

### 3.5 Conveyed products
Hoses must be used exclusively to convey substances for which they were manufactured. In case of doubt it is always advisable to contact manufacturer. As far as possible, hoses must be empty after usage. Where any risks are involved special precautions must be taken to avoid bursts.

### 3.6 Environment
Hoses must be used exclusively in the environment conditions for which they were manufactured.

### 3.7 Bending radius
Installation underneath the minimum bending radius reduces the life of the hose considerably. Morover it is necessary to avoid bending at fitting ends. *(See attached 1).

### 3.8 Torsion
Hoses are not manufactured to work in torsion, except for specific purposes.

### 3.9 Traction
Traction must be within limits specified by manufacturer. In case of doubts it's advisable to get in touch with manufacturers.

### 3.10 Vibration
Vibrations subject hoses to stress from heat and fatigue above all near couplings and premature bursting may occur. It is therefore advisable to check that hoses have been manufactured to resist such stress.

### 3.11 Kinking
Some users tend to obstruct the flow of liquids by kinking the hose. This system is not advised by manufacturers because the reinforcement is subjected to eccessive stress and could lead to bursting.

### 3.12 Choice and application of couplings
Provided that the manufacturers instructions are met it is always necessary to check the compatibility between the working pressure of couplings and hoses. Couplings with too large diameters cause abnormal stress which can split the hose reinforcement, whilst too small dimensions can create clumping difficulties and leakage.
Furthermore couplings must be free from sharp and cutting edges which could damage the hose.
Water or soap and water can be used to fit couplings. Do not use products containing oils or solvents except for the kind of hoses destined to be used with the latter.
Softening hoses with mallet or similar tools is forbidden.
Take care to avoid external collars or other tightening tools. The use of makeshift collars (for example wire) with sharp edges or too tight clumping leads to damage of cover and reinforcement.

### 3.13 Electrical properties
According to ISO 8031: 2009 "Rubber and plastics hoses and hose assemblies – Determination of electrical resistance and conductivity" hoses and hose assemblies are classified in three types depending on their property to conduct electricity:

a) INSULATING
   Not incorporating conductive elements and not capable of dissipating electrostatic charges.
   The electrical resistance is more than 10^8 Ω per length.

b) CONDUCTIVE (Ω grade)
   Incorporating electrically conducting materials in the hose construction.
   The resistance along the conductive layer, in case of hoses, or the resistance between fittings, in case of hose assemblies, shall not exceed 10^6 Ω per length.

c) ELECTRICALLY BONDED (grade M)
   Incorporating at least two metallic bonding wires into the hose construction. The resistance along the bonding wires, in case of hoses, or the resistance between fittings, in case of hose assemblies, shall not exceed 10^2 Ω per length.

According to EN 12115: 2011 " Rubber and thermoplastics hoses and hose assemblies for liquid or gaseous chemicals – specification", when there is a need for hose assemblies of type b) or c) with an electrical resistance through the hose wall of not more than 10^9, these hoses shall be marked with the additional symbol "/T", e.g. "Ω/T" or "M/T".
Such hose assemblies are required in situations where dissipation of electrostatic charges are a safety requirement (i.e. in explosive environments).

### 3.14 Installation between two points
The hoses must be supported in a suitable way, so as the normal movement when the hose is under pressure (variations in length, diameter, twisting, etc.) are allowed.

### 3.15 Mobile pieces
When hoses link mobile pieces, it is necessary to check that the length of the hose is suitable and that the movement does not subject the hose to shock or chafing and that abnormal stress, bending, traction or torsion do not occur.

### 3.16 Identification
If further marking is necessary, self-adhesive tape may be used. When the use of paint is unavoidable check compatibility of cover with manufacturer.

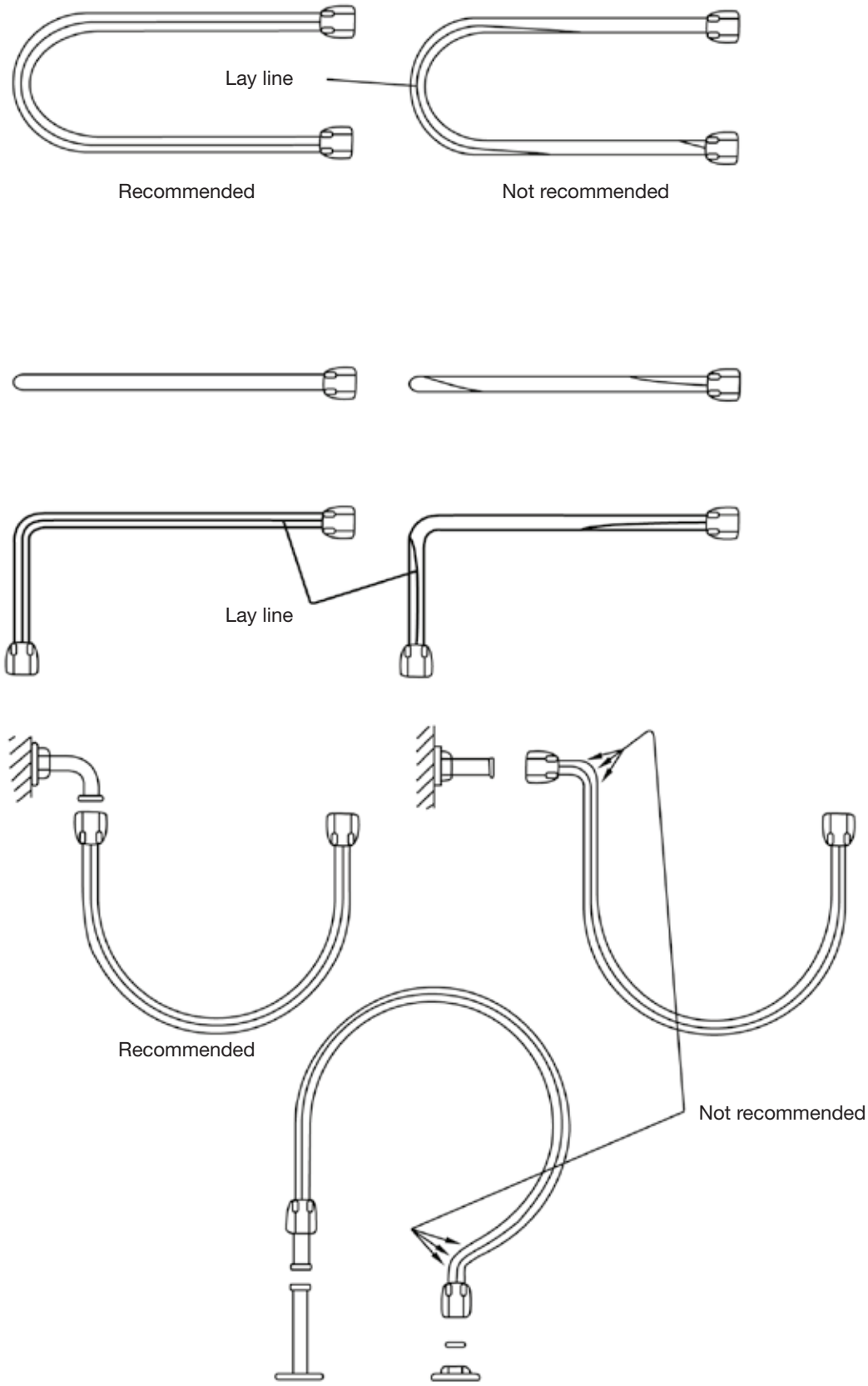
## 4. MAINTENANCE
Even though choice, storage and installation have been carried out correctly regular maintenance is necessary.
Frequency of the latter is determined according to use involved. During regular check special attention must be paid to couplings and to the appearance of the following irregularities which show deterioration of hose:
- Cracks, cuts, abrasions, unsticking, tears in cover revealing reinforcement;
- Deformity, bubbles, local swelling under pressure;
- Sticky or soft areas;
- Leaks.

Such irregularities justify hose substitutions. When cover bears date of expiry this must be kept to even if the hose shows no apparent signs of wear.

### 4.1 Repairs
Hose repairs are not advisable. However when deterioration occurs at an end section, and if the full length allows for such, the worn section may be eliminated.

### 4.2 Cleaning
If cleaning instructions are not supplied by the manufacturer clean, if necessary, with soap and water avoiding use of solvents (petrol, paraffin, etc) or detergents. Never use abrasive, pointed or cutting tools (wire brushes).

***(Attached 1)**




This drawings refer to assemble installed in real conditions. Some of these may request layouts violating such recommendations. It is necessary to point out that such cases are only applicable in test conditions and cannot be used for general use.

The chemical guide in this section is offered as a general indication of the compatibility of the various materials used in ALFAGOMMA hose with the chemicals and fluids listed. The basis for the ratings in this guide include actual service experience, the advice of various polymer suppliers, and the considered opinion of our rubber chemists. When in doubt, a sample of the compound should always be tested with the particular chemical it is to handle. Some of the variables that come into play in the resistance of a compound to chemical attack are:

1. **Temperature of the Material Transmitted:**
Higher temperatures increase the effect of chemicals on rubber compounds. The increase varies with the polymer and the chemical. A compound quite suitable at room temperature might fail very quickly at higher temperatures.

2. **Service Conditions:**
A rubber compound usually swells when exposed to a chemical. With a given percent of swell, a hose tube may function satisfactorily if the hose is in a static condition, but fail quickly if the hose is subject to flexing.

3. **The Grade or Blend of the Rubber Compound:**
Basic rubber polymers are sometimes mixed or blended together to enhance a particular property for a specific service. The reaction to a particular chemical blend of polymers may, therefore, be somewhat different from the reaction to the single ones. When in doubt, a sample of the compound should always be tested with the particular chemical it is to handle.

**GENERAL CHEMICAL RESISTANCE OF ALFAGOMMA HOSE COMPOUNDS**

| COMMON NAME | ASTM Designation D1418-93 | COMPOSITION | GENERAL PROPERTIES |
|---|---|---|---|
| Natural rubber | NR | Isoprene rubber | Excellent physical properties, including abrasion resistance. Not oil resistant. |
| SBR | SBR | Styrene-butadiene rubber | Good physical properties, including abrasion resistance. Not oil resistant. |
| Butyl rubber | IIR | Isobutene-isoprene rubber | Very good weathering resistance. Low permeability to air. Good physical properties. Poor resistance to petroleum based fluids. |
| EPDM | EPDM | Ethylene-propylene-diene-terpolymer | Good general purpose polymer. Excellent heat, ozone and weathering resistance. Not oil resistant. |
| Cross linked polyethylene | XLPE | Cross linked polyethylene | Excellent resistance to most solvents, oils and chemicals. Do not confuse with chemical properties of standard polyethylene. |
| Ultra high molecular weight polyethylene | UHMWPE | Ultra high molecular weight polyethylene | Excellent resistance to most solvents, chemicals and hydrocarbons. Excellent abrasion and wear resistance. Inert and suitable for food contact. Do not confuse with chemical properties of standard polyethylene. |
| Teflon/Fluorocarbon resin | PTFE | Polytetra-fluoroethylene | Excellent chemical and solvent resistance. Inert to most materials. Smooth anti-adhesive surface, easy to clean. |
| Nitrile rubber | NBR | Acrylonitrile-butadiene rubber | Excellent oil resistance. Good physical properties. |
| Neoprene | CR | Chloroprene rubber | Excellent weathering resistance. Flame retardant. Good oil resistance. Good physical properties. |
| Hypalon® | CSM | Chloro-sulfonated polyethylene | Excellent ozone, weathering and acid resistance. Good abrasion and heat resistance. Can be compounded for good oil resistance. |
| Polyurethane | AU | Polyester urethane | Excellent abrasion and wear resistance. Not resistant to hydrolysis. |
| Viton | FKM | Fluorocarbon rubber | Excellent high temperature resistance, particularly in air or oil. Very good resistance to chemicals. |

# Chemical resistance chart

The following data is based on tests and believed to be reliable; however, we emphasise that the tabulation should be used as a guide only, since it does not take into consideration all variables such as elevated temperatures, fluid contamination, concentration, etc. that may be encountered in actual use. All critical applications should be tested. Contact ALFAGOMMA for recommendation and assistance.

Note : All data based on 20 °C (68 °F) unless otherwise noted.

