



DuPont™ Kalrez®

Chemical Resistance and Fluid Compatibility,
Including All Chemicals Under the Clean Air Act

Technical Information—Rev. 4, July 2010

DuPont™ Kalrez® perfluoroelastomer parts combine the elastomeric properties of fluoroelastomers with the chemical resistance of DuPont™ Teflon® fluoropolymer resins. Due to its unique properties, Kalrez® parts should be considered for service in all applications and environments where dependable, long-term service is desired, as well as in hot or aggressive environments that are beyond the service ability of common elastomers.

This guide is intended to provide assistance in determining the suitability of seven commercially available elastomers—nitrile (NBR), ethylene propylene (EPDM), silicone (VMQ), fluorosilicone (FVMQ), vinylidene fluoride-based fluoroelastomer (FKM), polysulfides (T), and Kalrez® perfluoroelastomer parts—for service in over 1,600 chemicals and fluids. The criteria used for these ratings included volume swell resistance based on laboratory immersion testing, laboratory aging tests, actual field experience, and informed judgments based on experience in similar chemical groups.

The ratings for the six common elastomers are based on published literature and are offered for general comparative purposes only—we cannot guarantee their accuracy nor assume responsibility for their use.

Thermal Stability

The ratings for these six common elastomers may be overly optimistic for elevated temperature and/or high concentration applications because many are based on ambient temperature testing. Suitability of these elastomers for service at elevated temperatures rapidly diminishes because higher temperatures increase the effects of chemicals on the base polymer as well as the cross-link systems. Serviceability is further limited by the upper service temperature limit of each polymer.

As an example, consider a specific case involving an FKM with an upper service temperature limit of nominally 204 °C (400 °F). Many sources will show an “A” rating for FKM suitability in toluene service, a common chemical. However, immersion testing of commonly available FKM O-rings at a slightly elevated temperature of 50 °C (122 °F) for 168 hours shows a volume swell exceeding 24% and significant loss of physical properties—surely warranting a “C” rating. Similar tests with Kalrez® perfluoroelastomer parts, however, show that Kalrez® performs well up to 316 °C (600 °F).



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Upper Service Temperature Limit

DuPont™ Kalrez® 7075	327 °C (620 °F)
DuPont™ Kalrez® 4079	316 °C (600 °F)
DuPont™ Kalrez® 3018	288 °C (550 °F)
DuPont™ Kalrez® 1050LF	288 °C (550 °F)
DuPont™ Kalrez® 6375	275 °C (527 °F)
DuPont™ Kalrez® 2037	220 °C (428 °F)
NBR	107 °C (225 °F)
EPDM	149 °C (300 °F)
VMQ	204 °C (400 °F)
FVMQ	190 °C (375 °F)
FKM	204 °C (400 °F)
T	150 °C (302 °F)

Note: These limits are based on air oxidative stability; limits when exposed to specific chemicals are often much lower. Additionally, these elastomers are commercially available in different grades of polymer and can vary in compound ingredients—different grades and compounds within a polymer class can have significantly different performance characteristics. 100 °C (212 °F) was chosen as the baseline comparison for the elastomers in this guide.

Chemical Resistance

Because DuPont™ Kalrez® has outstanding chemical resistance, it withstands nearly all classes of chemicals. With this combination of high thermal stability and excellent chemical resistance, the Kalrez® perfluoroelastomer parts rating may be conservative, as actual field experience and the example above have demonstrated.

In comparing the chemical and fluid resistance of Kalrez® perfluoroelastomers to that of DuPont™ Teflon® fluoropolymer resins, certain differences should be kept in mind:

- Kalrez® parts are an amorphous low-modulus rubber whereas Teflon® is a crystalline high-modulus plastic. In fluid environments where high permeation occurs, Kalrez® will probably swell to a greater extent than Teflon®, even though the polymer is not chemically attacked. Environments in which this is most noticeable are fully halogenated solvents, Freon®, and Freon® alternatives. Service ability of Kalrez® parts in these environments will be dependent upon the specifics of the application.
- As with all elastomers, it is necessary to compound Kalrez® perfluoroelastomers parts with fillers and curatives to gain desired mechanical properties for functionality. In a limited number of environments, even though the polymer is stable, the fillers and curative systems may interact with the chemicals. However, because the level of fillers in Kalrez® parts is much lower than in most other elastomers, such filler interactions are generally negligible with Kalrez® parts. Where such interactions can occur, such as in highly oxidative environments, service performance is dependent on the conditions of the application and may be affected by compound choice.

Because each application is unique, it is recommended that users of Kalrez® perfluoroelastomer parts always conduct their own evaluations to determine the suitability of Kalrez® for their application. Because of laboratory constraints and differences in field applications, the results shown in this technical information may be based on conditions that may not necessarily reflect actual operating environments for a specific application. Additionally, many elastomeric materials may show excellent chemical resistance to pure reagents in relatively short-term laboratory tests. However, they may fail in actual service because of chemical attack by additives and/or impurities. Kalrez® perfluoroelastomer parts, with their near-universal chemical resistance, provide an extra degree of safety against these unknown corrosive influences.

Case histories are available from your authorized Kalrez® distributor detailing proven performance of Kalrez® parts in over 100 specific chemical applications. Information on test performance in a limited number of specific chemicals is also available through your authorized Kalrez® distributor.

Caution

DuPont™ Kalrez® perfluoroelastomer parts, like all fluorinated products, should not be exposed to molten or gaseous alkali metals, such as sodium and potassium, because a highly exothermic reaction may occur.

At elevated temperatures above 100 °C (212 °F), service life may be significantly reduced in fluids containing high concentrations of some diamines, nitric acid, and basic phenols. Kalrez® parts should always be tested for suitability.

Rating System

- A Elastomer shows little or no effect (generally less than 10% swell) after exposure to the chemical; slight swelling or loss of properties may occur under severe conditions but this should not affect performance.
- B Elastomer may be affected by the chemical after exposure, as evidenced by slight visible swelling (10%–30%) and/or loss of physical properties; Kalrez® parts will often perform satisfactorily long after other elastomers have failed.
- C Elastomer is affected by the chemical after exposure, as evidenced by moderate to severe swelling and/or loss of physical properties; limited functionality is possible but must be determined by testing.
- U Elastomer is not suitable for service in the chemical.

Where no rating is shown, insufficient information was available to make a judgment.

An asterisk (*) next to a Kalrez® perfluoroelastomer rating indicates that differences may exist between Kalrez® products in certain applications that could affect relative performance. The compound numbers indicated are recommended for that application. If no compound number appears beside the asterisk (*), contact your authorized distributor or DuPont for the best compound. For such environments, other elastomers generally have very limited service ability.

This chemical compatibility listing is based on using our standard compounds DuPont™ Kalrez® 7075 and 6375 for the vast majority of chemicals and fluids. Mixtures with two or more different chemical types/classes should be reviewed with the Kalrez® technical group or your authorized Kalrez® distributor before proceeding. Testing is always recommended for each proposed use of Kalrez® because actual application conditions may vary. For more complete information regarding compound selection, at specific temperatures, consult the Kalrez® Application Guide.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Abietic Acid	A						
Acetaldehyde	A	U	A	B	U	U	U
Acetamide	A 6375	A	A	B	A	B	U
Acetanilide	A 6375						U
Acetic Acid, Glacial	A	C	A	B	U	C	U
Acetic Acid, 30%	A	B	A	A	B	B	
Acetic Anhydride	A	C	B	C	U	U	B
Acetoacetic Acid	A						
Acetone	A	U	A	C	U	U	U
Acetone Cyanohydrin	A						U
Acetonitrile	A	—	A	—	—	—	U
Acetophenetidine	A						
Acetophenone	A	U	A	U	U	U	U
Acetotoluidide	A						
Acetyl Bromide	A						
Acetyl Chloride	A	U	U	C	A	A	U
Acetylacetone	A						U
Acetylene	A	A	A	B	—	A	U
Acetylene Tetrabromide	A						U
Acetylene Tetrachloride	A						U
Acetylsalicylic Acid	A						U
Acids, Non-Organic	A						U
Acids, Organic	A						U
Aconitic Acid	A						
Acridine	A						
Acrolein	A						
Acrylic Acid	A						U
Acrylonitrile	A* 1050LF	U	U	U	U	C	U
Adipic Acid	A* 6375	A	A	—	A	—	U
Aliphatic Dicarboxylic Acid	A						U
Alkanes (Paraffin Hydrocarbons)	A						A
Alkanesulphonic Acid	A						U
Alkenes (Olefin Hydrocarbons)	A						A
Alkyl Acetone	A						C
Alkyl Alcohol	A						C
Alkyl Amine	A* 1050LF/6375						U
Alkyl Aryl Sulphonates	A						
Alkyl Arylsulphonics	A						
Alkyl Benzene	A						U
Alkyl Chloride	A						U
Alkyl Sulfide	A						
Alkyl naphthalene Sulfonic Acid	A					U	
Allylidene Diacetate	A* 7075						U
Alpha Picoline	A						
Aluminum Acetate	A	B	A	U	U	U	U
Aluminum Bromide	A						A
Aluminum Chlorate	A						
Aluminum Chloride	A	A	A	B	A	A	U
Aluminum Ethylate	A						B
Aluminum Fluoride	A	A	A	B	A	A	C