Key:

Blank = No Data
E = Excellent
G = Good
F = Fair
C = Conditional
X = Unsatisfactory

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| ACETALDEHYDE | F | X | E | E | E | E | C | X | C | F | X | X |
| ACETIC ACID, GLACIAL | C | X | G | G | E | E | C | X | F | C | C | X |
| ACETIC ACID, 10% | G | F | G | E | E | E | C | E | E | E | X | G |
| ACETIC ACID, 50% | X | F | G | E | E | E | C | F | F | E | X | F |
| ACETIC ANHYDRIDE | F | X | C | G | E | E | F | X | G | E | F | X |
| ACETIC OXIDE | F | X | G | G | E | E | F | X | G | E | F | X |
| ACETONE | C | C | E | E | E | E | X | X | C | X | X | X |
| ACETONE CYANOHYDRIN | F | | E | E | | | | X | G | F | X | X |
| ACETONITRILE | G | | E | E | | | E | X | E | G | | X |
| ACETOPHENONE | C | X | G | E | E | E | X | X | X | X | X | X |
| ACETYL ACETONE | X | X | E | E | | | X | X | X | X | C | X |
| ACETYL CHLORIDE | X | X | X | X | | | E | X | X | C | X | G |
| ACETYL OXIDE | F | | G | G | E | E | F | X | G | E | F | X |
| ACETYLENE | C | F | E | E | E | E | E | E | E | C | C | E |
| ACETYLENE DICHLORIDE | X | X | F | C | | | E | X | X | X | | G |
| ACETYLENE TERACHLORIDE | X | | X | C | | | X | X | C | X | X | |
| ACROLEIN | G | F | E | E | | | | F | G | G | X | C |
| ACRYLONITRILE | C | F | X | E | E | E | G | X | X | C | X | X |
| ACRYLIC ACID | X | | | X | | | X | X | X | G | C | |
| ADIPIC ACID | E | | X | C | E | E | G | E | E | G | E | E |
| AIR, +300°F | X | X | G | G | | | E | G | G | G | C | E |
| ALK-TRI | X | | X | X | | | X | X | X | X | X | E |
| ALLYL ALCOHOL | E | | E | E | E | E | | E | E | E | | E |
| ALLYL BROMIDE | X | | X | X | | | | X | X | X | | G |
| ALLYL CHLORIDE | X | E | C | X | E | F | G | G | X | X | | E |
| ALUM | E | | E | G | E | E | C | C | E | E | G | E |
| ALUMINIUM ACETATE | E | X | G | E | | | E | C | C | F | X | C |
| ALUMINIUM CHLORIDE | E | E | E | E | E | E | E | E | E | E | C | E |
| ALUMINIUM FLUORIDE | E | E | E | E | E | E | E | E | E | E | C | E |
| ALUMINIUM FORMATE | X | | G | E | | | | X | E | X | X | X |
| ALUMINIUM HYDROXIDE | E | G | E | E | E | E | E | E | E | E | G | E |
| ALUMINIUM NITRATE | E | E | E | E | | | E | E | E | E | C | E |
| ALUMINIUM SULFATE | E | G | A | E | E | E | C | E | G | E | C | E |
| AMINES-MIXED | C | G | | G | | | G | X | C | X | X | X |
| AMINOBENZENE | X | X | E | C | E | E | E | X | X | C | X | E |
| AMINODIMETHILBENZENE | X | | G | C | | | | C | X | F | | X |
| AMINOETHANE | C | X | G | E | E | E | E | C | C | F | X | X |
| AMINOXYLENE | X | | G | E | | | G | C | X | X | X | F |
| AMMONIUM CARBONATE | E | E | E | E | | | C | C | E | C | C | E |
| AMMONIUM CHLORIDE | E | E | E | E | E | E | E | G | E | E | G | E |
| AMMONIUM HYDROXIDE | G | X | G | E | E | E | E | C | E | E | C | G |
| AMMONIUM NITRATE | E | E | E | E | E | E | C | E | E | E | C | E |
| AMMONIUM PHOSPHATE, DIBASIC | E | E | E | E | E | E | C | E | E | E | | E |
| AMMONIUM SULFATE | E | G | E | E | E | E | C | E | E | E | E | E |
| AMMONIUM SULFIDE | E | G | E | E | E | E | C | C | E | E | | X |
| AMMONIUM THIOSULFATE | E | | E | E | | | | C | E | E | X | E |
| AMYL ACETATE | C | X | G | C | E | E | X | X | X | X | X | X |
| AMYL ACETONE | X | | G | G | | | | X | X | X | | X |
| AMYL ALCOHOL | C | G | E | E | E | E | E | C | C | E | X | E |
| AMYL BROMIDE | X | | X | C | | | | X | X | X | | G |
| AMYL CHLORIDE | X | X | X | X | E | E | E | X | X | X | F | E |
| AMYL ETHER | X | | X | X | | | | C | X | F | | |
| AMYLAMINE | F | | G | X | | | | F | C | F | | C |
| ANETHOLE | X | | X | X | | | | X | X | X | | G |
| ANILINE | X | X | E | C | E | E | E | X | X | C | X | E |
| ANILINE DYES | C | G | G | C | E | E | C | X | C | G | X | G |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| ANILINE OIL | X | X | G | C | E | E | G | X | X | C | X | F |
| ANIMAL FATS | X | X | C | C | E | E | E | E | C | F | F | E |
| ANTIMONY PENTACHLORIDE | X | | | C | E | E | | X | C | X | E | |
| AQUA REGIA | X | X | C | C | X | X | C | X | X | C | X | E |
| ARGON | X | C | G | E | | | E | E | G | X | C | E |
| ARSENIC ACID | E | E | E | E | E | E | E | E | E | E | C | E |
| ASPHALT | X | X | X | X | E | E | E | C | C | F | C | E |
| ASTM FUEL A | X | X | X | X | | | F | E | C | C | E | E |
| ASTM FUEL B | X | X | X | X | | | X | C | X | X | C | E |
| ASTM FUEL C | X | X | X | X | | | X | C | X | X | X | E |
| ASTM OIL NO.1 | X | X | X | X | E | E | E | E | E | C | E | E |
| ASTM OIL NO.2 | X | X | X | X | E | E | G | E | C | X | C | E |
| ASTM OIL NO.3 | X | X | X | X | E | E | G | E | C | C | C | E |
| ASTM OIL NO.4 | X | X | X | X | | | G | C | X | X | X | E |
| AUTOMATIC TRASMISSION FLUID | X | X | X | X | | | C | E | C | C | C | E |
| BANANA OIL | X | | C | C | | | X | X | X | C | X | X |
| BARIUM CHLORIDE | E | E | E | E | E | E | E | E | E | E | E | E |
| BARIUM HYDROXIDE | E | E | E | E | E | E | E | E | E | E | E | E |
| BARIUM SULPHIDE | E | G | E | E | E | E | E | E | E | E | E | E |
| BEER | E | E | E | E | E | E | E | E | E | E | C | E |
| BEET SUGAR LIQUORS | E | E | E | E | E | E | E | E | C | E | X | E |
| BENZAL CHLORIDE | | | G | | | | | X | | | | |
| BENZALDEHYDE | X | X | G | E | E | E | C | X | X | X | X | X |
| BENZENE | X | X | X | C | E | F | C | X | C | C | X | E |
| BENZENE CARBOXYLIC ACID | X | | E | C | | | E | X | E | C | X | E |
| BENZINE | | X | X | X | E | E | F | E | C | C | F | E |
| BENZOIC ACID | X | X | C | C | | | C | X | E | C | X | E |
| BENZOL | X | X | X | C | E | F | C | X | C | C | X | E |
| BENZOTRICHLORIDE | X | | | E | | | E | X | X | X | | |
| BENZYL ACETATE | X | | E | E | | | | X | E | G | X | X |
| BENZYL ALCOHOL | X | X | E | C | | | E | X | C | C | X | E |
| BENZYL CHLORIDE | X | X | X | X | | | E | X | X | X | X | C |
| BENZYL ETHER | X | X | G | C | | | F | X | X | X | C | X |
| BLACK SULFATE LIQUOR | G | G | G | G | E | E | | G | G | G | X | E |
| BLEACH | C | X | E | E | G | F | E | X | C | E | C | G |
| BORAX SOLUTION | C | G | E | E | E | E | E | C | E | E | E | E |
| BORIC ACID | E | E | E | E | E | E | E | E | E | E | E | E |
| BRAKE FLUID (HD-557)12 DAYS | X | E | E | E | | | E | C | C | C | X | X |
| BRINE | E | | E | E | E | E | E | E | E | E | G | E |
| BROMACIL | | | | | | | | | | | | |
| BROMOBENZENE | X | X | X | X | | | X | X | X | X | X | E |
| BROMOCHLOROMETANE | X | | C | G | F | F | | X | X | X | | F |
| BROMOETHANE | C | X | C | X | E | E | E | C | X | X | X | E |
| BROMOTOLUENE | X | | X | | | | | X | | X | | G |
| BUNKER OIL | X | X | X | X | | | E | E | G | C | C | E |
| BUTADIENE | X | X | X | X | E | E | C | X | X | G | X | E |
| BUTANE | X | X | X | X | E | E | C | E | E | C | E | E |
| BUTANOIC ACID | C | | X | C | | | E | C | X | C | C | E |
| BUTANOL | E | E | C | C | E | E | E | E | E | E | X | E |
| BUTANONE | X | X | E | E | E | E | X | X | X | X | X | X |
| BUTOXYETHANOL | X | | C | E | | | F | C | X | G | X | X |
| BUTYL ACETATE | X | X | C | C | E | E | X | X | X | X | X | X |
| BUTYL ACRYLATE | X | X | X | C | E | E | X | X | X | X | | X |
| BUTYL ALCOHOL | E | E | C | C | E | E | E | E | E | E | X | E |
| BUTYL ALDEHYDE | X | X | C | C | E | E | X | X | X | X | C | X |
| BUTYL BENZYL PHTHALATE | X | | E | E | E | E | | X | E | X | X | F |
| BUTYL CARBITOL | X | X | E | E | | | C | X | X | C | X | F |
| BUTYL CELLOSOLVE | X | X | C | C | E | E | F | C | X | G | X | X |
| BUTYL CHLORIDE | X | | F | X | | | | X | X | X | E | E |
| BUTYL ETHER | X | X | C | C | E | E | X | X | C | X | C | X |
| BUTYL ETHER ACETALDEHYDE | X | | G | X | | | | X | X | X | | X |
| BUTYL ETHYL ETHER | X | | X | F | | | | G | X | C | | |
| BUTYL OLEATE | X | X | C | C | | | C | X | X | X | | E |
| BUTYL PHTHALATE | X | X | G | E | E | E | C | X | X | X | X | F |
| BUTYL STEARATE | X | X | C | X | E | E | C | C | X | X | G | E |
| BUTYLENE | X | X | X | X | | | C | C | C | C | C | E |
| BUTYRALDEHYDE | X | X | C | C | E | E | X | X | X | X | C | X |
| BUTYRIC ACID | C | X | X | C | E | E | E | C | X | C | C | G |
| BUTYRIC ANHYDRIDE | F | | F | E | | | | C | G | G | X | |
| CADMIUM ACETATE | X | | E | | | | | X | | E | | X |
| CALCIUM ALUMINATE | E | | E | | | | | E | | E | | E |
| CALCIUM BICHROMATE | | | E | E | | | | C | E | F | | |
| CALCIUM BISULFIDE | X | G | X | E | | | E | C | E | F | C | E |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| CALCIUM CHLORIDE | E | E | E | E | E | E | E | E | E | E | E | E |
| CALCIUM HYDROXIDE | E | E | E | E | E | E | E | E | E | E | C | E |
| CALCIUM HYPOCHLORITE | C | X | E | E | E | E | E | C | C | E | C | E |
| CALCIUM NITRATE | E | E | E | E | | | E | E | E | E | E | E |
| CALCIUM SULFIDE | C | X | E | E | | | E | E | E | E | C | E |
| CALCIUM ACETATE | E | X | E | E | | | C | C | C | C | X | E |
| CAPRYLIC ACID | C | | F | | | | | F | | G | | |
| CARBAMIDE | E | | E | E | E | E | F | G | G | E | G | E |
| CARBITOL | C | E | C | C | E | E | E | C | C | C | X | E |
| CARBOLIC ACID PHENOL | C | | C | | | | E | | | C | C | |
| CARBON DIOXIDE | G | G | E | G | E | E | E | E | G | E | E | E |
| CARBON DISULFIDE | X | | X | X | C | C | C | X | X | X | C | E |
| CARBON MONOXIDE | C | G | E | E | E | E | E | E | C | C | E | E |
| CARBON TETRACHLORIDE | X | | X | X | E | E | X | X | X | X | C | E |
| CARBONIC ACID | E | G | E | E | E | E | E | C | E | E | E | E |
| CASTOR OIL | E | E | C | C | E | E | E | E | E | E | E | E |
| CAUSTIC SODA | E | E | E | G | E | E | E | C | G | E | C | E |
| CELLOSOLVE ACETATE | C | X | C | G | E | E | C | X | X | X | C | X |
| CELLUGUARD | E | E | E | E | | | E | E | E | E | X | E |
| CETYLIC ACID | C | G | C | C | E | E | E | E | G | C | C | E |
| CHINA WOOD OIL | X | X | C | X | E | E | E | E | C | C | C | E |
| CHLORINATED SOLVENTS | X | X | X | X | E | E | C | X | X | X | X | E |
| CHLORO-2-PROPANONE | X | | C | | | | C | | | X | X | |
| CHLOROACETIC ACID | X | X | C | C | E | E | C | X | X | G | X | G |
| CHLOROACETONE | X | X | C | E | E | E | C | X | X | X | X | X |
| CHLOROBENZENE | X | X | X | X | E | E | C | X | X | X | X | E |
| CHLOROBUTANE | X | | F | X | | | | X | X | X | E | E |
| CHLORODANE | X | X | X | X | | | C | C | C | C | C | E |
| CHLOROETHYL BENZENE | X | | X | X | | | | C | X | X | C | |
| CHLOROFORM | X | X | X | X | F | F | E | X | X | X | X | E |
| CHLOROPENTANE | X | | X | X | | | C | X | X | X | F | E |
| CHLOROSULFONIC ACID | X | X | X | X | F | X | C | X | X | X | X | X |
| CHLOROTOLUENE | X | X | X | X | | | C | X | X | X | X | E |
| CHLOROX | X | X | C | G | | | E | C | C | C | X | E |
| CHROME PLATING SOLUTIONS | X | X | C | C | | | E | X | X | X | X | E |
| CHROMIC ACID | C | X | C | C | E | E | E | X | X | E | C | E |
| CHROMIUM TRIOXIDE | X | X | G | C | | | E | X | X | E | X | C |
| CINNAMENE | X | X | X | X | | | X | C | X | X | C | G |
| CIS-9-OCTADECENOIC ACID | X | X | X | C | E | E | E | G | C | C | C | E |
| CITRIC ACID | E | E | E | E | E | E | E | E | E | E | E | E |
| COAL TAR OIL | X | X | X | X | E | E | E | E | G | F | F | E |
| COAL TAR | X | X | X | X | E | E | C | C | C | C | C | E |
| COAL TAR NAPHTHA | X | | X | X | E | E | E | X | X | X | G | E |
| COCONUT OIL | X | X | C | C | E | E | C | E | C | C | C | E |
| COKE OVEN GAS | C | X | C | X | E | E | C | X | X | C | X | E |
| COOLANOL | X | X | X | X | | | E | E | C | C | X | E |
| COPPER CHLORIDE | E | E | E | E | E | E | E | E | C | C | E | E |
| COPPER CYANIDE | E | E | E | E | E | E | G | E | E | E | E | E |
| COPPER HYDRATE | F | | E | | | | | G | | G | | F |
| COPPER HYDROXIDE | F | | E | | | | | G | | G | | F |
| COPPER SULFATE | C | G | C | E | E | E | E | E | E | E | C | E |
| CORN OIL | X | X | C | C | E | E | E | E | C | C | E | E |
| COTTONSEED OIL | X | X | C | C | E | E | C | E | C | C | E | E |
| CREOSOTE | X | X | X | X | E | E | C | C | C | X | C | E |
| CRESOLS | X | X | X | X | E | E | E | X | X | X | X | E |
| CRESYLIC ACID | X | X | X | X | E | E | C | X | X | X | X | E |
| CROTONALDEHYDE | X | F | E | E | E | E | | X | X | X | X | X |
| CRUDE OIL | X | X | X | X | E | E | C | C | C | C | E | E |
| CUMENE | X | X | X | X | | | C | X | X | X | X | E |
| CUPRIC CARBONATE | | | | | | | | | | | | E |
| CUPRIC HYDROXIDE | F | | E | | | | | G | | G | | F |
| CUPRIC NITRATE | G | | E | C | E | E | G | C | E | E | G | E |
| CUPRIC SULFATE | C | G | C | E | E | E | E | E | E | E | C | E |
| CUTTING OIL | C | X | X | X | | | C | E | C | C | E | E |
| CYCLOHEXANE | X | X | X | X | E | E | C | E | X | C | C | E |
| CYCLOHEXANOL | C | X | X | X | E | E | C | G | C | C | F | E |
| CYCLOHEXANONE | X | X | C | C | E | E | C | X | X | X | X | X |
| CYCLOPENTANE | X | | X | X | | | C | G | C | X | E | E |
| CYCLOPENTANOL | | | | | | | | | | | | G |
| CYCLOPENTANONE | X | | X | | | | | X | | X | | X |
| CYCLOPENTIL ALCOHOL | | | | C | | | | X | F | | | |
| D-FURALDEHYDE | X | | C | E | | | C | G | F | C | C | |

# Chemical resistance chart

ALFAGOMMA

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| DDT IN KEROSENE | X | X | X | X | | | X | E | C | C | G | E |
| DECAHYDRONAPHTHALENE | X | E | X | X | E | E | C | X | X | X | X | X |
| DECALIN | X | E | X | X | E | E | C | X | X | X | X | X |
| DECYL ALCOHOL | X | | X | X | | | | E | X | C | E | G |
| DECYL ALDEHYDE | X | | F | X | | | | X | | X | | X |
| DECYL BUTYL PHTHALATE | X | | E | | | | | X | | X | | F |
| DETERGENT, WATER SOLUTION | E | G | E | E | E | E | E | E | C | C | G | E |
| DEVELOPING FLUID | E | G | C | C | | | E | E | E | E | E | E |
| DEXTRON | X | X | X | X | | | E | E | C | X | C | E |
| DI (2ETHYLHEXYL) ADIPATE | X | | E | G | G | G | | X | X | X | | F |
| DI (2ETHYLHEXYL) PHTHALATE | X | X | C | C | E | E | C | X | X | X | C | G |
| DI-ISO-BUTYLENE | X | X | X | X | E | | C | C | C | X | X | E |
| DI-ISO-DECYL PHTHALATE | X | | E | E | | | | X | X | X | | F |
| DI-ISO-PROPANOLAMINE | G | | E | E | | | | G | G | F | | |
| DI-ISO-PROPYL ETHER | X | | X | X | E | E | X | G | C | C | G | X |
| DI-ISO-PROPYL KETONE | X | X | E | E | E | | C | X | X | X | X | X |
| DI-P-MENTHA-1,8-DIENE | X | | X | X | | | | C | X | X | | E |
| DIACETONE ALCOHOL | X | X | E | E | E | E | X | X | F | C | X | X |
| DIACETYLMETHANE | | X | E | E | | | X | X | X | X | F | X |
| DIAMMONIUM ORTHOPHOSPHATE | | | | E | | | | E | E | | | |
| DIAMYL NAPHTHALENE | X | | E | | E | E | | | | X | | |
| DIAMYLAMINE | G | X | E | E | | | E | G | C | C | E | X |
| DIAMYLENE | X | | X | X | | | | | X | X | | E |
| DIAMYLPHENOL | X | | X | | E | E | | X | | X | | E |
| DIBENZYL ETHER | X | X | C | C | | | C | X | X | X | C | X |
| DIBROMOBENZENE | X | | X | X | | | | X | X | X | | E |
| DIBROMOMETHANE | X | | X | C | | | G | X | X | X | C | E |
| DIBUTYL ETHER | X | X | C | C | E | E | X | X | C | X | C | X |
| DIBUTYL PHTHALATE | X | X | C | C | E | E | C | X | X | X | C | C |
| DIBUTYL SEBACATE | X | X | C | C | E | E | C | X | X | X | X | E |
| DIBUTYLAMINE | X | X | X | F | | | C | X | C | C | X | X |
| DICALCIUM PHOSPHATE | E | | E | E | | | | E | E | E | | E |
| DICHLOROETHYLENE | X | | C | C | F | F | C | X | X | X | X | E |
| DICHLOROACETIC ACID | X | X | C | X | E | E | | X | X | X | C | X |
| DICHLOROBENZENE | X | X | X | X | | | X | X | X | X | X | E |
| DICHLOROBUTANE | X | X | X | X | | | C | C | X | X | X | E |
| DICHLORODIFLUOROMETHANE | C | E | C | C | E | G | X | C | C | C | C | G |
| DICHLOROETHANE | X | X | C | X | E | E | C | X | X | X | X | E |
| DICHLOROETHYL ETHER | X | | X | X | | | E | X | X | X | | |
| DICHLOROHEXANE | X | | X | X | | | | X | X | X | | E |
| DICHLOROMETHANE | X | X | X | X | | | C | X | X | X | X | G |
| DICHLOROPENTANE | X | X | X | X | | | | X | X | X | X | E |
| DICHLOROPROPANE | X | | X | X | G | G | | F | X | X | C | E |
| DICHLOROPROPENE | X | | X | X | G | G | | C | X | X | C | |
| DIESEL OIL | X | X | X | X | E | E | E | E | C | C | C | E |
| DIETHANOL AMINE | G | X | E | G | | | E | C | G | F | C | X |
| DIETHYLBENZENE | X | X | X | | | | C | | | X | X | E |
| DIETHYL ETHER | X | X | X | X | E | E | X | X | X | X | C | X |
| DIETHYL KETONE | X | | G | G | E | E | | X | X | X | | X |
| DIETHYL OXALATE | F | | X | X | | | | X | X | X | | |
| DIETHYL PHTHALATE | X | | X | F | E | E | | X | X | X | C | F |
| DIETHYL SEBACATE | X | X | G | F | | | C | C | X | F | X | G |
| DIETHYL SULFATE | X | E | C | E | | | C | X | E | X | X | X |
| DIETHYL AMINE | C | G | C | C | E | E | C | C | C | C | C | X |
| DIETHYLENE GLYCOL | E | E | E | E | E | E | E | E | E | E | X | E |
| DIETHYLENE OXIDE | X | | X | E | | | X | X | X | X | C | X |
| DIETHYLENETRIAMINE | G | X | E | E | | | E | G | X | F | | X |
| DIHYDROXY SUCCINIC ACID | E | | G | G | | | E | G | G | E | E | E |
| DIHYDROXYDIETHYL ETHER | E | | E | E | E | E | E | E | E | E | X | E |
| DIISOBUTYL KETONE | X | X | G | E | E | E | C | X | X | X | X | E |
| DIISODECYL PHTHALATE | X | | E | E | E | E | | X | X | X | | F |
| DIISOOCTYL ADIPATE | X | | E | E | | | | X | X | X | | F |
| DIISOOCTYL PHTHALATE | X | | E | G | E | E | | X | X | X | | F |
| DIMETHYL CARBINOL | E | | E | E | E | E | E | C | G | E | X | E |
| DIMETHYL KETONE | C | F | E | E | E | E | X | X | C | X | C | X |
| DIMETHYL PHTHALATE | X | X | C | C | E | E | C | X | X | X | X | E |
| DIMETHYL SULFATE | X | | G | X | E | E | | X | X | X | G | X |
| DIMETHYL SULFIDE | X | | F | X | | | | X | X | X | | |
| DIMETHYLAMINE | G | X | G | E | E | E | | F | X | X | X | X |
| DIMETHYLANILINE | X | X | G | E | | | G | X | X | X | X | X |
| DIMETHYLBENZENE | X | X | X | X | | | X | X | X | X | C | E |
| DIMETHYLBUTANE | X | | X | | | | X | | | X | G | |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| DIOXANE | X | X | C | C | E | E | X | X | X | X | X | X |
| DIPENTENE | X | X | X | X | | | C | C | X | X | X | E |
| DIPENTYLAMINE | G | X | E | E | | | E | G | C | C | E | X |
| DIPROPYLAMINEOLAMINE | | | | | | | | | | | | |
| DIPROPYLENE GLYCOL | E | | E | E | | | | E | E | E | | E |
| DISODIUM PHOSPHATE | E | | E | E | | | | E | E | E | E | E |
| DIVINYL BENZENE | X | X | X | X | | | | X | X | X | X | E |
| DOWTHERMN, A AND E | X | X | X | X | | | C | X | X | C | X | E |
| DRY CLEANING FLUIDS | X | X | X | X | | | G | C | X | X | X | E |
| ETHANOIC ACID | | G | | C | E | E | | C | C | | | X |
| ETHANOL | E | E | E | E | E | E | E | C | E | E | C | E |
| ETHANOLAMINE | C | X | C | E | | | E | C | C | C | C | X |
| ETHERS | X | X | X | X | E | E | X | F | X | X | C | X |
| ETHYL ACETATE | X | X | C | C | E | E | X | X | X | X | C | X |
| ETHYL ACETOACETATE | C | F | C | C | | | X | X | X | X | C | X |
| ETHYL ACETONE | X | | G | G | | | | X | X | X | | X |
| ETHYL ACRYLATE | X | X | C | C | | | C | X | X | X | X | X |
| ETHYL ALCOHOL | E | E | E | E | E | E | E | C | E | E | C | E |
| ETHYL ALDEHYDE | C | | E | E | E | E | C | X | X | F | F | X |
| ETHYL ALUMINIUM DICHLORIDE | X | | X | | | | | X | | X | | G |
| ETHYL BENZENE | X | X | X | X | E | E | F | X | X | X | X | E |
| ETHYL BROMIDE | C | X | X | X | E | E | E | C | X | X | X | E |
| ETHYL BUTYL ACETATE | X | | E | | | | | X | | G | | X |
| ETHYL BUTYL ALCOHOL | E | | E | | | | | | | E | | G |
| ETHYL CELLULOSE | C | G | C | C | E | E | E | C | C | C | C | X |
| ETHYL CHLORIDE | C | G | E | C | E | E | G | E | X | C | C | E |
| ETHYL DICHLORIDE | X | X | F | X | E | E | E | X | X | X | X | G |
| ETHYL ETHER | X | X | X | X | E | E | X | X | X | X | C | X |
| ETHYL FORMATE | X | X | C | C | | | E | X | C | C | | E |
| ETHYL IODIDE | X | | F | F | E | E | | X | X | X | | G |
| ETHYL OXALATE | E | X | X | E | | | E | X | X | X | E | E |
| ETHYL PHTHALATE | X | | X | F | E | E | | X | X | X | C | F |
| ETHYL SILICATE | C | G | E | E | | | E | E | E | C | X | E |
| ETHYL-N-BUTYL KETONE | X | | G | G | | | | X | X | X | | X |
| ETHYL-1-BUTANOL | E | | E | E | | | | E | E | E | | |
| ETHYLAMINE | C | X | C | E | | | E | C | C | F | X | X |
| ETHYLENE CHLOROHYDRIN | C | G | C | C | | | E | X | C | C | X | E |
| ETHYLENE DIAMINE | C | G | E | E | E | E | G | C | E | C | X | X |
| ETHYLENE DIBROMIDE | X | X | C | C | F | F | G | X | X | X | X | G |
| ETHYLENE DICHLORIDE | X | X | C | X | F | F | C | X | X | X | X | E |
| ETHYLENE GLYCOL MONOETHYL ACETATE | | | | | | | | | | | | E |
| ETHYLENE GLYCOL MONOBUTYL ETHER | X | X | E | E | E | E | G | F | X | C | X | X |
| ETHYLENE GLYCOL MONOETHYL ETHER | X | | C | C | E | E | C | C | X | X | X | X |
| ETHYLENE GLYCOL | E | E | E | E | E | E | E | E | E | E | C | E |
| ETHYLENE OXIDE | X | X | C | C | E | E | X | X | X | X | X | X |
| FATTY ACIDS | X | X | C | X | E | G | E | C | C | C | G | E |
| FERRIC BROMIDE | E | | E | | | | | E | | E | | E |
| FERRIC CHLORIDE | E | E | E | E | | E | E | E | C | C | E | E |
| FERRIC NITRATE | E | E | E | E | | E | E | E | E | E | E | E |
| FERRIC SULFATE | E | E | E | E | | E | E | E | E | E | E | E |
| FERROUS ACETATE | X | | E | G | | | | X | X | E | | X |
| FERROUS CHLORIDE | E | | E | E | | E | E | E | E | E | E | E |
| FERROUS SULFATE | E | E | E | E | | E | E | E | E | E | E | E |
| FLUOROBORIC ACID | E | E | C | E | E | E | | E | E | E | X | E |
| FLUORINE | X | | X | E | G | G | | X | X | X | X | E |
| FLUOROSILICIC ACID | E | G | E | E | E | E | E | E | E | E | C | E |
| FORMALDEHYDE | C | G | C | C | E | E | C | C | C | C | C | E |
| FORMALIN | C | G | C | E | E | E | C | G | G | C | C | E |
| FORMIC ACID | C | E | E | E | E | E | C | C | C | E | X | C |
| FREON 113 | C | G | X | X | | | X | E | E | C | C | E |
| FREON 12 | X | E | X | C | F | G | X | C | C | E | E | E |
| FREON 22 | C | E | C | C | F | E | X | X | E | E | X | X |
| FUEL A | X | | X | X | | | F | E | C | C | E | |
| FUEL B | X | | X | X | | | X | C | X | X | C | |
| FUEL OIL | X | X | X | X | E | E | C | E | C | C | C | E |
| FURAN | X | X | X | X | E | E | C | X | X | X | X | X |
| FURFURAL | X | X | C | C | E | E | C | X | X | C | C | X |
| FUEL A (ASTM) | X | X | X | X | | | | E | C | X | | E |
| FUEL B (ASTM) | X | X | X | X | | | | C | X | X | | E |
| FUEL OIL | X | X | X | X | E | E | E | E | C | C | X | E |
| FURAN | X | X | X | X | E | E | | X | X | X | | |