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Aluminum Fluosilicate	A						A
Aluminum Formate	A						
Aluminum Hydroxide	A						U
Aluminum Linoleate	A						
Aluminum Nitrate	A	A	A	B	—	A	B
Aluminum Oxalate	A						
Aluminum Phosphate	A	A	A	A	—	A	A
Aluminum Potassium Sulfate	A						
Aluminum Salts	A						
Aluminum Sodium Sulfate	A						
Aluminum Sulfate	A	A	A	A	A	A	A
Alums	A						U
Amino Phenol	A* 1050LF						U
Aminoanthraquinone	A						
Aminoazobenzene	A						
Aminobenzene Sulfonic Acid	A			U			
Aminobenzoic Acid	A						
2-(2-Aminoethoxy)-ethanol	A* 1050LF						
Aminoethylethanolamine	A* 1050LF						U
Aminopyridine	A			U			
Aminosalicyclic Acid	A						
Ammonia, Anhydrous	A* 1050LF	B	A	C	U	U	A
Ammonia Gas (cold)	A	A	A	A	U	U	A
Ammonia Gas (hot)	A* 1050LF	U	B	A	U	U	U
Ammonium Acetate	A						
Ammonium Arsenate	A						
Ammonium Benzoate	A						
Ammonium Bicarbonate	A						
Ammonium Bifluoride	A* 1050LF						
Ammonium Bisulfite	A						
Ammonium Bromide	A						
Ammonium Carbamate	A						
Ammonium Carbonate	A	U	—	—	—	—	
Ammonium Chloride (Sal Ammoniac)	A	A	A	—	—	A	U
Ammonium Citrate	A			U			
Ammonium Dichromate	A						
Ammonium Diphosphate	A						
Ammonium Fluoride	A* 1050LF						
Ammonium Fluosilicate	A						
Ammonium Formate	A						
Ammonium Hydrogen Fluoride	A* 1050LF						
Ammonium Hydroxide (conc.)	A* 1050LF	U	A	A	B	B	U
Ammonium Iodide	A						
Ammonium Lactate	A						
Ammonium Metaphosphate	A						
Ammonium Molybdate	A						
Ammonium Nitrate	A	A	A	—	—	—	
Ammonium Nitrite	A	A	A	B	—	—	
Ammonium Oxalate	A						A
Ammonium Perchlorate	A						
Ammonium Perchloride	A						
Ammonium Persulfate	A	U	A	—	—	—	A
Ammonium Phosphate	A	A	A	A	—	—	A
Ammonium Phosphate (di-basic)	A						A

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Ammonium Phosphate (mono-basic)	A						A
Ammonium Phosphate (tri-basic)	A						A
Ammonium Phosphite	A						C
Ammonium Picrate	A						
Ammonium Polysulfide	A						
Ammonium Salicylate	A						
Ammonium Salts	A						
Ammonium Sulfamate	A						U
Ammonium Sulfate	A	A	A	—	—	U	U
Ammonium Sulfide	A						U
Ammonium Sulfite	A						
Ammonium Sulphate Nitrate	A						
Ammonium Thiocyanate	A						
Ammonium Thioglycollate	A						
Ammonium Thiosulfate	A						U
Ammonium Tungstate	A						
Ammonium Valerate	A						
Amyl Acetate	A	U	C	U	U	U	U
Amyl Alcohol	A	B	A	U	A	B	C
Amyl Borate	A	A	U	—	—	A	A
Amyl Butyrate	A						
Amyl Chloride	A						U
Amyl Chloronaphthalene	A	U	U	U	B	A	
Amyl Cinnamic Aldehyde	A						C
Amyl Laurate	A						
Amyl Mercaptan	A						U
Amyl Naphthalene	A	U	U	U	A	A	C
Amyl Nitrate	A						B
Amyl Nitrite	A						B
Amyl Phenol	A						B
Amyl Propionate	A						
Anderol ¹ L-774	A						B
Aniline	A	U	A	U	C	C	B
Aniline Dyes	A	U	A	C	B	B	
Aniline Hydrochloride	A	B	B	U	B	B	U
Aniline Hydrochlorine	A						U
Aniline Sulfate	A						
Aniline Sulfite	A						
Animal Fats	A	A	B	B	A	A	U
Animal Oils	A						U
Anisole	A						
Anisoyl Chloride	A						
Ansul's Ether	A	C	C	U	C	U	
Anthracene	A						
Anthranilic Acid	A						C
Anthraquinone	A						
Antifreeze Solutions	A* 6375						C
Antimony Chloride	A						A
Antimony Pentachloride	A						A
Antimony Pentafluoride	B						A
Antimony Sulfate	A						
Antimony Tribromide	A						
Antimony Trichloride	A						
Antimony Trifluoride	B						
Antimony Trioxide	A						C