| FURFURAL | X | X | E | C | E | E | E | X | X | X | | X |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| FURFURAN | X | X | X | X | E | E | C | X | X | X | X | X |
| FURFURYL ALCOHOL | X | X | C | C | E | E | G | X | X | X | X | X |
| GALLIC ACID | E | G | C | C | E | E | E | C | C | C | X | E |
| GALLOTANNIC ACID | E | | G | E | | | E | | E | E | E | E |
| GAS, COAL | | | | | | | | | | | G | |
| GASOLINE | C | X | C | X | E | E | C | E | X | C | C | E |
| GLACIAL ACRYLIC ACID | X | | X | X | | | X | X | X | G | C | |
| GLUCONIC ACID | X | | F | E | | | | C | E | G | | |
| GLUCOSE | E | E | E | E | E | E | E | E | C | E | E | E |
| GLYCERINE | E | E | E | E | E | E | E | E | E | E | G | E |
| GLYCEROL | E | E | E | E | E | E | E | E | E | E | G | E |
| GLYCOGENIC ACID | X | | F | E | | | | F | E | G | | |
| GLYCOLS | E | E | E | E | E | E | E | E | E | E | C | E |
| GLYCONIC ACID | X | | F | E | | | | F | E | G | | |
| GLYCLYL ALCOHOL | | | | | | | | | | | | |
| GREASE | X | X | X | X | | | G | E | F | C | E | E |
| GREEN SULPHATE LIQUOR | C | G | E | E | | | E | C | C | G | E | E |
| HELIUM | E | E | E | E | | | E | E | E | E | E | E |
| HEPTALDEHYDE | X | X | C | C | | | C | E | C | X | C | |
| HEPTANAL | X | X | C | C | | | C | E | C | X | C | |
| HEPTANE | X | X | X | X | | E | C | E | C | C | C | E |
| HEPTANOIC ACID | X | | X | X | | | | E | C | C | E | |
| HEXADECANOIC ACID | E | G | G | G | E | E | | E | X | X | E | E |
| HEXALDEHYDE | X | X | C | C | E | E | C | X | C | C | C | X |
| HEXANE | X | X | X | X | E | E | C | E | C | C | C | E |
| HEXANOL | E | E | C | C | E | E | E | C | C | C | C | E |
| HEXENE | X | X | X | X | | | X | C | C | C | C | E |
| HEXYL ALCOHOL | E | E | C | C | E | E | E | C | C | C | C | E |
| HEXYL METHYL KETONE | X | | G | G | | | | X | C | X | X | X |
| HEXYLAMINE | F | | G | G | | | | F | G | F | | X |
| HEXYLENE GLYCOL | E | | E | F | | | | C | E | E | X | E |
| HISTOWAX | X | | X | | | | | | | C | E | |
| HYDRAULIC & MOTOR OIL | X | X | C | C | E | E | E | C | C | C | C | E |
| HYDRAZINE | C | G | C | E | | | E | C | C | C | X | X |
| HYDROBROMIC ACID | E | X | E | E | E | E | E | X | C | E | X | E |
| HYDROCHLORIC ACID | C | X | C | C | C | C | E | C | C | C | C | E |
| HYDROCYANIC ACID | C | G | C | E | | | E | C | C | E | C | E |
| HYDROFLUORIC ACID | C | X | C | C | E | E | E | C | C | E | C | G |
| HYDROFLUOSILICIC ACID | E | G | E | E | E | E | E | X | C | E | F | E |
| HYDROGEN CHLORIDE ANHYDROUS | X | X | E | E | | | E | X | C | E | | E |
| HYDROGEN DIOXIDE | G | | G | G | | | E | F | F | C | G | E |
| HYDROGEN GAS | C | G | E | E | E | E | E | E | E | E | E | E |
| HYDROGEN PEROXIDE OVER 10% | C | X | C | C | C | F | C | X | X | C | C | E |
| HYDROGEN PEROXIDE 10% | G | X | G | G | E | E | E | F | F | C | G | E |
| HYDROGEN SULFIDE | X | X | E | E | E | E | E | X | E | G | C | X |
| HYDROXY BENZENE | C | | C | C | | | E | X | X | C | X | E |
| HYDROXYISOBUTYRONIRILE | C | | E | E | | | | C | G | F | X | |
| HYDROXYTOLUENE | X | X | C | C | | | E | X | C | C | X | E |
| IMINODI-2-PROPANOL | G | | E | E | | | | G | G | F | | |
| IMINODIETHANOL | C | X | C | G | | | E | C | G | F | C | X |
| IODINE | X | G | C | C | E | E | E | C | C | C | C | E |
| IODINE PENTAFLUORIDE | X | X | X | X | | | X | X | X | X | X | X |
| IODOFORM | X | | X | E | | | X | E | X | X | C | |
| ISO-BUTANAL | X | G | | G | E | E | X | X | F | | X | X |
| ISO-BUTYLAMINE | F | | E | G | | | | X | X | F | | X |
| ISO-BUTYLBROMIDE | X | | X | X | | | | X | X | X | | G |
| ISO-BUTYLCARBINOL | X | | E | E | | | E | E | E | E | F | E |
| ISOCYANATES | F | | G | G | E | E | F | C | X | F | G | G |
| ISOOCTANE | X | X | X | X | E | E | F | E | C | C | C | E |
| ISOPROPYL ACETATE | X | X | C | C | E | E | X | X | X | X | X | X |
| ISOPROPYL ALCOHOL | E | E | E | E | E | E | E | C | C | E | X | E |
| ISOPROPYL ETHER | X | X | X | X | E | E | X | G | X | C | G | X |
| JET FUELS | X | X | X | X | E | E | C | C | C | X | C | E |
| JP-4 OIL | X | X | X | X | | | C | E | X | X | C | E |
| KEROSENE | X | X | X | X | E | E | C | E | C | C | E | E |
| KETONES | C | E | G | E | E | E | X | C | C | C | C | X |
| LACQUER SOLVENTS | X | | X | X | E | E | X | X | X | X | X | X |
| LACTIC ACID - COLD | E | G | E | C | G | G | E | C | C | E | C | E |
| LACTIC ACID - HOT | E | X | E | C | G | G | E | C | C | E | C | E |
| LARD | X | X | C | C | E | E | E | E | C | C | E | E |
| LAVENDER OIL | X | X | X | X | | | E | C | X | X | X | E |
| LEAD ACETATE | E | X | E | E | E | E | X | C | C | X | C | E |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| LEAD NITRATE | E | E | E | E | | | G | E | E | E | | E |
| LEAD SULFATE | E | | E | E | E | E | | E | E | E | G | E |
| LIME | E | | E | E | E | E | | G | G | G | E | E |
| LIME BLEACH | C | E | E | E | | | E | C | C | E | C | E |
| LIME SULFUR | C | X | E | E | E | E | E | E | E | E | C | E |
| LIMONENE | X | | X | X | | | C | C | X | X | X | E |
| LINOLEIC ACID | X | X | X | X | | | E | C | C | X | F | G |
| LINSEED OIL | X | X | C | C | E | E | E | E | C | C | E | E |
| LIQUID PETROLEUM GAS | X | X | X | X | E | E | G | E | G | C | E | E |
| LUBRICATING OIL | X | X | X | X | E | E | E | C | C | C | C | E |
| LYE SOLUTIONS | E | G | E | G | | | E | C | G | E | C | G |
| MEK | X | X | E | E | E | E | X | X | X | X | X | X |
| MAGNESIUM ACETATE | X | X | E | G | | | | X | X | E | X | X |
| MAGNESIUM CHLORIDE | E | E | E | E | E | E | E | E | E | E | E | E |
| MAGNESIUM HYDRATE | C | G | E | E | E | E | G | C | C | E | C | G |
| MAGNESIUM HYDROXYDE | C | G | E | E | E | E | G | C | C | E | C | G |
| MAGNESIUM SULFATE | C | G | E | E | E | E | E | E | E | E | G | E |
| MALEIC ACID | X | X | X | C | E | E | E | X | X | X | C | E |
| MALEIC ANHYDRIDE | X | X | C | C | | | E | X | X | X | | G |
| MALIC ACID | E | G | X | C | C | C | E | E | C | C | C | E |
| MANGANOUS SULFATE | G | | G | E | | | E | E | E | E | X | |
| MERCURY | E | E | E | E | E | E | E | E | E | E | E | E |
| MERCURY VAPORS | G | E | E | E | | | E | E | G | E | | E |
| MESITYL OXIDE | X | X | F | C | | | X | X | X | X | X | X |
| METHALLYL ALCOHOL | E | | E | E | | | | E | E | E | | G |
| METHALLYL CHLORIDE | X | | X | | | | | | X | X | C | |
| METHANE CARBOXYLIC ACID see Acetic Acid | | | | | E | E | | | | | | |
| METHANOIC ACID | C | E | E | E | E | E | C | G | E | E | X | C |
| METHANOL | E | E | C | E | E | E | E | C | E | E | C | F |
| METHOXY ETHANOL | E | | E | E | E | E | | C | E | E | X | |
| METHYL ACETATE | C | X | C | C | | | X | X | C | X | X | X |
| METHYL ACETOACETATE | X | X | C | C | | | X | X | X | X | X | |
| METHYL ACETONE | X | X | E | E | E | E | X | X | X | X | X | |
| METHYL ALLYL CHLORIDE | X | | X | | | | | | X | X | C | F |
| METHYL AMYL CARBINOL | G | | G | E | | | C | E | G | E | X | G |
| METHYL BENZENE | X | X | X | X | F | F | X | X | X | X | X | E |
| METHYL BROMIDE | X | X | C | X | F | F | G | C | X | X | X | E |
| METHYL BUTANE | X | | X | X | | | X | E | X | X | G | |
| METHYL BUTYL KETONE | X | X | E | E | E | E | X | X | X | X | X | X |
| METHYL CARBITOL | | | | G | | | E | F | F | | | |
| METHYL CELLOSOLVE | X | X | C | C | E | E | E | C | C | C | X | X |
| METHYL CHLORIDE | X | X | C | C | F | F | X | X | X | X | X | E |
| METHYL CYANIDE | G | | E | E | | | E | C | E | G | X | X |
| METHYL ETHYL KETONE | X | X | E | E | E | E | X | X | X | X | X | X |
| METHYL HEXANOL | E | | E | E | | | | E | E | E | | G |
| METHYL METHACRILATE | X | X | X | X | E | E | X | X | X | X | X | X |
| METHYL NORMAL AMYL KETONE | X | | | E | | | | C | E | X | | X |
| METHYL PROPYL ETHER | X | | X | X | | | | X | X | C | X | |
| METHYL SALYCILATE | X | | C | C | E | E | F | X | X | X | | |
| METHYL STYRENE | X | | X | X | | | | X | X | X | | |
| METHYL SULFIDE | X | | F | X | | | | X | X | X | | |
| METHYL-ISO-AMYL-KETONE | X | | G | | | | | | | X | | |
| METHYL-2-BUTANONE | X | X | C | C | | | X | X | X | X | X | X |
| METHYL-2-HEXANONE | X | | G | | | | | | | X | | |
| METHYL-2-PENTANOL | G | | E | E | | | | G | G | E | | C |
| METHYL-2-PENTANONE | X | | C | C | | | X | X | X | X | X | |
| METHYL-4-ISOPROPYL BENZENE | X | | X | X | | | F | X | X | X | X | E |
| METHYL AMYL ACETATE | X | | | | | | | | | X | | X |
| METHYL AMYL ALCOHOL | G | | E | E | | | | G | G | E | | C |
| METHYLCYCLOHEXANE | X | | X | X | | | | X | X | C | | G |
| METHYLENE BROMIDE | X | | X | X | E | E | G | C | X | X | C | G |
| METHYLENE CHLORIDE | X | X | X | C | F | F | C | X | X | X | X | G |
| METHYLETHYL KETONE | X | X | E | E | | | X | X | X | X | X | X |
| METHYL HEXYL KETONE | X | | G | G | E | | | X | C | X | X | X |
| METHYL ISOBUTYL CARBINOL | G | | E | C | | | | X | X | E | | C |
| METHYLISOBUTYL KETONE | X | X | C | C | E | E | X | X | X | X | X | X |
| METHYLISOPROPYL KETONE | X | X | C | C | | | X | X | X | X | X | X |
| METHYLLACTONITRILE | F | | E | E | | | | X | G | F | X | |
| METHYLPROPYL CARBINOL | E | | E | | | | | E | | E | | G |
| METHYLPROPYL KETONE | X | | G | G | E | E | | X | X | X | | X |
| MIL-A-6091 | E | | E | E | | | | C | E | E | X | |
| MIL-C-4339 | X | | X | X | | | | E | X | X | E | |

# Chemical resistance chart

ALFAGOMMA

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| MIL-C-7024 | X | | X | X | | | | E | C | X | E | |
| MIL-E-9500 | E | E | E | E | | | | E | E | E | X | E |
| MIL-F-16884 | X | X | X | X | | | | E | C | C | C | E |
| MIL-F-17111 | X | X | X | X | | | | E | C | X | C | E |
| MIL-F-25558 | X | X | X | X | | | E | E | C | C | G | |
| MIL-G-10924 | X | X | X | X | | | | E | C | C | G | E |
| MIL-G-25013 | C | X | X | E | | | | E | C | C | C | |
| MIL-G-25537 | X | X | X | X | | | | E | C | C | G | |
| MIL-G-3545 | X | | X | X | | | | E | C | C | E | |
| MIL-G-5572 | X | X | X | X | | | | E | X | X | C | E |
| MIL-G-7711 | X | X | X | X | | | | E | X | X | E | E |
| MIL-H-05606 | X | | X | C | | | | E | C | C | C | E |
| MIL-H-13910 | E | E | G | E | | | | E | E | G | X | E |
| MIL-H-19457 | X | X | E | C | | | | X | X | X | X | C |
| MIL-H-22251 | | G | E | E | | | | C | C | C | | |
| MIL-H-27601 | X | | X | X | | | | G | C | C | C | X |
| MIL-H-5606 | X | | X | C | | | E | E | C | C | C | E |
| MIL-H-6083 | C | X | X | X | | | | E | E | C | G | E |
| MIL-H-8446 | X | X | X | X | | | E | G | E | C | C | E |
| MIL-J-5161 | X | X | X | X | | | | C | X | X | C | E |
| MIL-J-5624 | X | X | X | X | | | C | E | X | X | C | E |
| MIL-L-15016 | X | X | X | | | | | | | C | E | E |
| MIL-L-17331 | X | X | X | | | | | | | G | E | E |
| MIL-L-2104 | X | | X | X | | | | E | C | C | E | |
| MIL-L-21260 | X | X | X | X | | | | E | C | C | E | |
| MIL-L-23699 | X | X | X | X | | | E | C | C | C | C | |
| MIL-L-25681 | C | G | E | E | | | | C | C | C | C | |
| MIL-L-3150 | X | X | X | X | | | | E | C | C | C | E |
| MIL-L-4343 | | X | | | | | | | | | | E |
| MIL-L-6082 | | X | | | | | | | | | | E |
| MIL-L-6085 | X | X | X | X | | | | C | X | X | C | E |
| MIL-L-7808 | X | X | X | X | | | E | G | X | X | X | E |
| MIL-L-7870 | X | X | X | X | | | | E | C | X | C | E |
| MIL-L-9000 | X | X | X | X | | | | E | C | C | C | E |
| MIL-L-9236 | X | X | X | X | | | | C | X | X | X | E |
| MIL-P-27402 | | G | E | E | | | | C | C | C | | |
| MIL-R-25576 | X | | X | | | | E | | | C | E | |
| MIL-S-3136 TYPE 1 FUEL | X | X | X | X | | | | E | C | C | G | E |
| MIL-S-3136 TYPE 2 FUEL | X | X | X | X | | | | C | X | X | C | E |
| MIL-S-3136 TYPE 3 FUEL | X | X | X | X | | | | G | X | X | C | E |
| MIL-S-3136 TYPE 4 OIL, LOWSWELL | X | X | X | X | | | | E | X | C | E | E |
| MIL-S-3136 TYPE 5 OIL, MEDSWELL | X | X | X | X | | | | E | G | G | E | E |
| MIL-S-3136 TYPE 6 OIL, HI SWELL | X | X | X | X | | | E | E | X | C | E | E |
| MIL-S-81087 | E | E | E | E | | | | E | E | E | E | |
| MINERAL OIL | X | X | C | X | E | E | E | E | C | C | E | E |
| MINERAL SPIRITS | X | X | X | X | | | | C | C | G | C | E |
| MOBILE HF A | X | X | X | X | | | E | E | C | X | G | E |
| MOLTEN SULFUR | G | | G | E | | | | G | E | E | G | E |
| MONO-CHLOROACETIC ACID | C | X | G | G | E | E | X | X | C | G | X | C |
| MONOBUTYL ETHER | X | X | C | C | | | | G | C | C | C | X |
| MONOCHLOROBENZENE | X | X | X | X | F | F | C | X | X | X | X | E |
| MONOCHLORODIFLUOROMETHANE | C | E | C | C | E | E | X | X | C | E | X | C |
| MONOETHANOL AMINE | C | G | C | C | | | E | G | G | C | C | X |
| MONOETHYL AMINE | C | F | C | E | | | E | C | C | F | X | X |
| MORPHOLINE | X | | C | C | | | | X | X | X | C | |
| MOTOR OIL, 40W | X | | X | X | | | | E | C | C | G | E |
| MTBE | | | G | | | | G | X | X | | | |
| MURIATIC ACID | C | X | C | F | | | | C | C | C | C | E |
| N-BUTANAL | X | X | C | C | E | E | X | X | X | X | C | X |
| N-BUTYLAMINE | X | X | C | C | | | C | C | X | X | X | X |
| N-BUTYLBENZENE | X | | X | X | | | | X | X | X | | E |
| N-BUTYLBROMIDE | X | | X | X | | | | X | X | X | | G |
| N-BUTYLBUTYRATE | X | X | E | E | | | E | X | X | X | | E |
| N-BUTYLCARBINOL | E | | E | E | E | E | E | E | E | E | X | G |
| N-NONYL ALCOHOL | E | | E | E | | | | E | E | E | | G |
| N-OCTANE | X | X | X | X | E | E | C | C | G | X | X | E |
| NAPHTHA | X | X | X | X | E | E | E | C | X | C | F | E |
| NAPHTHALENE | X | X | X | X | E | E | F | X | X | X | C | E |
| NAPHTHENIC ACID | X | X | X | X | | | E | C | X | X | | E |
| NATURAL GAS | C | F | X | X | E | E | E | E | E | E | F | E |
| NEOHEXANE | X | | X | X | | | | E | G | X | X | E |
| NEON GAS | E | E | E | E | | | E | E | E | E | E | E |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| NEU-TRI | X | | X | | | | | X | | X | | E |
| NICKEL ACETATE | E | X | E | E | | | X | C | G | X | X | X |
| NICKEL CHLORIDE | E | E | E | E | E | E | E | E | C | E | C | E |
| NICKEL NITRATE | E | | E | E | E | E | | E | E | E | C | E |
| NICKEL SULFATE | C | G | E | E | E | E | E | E | E | E | E | E |
| NITRIC ACID, CONC | X | | X | X | | | C | X | X | X | X | |
| NITRIC ACID, RED FUMING | X | X | X | X | X | X | F | X | X | X | X | E |
| NITRIC ACID, 10% | X | X | E | E | E | E | E | X | G | E | X | E |
| NITRIC ACID, 13N | X | | | | | | C | X | X | | X | |
| NITRIC ACID, 13N +5% | X | | | | | | C | X | X | | X | |
| NITRIC ACID, 20% | X | X | G | E | E | E | E | X | X | E | X | E |
| NITRIC ACID, 30% | X | X | F | F | G | G | E | X | X | E | X | E |
| NITRIC ACID, 30% - 70% | X | X | F | X | F | F | G | X | X | C | X | E |
| NITRILOTRIETHANOL | C | G | E | E | E | E | E | F | C | C | X | X |
| NITROBENZENE | X | X | F | C | E | E | E | X | X | X | X | G |
| NITROETHANE | G | G | G | C | | | C | X | C | G | X | X |
| NITROGEN | E | E | E | E | E | E | E | E | E | E | E | E |
| NITROMETHANE | G | C | G | C | | | C | X | C | C | X | X |
| NITROUS OXIDE GAS | | | | E | | | F | E | G | | | E |
| NONANOIC ACID | X | | E | | E | E | | E | | X | | |
| NONANOL | E | | E | E | | | | E | E | E | | |
| OCTANOIC ACID | F | | F | | | | G | F | | G | | |
| OCTANOL | C | E | C | C | | | E | C | C | C | X | E |
| OCTYL ACETATE | C | X | E | G | E | E | | C | C | E | X | |
| OCTYL ALCOHOL | C | E | C | C | | | E | C | C | C | X | G |
| OCTYL ALDEHYDE | X | | F | | E | E | | X | | X | | X |
| OCTYL AMINE | F | | E | G | | | | F | G | F | | X |
| OCTYL CARBINOL | E | | E | E | | | | E | E | E | | G |
| OCTYLENE GLYCOL | E | | E | E | | | | E | E | E | | E |
| OIL-PETROLEUM | | X | | | G | G | | | | | | E |
| OLEIC ACID | X | X | X | X | E | E | E | G | F | C | C | E |
| OLEUM | X | X | X | X | X | X | E | X | X | X | X | G |
| OLIVE OIL | X | X | C | G | | | E | E | G | C | E | E |
| ORTHO-DICHLOROBENZENE | X | X | X | X | | | X | X | X | X | X | E |
| ORTHO-DICHLOROBENZOL | X | X | X | X | | | X | X | X | X | X | E |
| ORTHOXYLENE | X | X | X | X | | | X | X | X | X | C | E |
| OXALIC ACID | C | G | E | E | E | E | E | G | G | E | C | E |
| OXYDIETHANOL | | | | | | | | | | | | |
| OZONE | X | X | G | E | E | E | E | X | F | G | G | E |
| P-CYMENE | X | | X | X | | | F | X | X | X | X | E |
| PAINT THINNER | X | X | X | X | | | F | X | X | X | C | E |
| PALMITIC ACID | C | G | C | C | E | E | E | E | G | C | C | E |
| PAPERMAKERS ALUM | | | | | | | | | | | | E |
| PARA-DICHLOROBENZENE | X | X | X | X | | | C | X | X | X | X | E |
| PARAFFIN WAX | X | | X | X | | | | E | G | E | E | E |
| PARALDEHYDE | F | | E | E | | | | C | G | X | X | X |
| PARAXYLENE | X | | X | X | | | X | X | X | X | C | E |
| PELARGONIC ALCOHOL | E | | E | E | E | E | | E | E | E | | G |
| PENTACHLOROETHANE | X | | X | | | | | X | X | X | C | E |
| PENTADIONE | | | | | | | | | | | | |
| PENTAMETHYLENE | X | | X | X | | | C | G | C | X | E | E |
| PENTANE | X | X | X | X | E | E | E | E | E | C | X | E |
| PENTANOL | E | | E | | E | E | E | | | E | X | G |
| PENTANONE | X | | G | G | | | | X | X | X | | X |
| PENTASOL | X | G | E | G | E | E | E | C | G | E | X | G |
| PENTYL ACETATE | C | X | X | C | E | E | X | X | X | X | X | X |
| PENTYL ALCOHOL | C | G | C | E | E | E | E | C | C | E | X | E |
| PENTYL BROMIDE | X | | X | C | | | | X | X | X | | G |
| PENTYL CHLORIDE | X | X | X | X | E | E | E | X | X | X | F | E |
| PENTYL ETHER | X | | X | X | | | | C | X | F | | |
| PENTYLAMINE | F | | G | X | | | | F | F | F | | X |
| PERCHLORIC ACID | C | X | C | G | E | E | E | X | E | C | C | E |
| PERCHLOROETHYLENE | X | X | X | X | E | E | X | F | X | X | X | E |
| PERCHLOROMETHANE | X | | X | X | | | X | X | X | X | X | |
| PETROLEUM CRUDE | X | X | X | X | E | E | E | G | G | E | G | E |
| PETROLEUM ETHER | X | X | X | X | | | G | E | X | C | G | E |
| PETROLEUM OILS | X | X | X | X | E | E | | X | G | G | G | E |
| PHENBO | | | | | | | | | | | | |
| PHENOL | C | X | C | X | E | E | E | X | X | C | X | E |
| PHENOLSULFONIC ACID | C | X | G | E | | | | C | C | C | X | C |
| PHENYLAMINE | X | | E | C | E | E | | X | X | C | X | E |
| PHENYLBROMIDE | X | | X | | | | X | | | X | X | G |

# Chemical resistance chart

ALFAGOMMA

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| PHENYLMETHANE | X | | X | X | E | E | X | X | X | X | X | E |
| PHENYLMETHANOL | X | | E | C | | | E | X | C | C | X | E |
| PHENYLMETHYL ACETATE | | | | | | | | | | | | X |
| PHOSPHATE ESTERS | X | X | E | E | | | E | X | X | X | X | C |
| PHOSPHORIC ACID 10% | E | E | E | E | E | E | E | E | E | E | E | E |
| PHOSFORIC ACID 10% - 85% | G | G | E | E | E | E | E | G | G | E | G | E |
| PHOSPHORUS TRICHLORIDE | X | X | E | E | E | E | E | X | X | X | | E |
| PICRIC ACID, H20 SOLUTION | C | G | G | E | | | G | E | E | E | G | E |
| PINE OIL | X | X | X | X | E | E | E | E | X | X | E | E |
| PINENE | X | X | X | X | | | E | C | C | X | C | E |
| POLYETHYLENE GLYCOL E-400 | E | | E | E | | | E | C | G | E | | E |
| POLYOL ESTER | | | | X | | | | G | X | | | |
| POLYPROPYLENE GLYCOL | E | | E | | E | E | E | E | E | E | | E |
| POTASSIUM ACETATE | E | X | E | E | | | E | C | E | E | X | C |
| POTASSIUM BISULFATE | E | G | E | E | | | | E | E | E | X | E |
| POTASSIUM BISULFITE | E | G | E | E | | | | E | E | E | E | E |
| POTASSIUM CARBONATE | E | E | E | E | E | E | E | E | E | E | X | E |
| POTASSIUM CHLORIDE | E | E | E | E | E | E | E | E | E | G | E | E |
| POTASSIUM CHROMATE | G | G | E | E | | | | G | E | F | C | E |
| POTASSIUM CYANIDE | E | E | E | E | E | E | E | E | E | E | E | E |
| POTASSIUM DICHROMATE | C | G | E | E | E | E | E | E | E | G | G | E |
| POTASSIUM HYDRATE | C | G | E | | E | E | E | | | E | C | F |
| POTASSIUM HYDROXYDE | C | G | E | E | E | E | E | G | G | E | C | F |
| POTASSIUM NITRATE | E | E | E | E | E | E | E | E | E | E | E | E |
| POTASSIUM PERMANGANATE, 5% | E | G | E | E | E | E | E | F | E | G | X | E |
| POTASSIUM SILICATE | E | E | E | E | | | | E | E | E | E | E |
| POTASSIUM SULFATE | C | G | E | E | E | E | E | E | E | E | E | E |
| POTASSIUM SULFIDE | G | G | E | E | | | | C | E | E | C | E |
| POTASSIUM SULFITE | C | G | E | E | E | E | | E | E | C | E | E |
| PRESTONE ANTIFREEZE | E | E | E | E | | | G | E | E | E | X | E |
| PRODUCER GAS | X | X | X | X | | | E | E | G | C | E | E |
| PROPANE | X | X | X | X | E | E | E | E | E | C | G | E |
| PROPANEDIOL | E | E | E | E | E | E | E | E | G | E | G | E |
| PROPANETRIOL | E | E | E | E | E | E | E | E | E | E | C | E |
| PROPANOL | E | E | E | E | E | E | E | E | E | E | X | E |
| PROPANOLAMINE | | | | | | | | | | | | |
| PROPANONE | C | G | E | E | E | E | X | X | X | C | X | X |
| PROPENOL | E | | E | | | | | | | E | | E |
| PROPANEDIAMINE | G | | E | | | | | G | | F | | |
| PROPENE NITRILE | G | | X | | E | E | | X | X | | | |
| PROPENYL ALCOHOL | E | | E | E | E | E | | E | E | E | | E |
| PROPENYL ANISOLE | X | | X | | E | E | | X | | X | | G |
| PROPIONIC ACID | E | X | E | E | | | E | C | C | G | X | X |
| PROPIONITRILE | E | | E | C | | | E | E | C | | | X |
| PROPYL ACETATE | X | X | C | C | E | E | X | X | X | X | X | X |
| PROPYL ALCOHOL | E | E | E | E | E | E | E | E | E | E | X | E |
| PROPYL ALDEHYDE | F | | G | G | | | | X | X | X | | X |
| PROPYL BENZENE | X | | X | | | | | | X | X | C | |
| PROPYL CHLORIDE | X | | F | F | | | | X | F | X | | G |
| PROPYL NITRATE | X | X | C | C | | | F | X | X | X | X | X |
| PROPYLENE | X | X | X | X | | | E | X | X | X | X | E |
| PROPYLENE DIAMINE | G | | E | | | | | G | | F | | |
| PROPYLENE GLYCOL | E | E | E | E | E | E | E | E | E | E | G | E |
| PYDRAUL, 'E' SERIES | X | X | C | C | | | E | X | X | X | X | X |
| PYDRAULIC 'C' | X | X | X | X | | | E | X | X | X | X | E |
| RED OIL | X | X | X | F | E | E | E | E | F | C | C | E |
| REFRIGERANT 11 | X | X | X | | E | E | X | | | E | X | C |
| REFRIGERANT 12 | X | E | X | | E | E | X | | | E | E | G |
| REFRIGERANT 22 | C | E | X | | E | E | X | | | E | X | C |
| RESORCINOL | E | G | E | G | | | E | C | A | G | X | E |
| SAE NO. 10 OIL | X | X | X | X | | | E | E | C | X | E | E |
| SAL AMMONIAC | E | E | E | E | E | E | E | E | E | E | G | E |
| SEA WATER | E | E | E | E | E | E | E | E | E | E | G | E |
| SEWAGE | G | G | G | G | E | E | E | E | C | E | X | E |
| SILICATE ESTERS | X | C | X | X | | | E | G | E | G | E | E |
| SILICATE OF SODA | E | E | E | E | | | E | E | E | E | G | E |
| SILICONE GREASE | E | E | E | E | E | E | E | E | E | E | E | E |
| SILICONE OIL | E | E | E | E | E | E | E | E | E | E | E | E |
| SILVER NITRATE | E | G | E | E | E | E | E | C | E | E | E | E |
| SKYDROL 500 TYPE 2 | X | X | G | E | | | X | X | X | X | X | G |
| SKYDROL 500B | X | X | G | E | | | X | X | X | X | X | G |
| SKYDROL 500C | X | X | G | E | | | X | X | X | X | X | G |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| SKYDROL 7000 TYPE 2 | E | X | E | E | | | E | X | X | X | X | F |
| SOAP SOLUTIONS | F | X | E | E | E | E | E | E | G | E | G | E |
| SODA ASH | E | X | E | E | E | E | E | E | E | E | G | E |
| SODA LIME | E | | E | E | | | G | G | G | G | F | G |
| SODA NITER | G | G | E | E | E | E | E | E | G | E | E | E |
| SODIUM ACETATE | F | X | F | E | E | E | C | G | C | G | C | X |
| SODIUM ALUMINATE | E | G | E | E | | | E | E | E | E | X | E |
| SODIUM BICARBONATE | E | E | E | E | E | E | E | E | E | E | E | E |
| SODIUM BISULFATE | E | G | E | E | E | E | E | E | E | E | E | E |
| SODIUM BISULFITE | E | G | E | E | E | E | E | E | E | E | G | E |
| SODIUM BORATE | E | E | E | E | E | E | E | E | E | E | E | E |
| SODIUM CARBONATE | E | E | E | E | E | E | E | E | E | E | C | E |
| SODIUM CHLORIDE | E | E | E | E | E | E | E | E | E | E | E | E |
| SODIUM CYANIDE | E | E | E | E | E | E | E | E | E | E | E | E |
| SODIUM DICHROMATE | X | G | E | E | | | E | E | F | G | G | E |
| SODIUM HYDRATE | E | G | E | E | E | E | E | X | G | C | C | G |
| SODIUM HYDROCHLORITE | F | G | G | G | | | E | F | F | E | C | E |
| SODIUM HYDROXIDE | E | G | E | E | E | E | E | X | G | C | C | G |
| SODIUM HYPOCHLORITE | X | F | C | E | E | E | E | C | C | G | X | E |
| SODIUM METAPHOSPHATE | E | E | G | E | E | E | E | E | E | C | C | E |
| SODIUM NITRATE | G | G | E | E | E | E | C | C | G | E | E | E |
| SODIUM PERBORATE | G | G | E | E | | | E | C | G | E | G | E |
| SODIUM PEROXIDE | C | G | E | E | E | E | E | C | G | G | X | E |
| SODIUM PHOSPHATE | E | E | E | E | E | E | E | E | G | E | E | E |
| SODIUM SILICATE | E | E | E | E | E | E | E | E | E | E | G | E |
| SODIUM SULFATE | C | G | E | E | E | E | E | E | E | E | E | E |
| SODIUM SULFIDE | G | G | E | E | E | E | E | E | E | E | E | E |
| SODIUM SULFITE | G | G | E | E | E | E | E | E | E | E | E | E |
| SODIUM THIOSULFATE | G | | E | E | E | E | E | C | E | E | E | |
| SOYBEAN OIL | X | X | G | C | | | E | E | E | G | C | E |
| STANNIC CHLORIDE | E | E | E | E | E | E | E | E | G | E | E | E |
| STANNIC SULFIDE | E | | E | E | | | | E | E | E | | |
| STANNOUS CHLORIDE | E | E | E | G | E | E | E | E | E | E | G | E |
| STANNOUS SULFIDE | E | | E | E | | | | E | E | E | | |
| STEAM, BELOW 350 DEG F | C | X | G | E | X | X | E | X | X | C | X | C |
| STEARIC ACID | C | G | C | G | E | E | E | G | G | G | E | E |
| STODDARD SOLVENT | X | X | X | X | E | E | G | E | G | X | E | E |
| STYRENE | X | X | X | X | F | F | X | X | X | X | X | E |
| SULFAMIC ACID | G | | E | E | | | | C | G | E | X | E |
| SULFUR | X | X | E | E | E | E | E | X | E | E | X | E |
| SULFUR CHLORIDE | X | X | X | E | | | E | C | E | | C | E |
| SULFUR DIOXIDE | C | G | C | E | | G | G | X | C | C | C | E |
| SULFUR TRIOXIDE, DRY | C | X | G | E | X | X | G | X | X | X | X | E |
| SULFURIC ACID, CONC. | X | X | X | X | F | F | E | X | X | X | X | E |
| SULFURIC ACID, FUMING | X | X | X | X | X | X | E | X | X | X | X | E |
| SULFURIC ACID, 25% | E | F | G | E | E | E | E | C | C | E | X | E |
| SULFURIC ACID, 25%-50% | G | F | G | E | E | E | E | C | X | G | X | E |
| SULFURIC ACID, 50%-96% | X | X | X | X | G | G | E | X | X | X | X | E |
| SULFUROUS ACID, 10% | G | G | E | E | E | E | E | E | C | E | X | E |
| SULFUROUS ACID, 10%-75% | G | G | E | E | E | E | E | F | C | E | X | E |
| T-BUTYL AMINE | X | | C | C | | | G | C | X | X | X | |
| TALL OIL | X | X | X | X | | | E | E | C | F | E | E |
| TALLOW | X | X | X | E | E | E | E | E | G | F | E | E |
| TANNIC ACID | E | G | E | E | E | E | E | E | E | E | E | E |
| TAR | X | X | X | X | X | F | E | X | X | | G | E |
| TAR BITUMINOUS | X | X | X | X | | | E | G | C | X | G | E |
| TARTARIC ACID | E | G | G | G | E | E | E | E | E | E | E | E |
| TELLONE 2 | C | | | | | | | | | | | |
| TERTIARY BUTYL ALCOHOL | C | G | C | C | | | E | C | C | C | X | E |
| TERPINEOL | X | X | C | | | | E | | | X | C | E |
| TERTIARY BUTYL AMINE | X | | C | C | | | G | C | X | X | X | |
| TERTIARY BUTYL MERCAPTAN | X | X | X | X | | | E | X | X | X | X | E |
| TETRACHLOROBENZENE | X | | X | X | | | | X | X | X | | G |
| TETRACHLOROETHANE | X | X | X | X | F | F | X | X | X | X | X | E |
| TETRACHLOROETHYLENE | X | X | X | X | F | F | X | C | X | X | X | E |
| TETRACHLOROMETHANE | X | | X | X | E | E | E | X | X | X | F | E |
| TETRACHLORONAPHTHALENE | X | | X | X | E | E | | X | X | X | | G |
| TETRAETHYLENE GLYCOL | E | | E | E | | | | E | E | E | | E |
| TETRAETHYLORTHOSILICATE | X | | E | E | | | | E | E | | | |
| TETRAHYDROFURAN | X | X | C | X | | | X | X | X | X | X | X |
| TIN CHLORIDE | E | | E | E | E | E | E | E | C | C | G | E |
| TITANIUM TETRACHLORIDE | X | X | X | X | | | G | C | C | X | X | E |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| TOLUENE | X | X | X | X | E | E | X | X | X | X | X | E |
| TOLUIDINE | X | | X | X | E | F | | C | X | X | C | G |
| TOLUOL | X | X | X | X | E | E | X | X | X | X | X | E |
| TRANSFORMER OIL | X | X | X | X | E | E | E | C | C | C | C | E |
| TRANSMISSION 'A' OIL | X | | X | X | | | E | E | C | C | E | |
| TRI-AMINE | C | | E | E | | | E | G | C | C | X | |
| TRIBUTYL PHOSPHATE | C | X | G | G | | | G | F | | X | X | X |
| TRIBUTYLAMINE | G | | E | | | | | G | | F | | |
| TRICHLOROACETIC ACID | C | X | C | C | | | F | C | C | X | X | X |
| TRICHLOROBENZENE | X | X | X | X | F | F | C | C | X | X | C | G |
| TRICHLOROETHANE | X | X | X | X | | | X | X | X | X | X | E |
| TRICHLOROETHYLENE | X | X | X | X | F | F | X | X | X | X | X | E |
| TRICHLOROMETHANE | X | X | X | X | F | F | X | X | X | X | X | E |
| TRICHLOROTOLUENE | X | | | E | | | E | X | X | X | | |
| TRICRESYL PHOSPHATE | X | X | E | E | | | E | X | X | X | X | E |
| TRIETHANOLAMINE | C | G | E | E | E | E | E | C | C | C | X | X |
| TRIETHYLAMINE | G | X | G | E | | | E | E | G | E | X | E |
| TRIETHYLENE GLYCOL | E | | E | E | E | E | | C | E | E | X | E |
| TRIHYDROXYBENZOIC ACID | E | | C | C | | | E | C | C | G | X | |
| TRIMETHYL PENTANE | X | X | X | X | | | F | E | G | C | G | E |
| TRIMETHYLAMINE | E | | E | C | | | | C | E | E | X | |
| TRISODIUM PHOSPHATE | E | E | E | E | E | E | E | E | E | E | E | E |
| TRITOYL PHOSPHATE | X | X | E | E | | | E | X | C | C | C | E |
| TUNG OIL | X | X | C | X | E | E | E | E | C | C | F | E |
| TUNG OIL | X | X | C | X | E | E | E | E | C | C | F | E |
| TURPENTINE | X | X | X | X | E | E | E | E | X | X | G | E |
| UNSYMETRICAL DIMETHYL HYDRAZINE | E | X | E | E | | | F | C | C | E | X | X |
| UNDECYL ALCOHOL | E | | E | E | | | | E | E | E | | G |
| UREA | E | | E | E | E | E | F | G | G | E | G | E |
| URIC ACID | E | | E | E | | | | C | E | E | X | |
| VARNISH | X | X | X | X | E | E | C | G | X | X | G | E |
| VEGETABLE OILS | X | X | C | F | E | E | E | E | C | G | E | E |
| VERSILUBE F44 | E | E | E | E | | | E | E | E | E | E | E |
| VERSILUBE F55 | E | E | E | X | | | E | E | E | E | E | E |
| VINEGAR | G | G | E | E | E | E | E | G | G | E | C | E |
| VINEGAR ACID | G | | E | | E | E | E | | | E | C | |
| VINYL ACETATE | X | X | E | G | E | E | X | C | C | F | X | E |
| VINYL BENZENE | X | X | X | X | F | F | X | C | X | X | C | G |
| VINYL CHLORIDE | X | | X | C | E | E | E | X | X | X | C | E |
| VINYL CYANIDE | G | F | X | X | E | E | G | X | X | G | X | X |
| VINYL ETHER | X | | X | | | | X | G | | G | | X |
| VINYL STYRENE | | | | | | | | | | | | |
| VINYL TOLUENE | X | | X | X | | | | X | X | X | | E |
| VINYL TRICHLORIDE | X | | X | X | | | X | X | X | X | X | E |
| VM & NAPHTHA | X | X | X | X | | | | G | F | X | | E |
| WATER | E | C | E | E | E | E | E | E | G | E | E | E |
| WATER, BOILING | E | | E | E | | | E | G | G | E | E | |
| WATER, SODA | | | | | E | E | | | | | | |
| WEMCO C | X | X | X | X | | | E | E | C | X | E | E |
| WHISKEY | E | E | E | E | E | E | E | E | E | E | X | E |
| WHITE OIL | X | X | X | X | E | E | E | E | G | C | E | E |
| WHITE PINE OIL | X | X | X | X | | | E | C | X | X | | E |
| WINES | E | E | E | E | E | E | E | E | E | E | X | E |
| WOOD ALCOHOL | E | E | C | E | E | E | E | C | E | E | C | F |
| WOOD OIL | X | X | C | X | E | E | E | E | C | C | C | E |
| XENON | E | E | E | E | | | E | E | E | E | E | E |
| XYLENE, XYLON | X | X | X | X | F | F | X | X | X | X | X | E |
| XYLIDINE | X | X | G | G | | | G | C | X | X | X | X |
| ZEOLITES | E | E | E | E | | | E | E | E | E | E | E |
| ZINC ACETATE | E | X | E | E | | | F | G | C | | X | C |
| ZINC CARBONATE | E | | E | E | | | | E | E | E | E | E |
| ZINC CHLORIDE | E | E | E | E | E | E | E | E | E | E | E | E |
| ZINC CHROMATE | E | | E | E | | | | C | E | G | X | |
| ZINC SULFATE | E | G | E | E | E | E | E | E | E | E | X | E |
| O-AMINOTOLUENE | X | | C | C | | | C | X | X | X | X | |
| 1 UNDECANOL | E | E | E | E | E | G | | E | E | E | | G |
| 1-AMINO-2-PROPANOL | G | | E | E | | | | C | E | F | | X |
| 1-AMINOBUTANE | X | X | C | C | | | G | C | X | X | X | X |
| 1-AMINOPENTANE | F | | G | X | | | | F | C | F | | X |
| 1-BROMO-2-METHYL PROPANE | X | | X | X | | | | X | X | X | | G |
| 1-BROMO-3-METHYL BUTANE | X | | X | X | | | | X | X | X | | G |
| 1-BROMOBUTANE | X | | X | X | | | | X | X | X | | |

| CHEMICAL OR MATERIAL CONVEYED | COMPOUND | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NR | SBR | IIR | EPDM | XLPE | UHMWPE | PTFE | NBR | CR | CSM | AU | FKM |
| 1-CHLORO-2-METHYL PROPANE | X | | X | X | | | | X | X | X | | G |
| 1-CHLORO-3-METHYL BUTANE | X | | X | X | | | X | X | X | X | X | E |
| 1-DECANOL | X | | X | X | E | E | | E | X | C | E | G |
| 1-HENDECANOL | E | | E | E | | | | E | E | E | | |
| 1,4-DIOXANE | X | | C | C | E | | X | X | X | X | X | |
| 2(2AMINOETHYLAMINO) ETHANOL | G | | E | | | | | | | G | | |
| 2(2ETHOXYETHOXY) ETHANOL | C | G | C | C | | | E | C | C | C | X | G |
| 2(2ETHOXYETHOXY) ETHYL ACETATE | X | X | G | X | | | E | X | X | G | X | G |
| 2-AMINOETHANOL | C | F | C | E | | | E | C | C | C | X | X |
| 2-CHLORO-1-HYDROXY-BENZENE | X | | X | X | | | E | X | X | X | X | |
| 2-CHLOROPHENOL | X | X | X | X | | | E | X | X | X | X | G |
| 2-CHLOROPROPANE | X | X | X | X | | | X | X | X | X | X | E |
| 2-ETHOXYETHANOL | X | X | C | C | E | E | C | C | X | X | X | X |
| 2-ETHOXYETHYL ACETATE | C | | C | G | E | E | C | X | X | X | C | |
| 2-ETHYL | X | | G | | | | | X | | X | | X |
| 2-ETHYL-1-HEXANOL | G | G | C | C | E | E | E | C | C | C | X | G |
| 2-ETHYLHEXANOIC ACID | F | | F | | | | | F | | G | | |
| 2-ETHYLHEXYL ACETATE | X | | E | | C | C | | X | | G | | |
| 2-OCTANONE | X | | G | G | | | | X | C | | X | X |
| 3-BROMOPROPENE | X | | X | X | | | | X | X | X | | G |
| 3-CHLOROPROPENE | X | E | C | X | E | G | G | C | X | X | | E |
| 3-COAL OIL | X | | X | X | | | E | E | G | F | F | |
| 4-HYDROXY-4-METHYL-2-PENTANONE | X | X | E | E | E | E | X | X | F | C | X | X |

# PVC chemical resistance chart

ALFAGOMMA

A: Satisfactory
C: Questionable - Suggest testing
U: Unsatisfactory
Blank: No data available

| Chemical | Concentration | Temperature 20 °C 68 °F | 60 °C 140 °F |
|---|---|---|---|
| Acetate Solvents | | U | U |
| Acetic Acid | 10% | A | C |
| Acetic Acid | Glacial | C | U |
| Acetone | | U | U |
| Acrylonitrile | | A | C |
| Adipic Acid | | A | C |
| Alcohol Butyl | | A | C |
| Alcohol Ethyl | | A | C |
| Alcohol Isopropyl | | A | C |
| Alcohol Methyl | | A | C |
| Aluminum Acetate | | A | |
| Aluminum Chloride | | A | A |
| Aluminum Hydroxide | | A | |
| Aluminum Sulfate | | A | A |
| Allyl Chloride | | | |
| Ammonia | 0.88 S.G. (Aqueous) | A | A |
| Ammonia | Dry Gas | A | |
| Ammonia | Liquid | U | U |
| Ammonium Chloride | | A | A |
| Ammonium Hydroxide | | A | |
| Animal Oils | | | |
| Amyl Acetate | | U | U |
| Aniline Oils | | | |
| Aromatic Hydrocarbons | | U | U |
| Asphalt | | U | U |
| ASTM Fuel A | | A | A |
| ASTM Fuel B | | U | U |
| ASTM 1 Oil | | | |
| ASTM 3 Oil | | | |
| Barium Chloride | | A | A |
| Barium Hydroxide | | A | A |
| Barium Sulfide | | A | A |
| Benzene | | U | U |
| Benzine | | C | C |
| Bordeaux Mixture | | A | A |
| Borax | | A | A |
| Boric Acid | | A | A |
| Brine | | A | A |
| Bromine Traces | | U | U |
| Butyl Acetate | | U | U |
| Calcium Hydroxide | | A | A |
| Calcium Hypochlorite | | A | A |
| Carbonic Acid | | C | U |
| Carbon Dioxide | | A | A |
| Carbon Disulphite | | U | U |
| Carbon Monoxide | | A | A |
| Carbon Tetrachloride | | U | U |
| Casein | | A | C |
| Chlorine | Dry gas | A | A |
| Chlorine | Wet Gas | C | U |
| Chlorine | Water | U | U |
| Chlorobenzene | | U | U |
| Chlorinated Hydrocarbons | | U | U |
| Chloroform | | U | U |
| Chromic Acid | 10% | A | C |
| Citric Acid | | A | A |
| Coal Tar | | U | U |
| Copper Chloride | | A | A |
| Copper Nitrate | | A | A |
| Copper Sulphate | | A | A |
| Cottonseed Oil | | | |
| Creosote | | U | U |
| Cresol | | A | C |

| Chemical | Concentration | Temperature 20 °C 68 °F | 60 °C 140 °F |
|---|---|---|---|
| Cresylic Acid | | U | U |
| Cyclohexane | | A | C |
| Cyclohexanone | | U | U |
| DDT Weed Killer | | A | C |
| Detergent Synthetic | | A | A |
| Developers Photographic | | A | A |
| Dextrin | | A | A |
| Dextrose | | A | A |
| Dibutyl Phthalate | | U | U |
| Dichlorobenzene | | U | U |
| Diesel Oil | | | |
| Diethylene Glycol | | A | A |
| Diethyl Ether | | U | U |
| Di-isodecyl Phthalate | | U | U |
| Dicotyl Phthalate | | U | U |
| Emulsifiers | | A | A |
| Emulsions Photographic | | A | A |
| Ethyl Acetate | | U | U |
| Ethylene Dichloride | | U | U |
| Ethylene Glycol | | A | A |
| Fatty Acid | | A | A |
| Ferric Chloride | | A | A |
| Ferric Sulphate | | A | A |
| Ferrous Chloride | | A | A |
| Ferrous Sulphate | | A | A |
| Fixing Solution Photographic | A | A | |
| Fluorine | | U | U |
| Formaldehyde | 40% | U | U |
| Formic Acid | 40% | A | A |
| Formic Acid | 50% | C | U |
| Formic Acid | 100% | U | U |
| Fuel Oil | | | |
| Glacial Acetic Acid | | C | U |
| Glucose | | A | A |
| Glycerine | | A | A |
| Grape Sugar | | A | A |
| Grease | | | |
| Heptane | | C | U |
| Hexane | | C | U |
| Hydrobromic Acid | | A | A |
| Hydrochloric Acid | 10% | A | A |
| Hydrochloric Acid | 40% | A | U |
| Hydrofluoric Acid | 10% | A | C |
| Hydrofluoric Acid | 40% | A | U |
| Hydrofluoboric Acid | | A | A |
| Hydrofluosilicic Acid | | A | A |
| Hydrogen Peroxide | | A | |
| Hydrogen Sulphide | | A | |
| Iso-octan | | A | C |
| Isopropyl Acetate | | U | U |
| Kerosene | | C | C |
| Ketones | | U | U |
| Lactic Acid | 10% | A | |
| Lactic Acid | 100% | U | U |
| Lacquer Solvents | | C | U |
| Linseed Oil | | | |
| Lubricating Oils | | | |
| Magnesium Chloride | | A | A |
| Magnesium Hydroxide | | A | A |
| Magnesium Sulphate | | A | A |
| Malic Acid | | A | A |
| Methyl Acetate | | U | U |
| Methyl Bromide | | U | U |

| Chemical | Concentration | Temperature 20 °C 68 °F | 60 °C 140 °F |
|---|---|---|---|
| Methyl Ethyl Ketone | | U | U |
| Methylene Chloride | | U | U |
| Mineral Oils | | | |
| Monochlorobenzene | | U | U |
| Naphtha | | C | U |
| Napthalene | | C | U |
| Nitric Acid | 10% | A | A |
| Nitric Acid | 40% | A | C |
| Nitric Acid | 70% | U | U |
| Nitrobenzene | | U | U |
| Nitrogen Fertilizers | | A | |
| Oleic Acid | | A | C |
| Oxalic Acid | | A | A |
| Palmitic Acid | | A | A |
| Paraffin | | A | A |
| Pentane | | C | U |
| Perchloroethylene | | U | U |
| Phenol | | C | U |
| Phosphoric Acid | | A | A |
| Pitch | | A | C |
| Potassium Hydroxide | | A | A |
| Propane | | A | A |
| Sea Water | | A | A |
| Sodium Hydroxide (caustic soda) | 10% | A | A |
| Sodium Hydroxide (caustic soda) | 50% | A | U |
| Sodium Cyanide | | A | A |

| Chemical | Concentration | Temperature 20 °C 68 °F | 60 °C 140 °F |
|---|---|---|---|
| Soybean Oil | | | |
| Stearic Acid | | A | A |
| Styrene | | U | U |
| Sulphur Dioxide | Dry | A | A |
| Sulphur Dioxide | Moist | C | U |
| Sulphur Dioxide | Liquid | U | U |
| Sulphuric Acid | 45% | A | A |
| Sulphuric Acid | 60% | C | C |
| Sulphuric Acid | 98% | U | U |
| Sulphurous Acid | 30% | A | |
| Tannic Acid | | A | A |
| Tartaric Acid | | A | A |
| Tetrahydrofuran | | U | U |
| Toluene | | U | U |
| Trichlorethylene | | U | U |
| Triethanolamine | | A | A |
| Tricresyl Phosphate | | U | U |
| Turpentine | | C | U |
| Urea | | A | A |
| Vinegar | | A | A |
| Vinyl Acetate | | U | U |
| Vinyl Chloride | | U | U |
| Water | | A | A |
| Xylene | | U | U |
| Zinc Chloride | | A | A |
| Zinc Sulphate | | A | A |

## Formulas and conversion factors

| | | | |
|---|---|---|---|
| **LENGTH** | mm | in | mm x 0,03937 = in |
| | in | mm | in x 25,4001 = mm |
| | m | ft | m x 3,2808 = ft |
| | ft | m | ft x 0,3048 = m |
| **WEIGHT** | kg | lb | kg x 2,20462 = lb |
| | lb | kg | lb x 0,45359 = kg |
| | kg/m | lb/ft | kg/m x 0,672 = lb/ft |
| | lb/ft | kg/m | lb/ft x 1,488 = kg/m |
| **PRESSURE** | bar | MPa | bar x 10-1 = MPa |
| | MPa | bar | MPa x 10 = bar |
| | bar | psi | bar x 14,504 = psi |
| | psi | bar | psi x 0,068948 = bar |
| | mm Hg | bar | mm Hg x 1,33322 x $10^{-3}$ = bar |
| **TEMPERATURE** | °C | °F | 9/5 °C + 32 = °F |
| | °F | °C | 5/9 x (°F - 32) = °C |