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Aqua Regia	A	U	C	U	C	B	
Arachidic Acid	A						C
Argon Gas	A						U
Arochlor ² , 1248	A	C	C	B	B	A	U
Arochlor ² , 1254	A	U	C	C	B	A	U
Arochlor ² , 1260	A	A	A	B	A	A	U
Aromatic Fuels	A						
Arsenic Acid	A	A	A	A	A	A	
Arsenic Oxide	A						
Arsenic Trichloride	A	A	C	—	—	—	
Arsenic Trioxide	A						
Arsenic Trisulfide	A						
Arsenites	A						
Arsine	A						
Aryl Orthosilicate	A						
Ascorbic Acid	A						A
Askarel	A	B	U	U	B	A	U
Aspartic Acid	A						
Asphalt	A	B	U	U	B	A	A
ASTM ³ Oil, No. 1	A						A
ASTM ³ Oil, No. 2	A						C
ASTM ³ Oil, No. 3	A						C
ASTM ³ Oil, No. 4	A						C
ASTM ³ Ref. Fuel A	A						A
ASTM ³ Ref. Fuel B	A						A
ASTM ³ Ref. Fuel C	A						B
Automatic Transmission Fluids	A						B
Automotive Brake Fluids	A						
Aurex ¹¹ 256	A						
Azobenzene	A						
Barium Carbonate	A						
Barium Chlorate	A						
Barium Chloride (aq)	A	A	A	A	A	A	A
Barium Cyanide	A						
Barium Hydroxide	A	A	A	A	A	A	A
Barium Iodide	A						
Barium Nitrate	A						A
Barium Oxide	A						A
Barium Peroxide	A						A
Barium Polysulfide	A						
Barium Salts	A						
Barium Sulfate (aq)	A	A	A	A	A	A	A
Barium Sulfide (aq)	A	A	A	A	A	A	B
Beet Sugar Liquors	A	A	A	A	A	A	
Benzaldehyde	A	U	A	B	C	U	U
Benzaldehyde-disulfonic Acid	A* 6375						U
Benzamide	A						U
Benzanthrone	A						
Benzene	A	U	U	U	C	A	U
Benzene Hexachloride	A						U
Benzene Sulfonic Acid	A	U	C	U	B	A	
Benzidine	A						
Benzidine 3 Sulfonic Acid	A						
Benzil	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Benzilic Acid	A						
Benzine (Ligroin)	A	A	U	U	A	A	
Benzoic Acid	A* 6375	C	C	C	B	A	
Benzoin	A						
Benzonitrile	A						
Benzophenone	A						B
Benzoquinone	A						B
Benzotrichloride	A						U
Benzotrifluoride	A						U
Benzoyl Chloride	A	U	U	—	B	A	C
Benzoyl Peroxide	A						C
Benzoylsulfonic Acid	A						U
Benzyl Acetate	A						U
Benzyl Alcohol	A	U	A	B	B	A	U
Benzyl Amine	A* 6375						U
Benzyl Benzoate	A	U	B	—	A	A	U
Benzyl Bromide	A						C
Benzyl Butyl Phthalate	A						U
Benzyl Chloride	A	U	U	U	B	A	C
Benzyl Phenol	A						
Benzyl Salicylate	A						
Beryllium Chloride	A						
Beryllium Fluoride	A						
Beryllium Oxide	A						
Beryllium Sulfate	A						
Bismuth Carbonate	A						
Bismuth Nitrate	A						
Bismuth Oxychloride	A						
Bittern	A						B
Blast Furnace Gas	A	U	U	A	B	A	
Bleach Solutions	A* 2037	U	A	B	B	A	
Borax Solution (Sodium Borate)	A	B	A	B	B	A	
Bordeaux Mixture	A	B	A	B	B	A	
Boric Acid	A	A	A	A	A	A	U
Boric Oxide	A						U
Borneol	A						
Bornyl Acetate	A						
Bornyl Chloride	A						C
Bornyl Formate	A						
Boron Hydride	A						
Boron Phosphate	A						
Boron Tribromide	A						
Boron Trichloride	A* 7075						
Boron Trifluoride	A* 7075						
Boron Trioxide	A						
Brine	A	A	A	A	A	A	A
Bromic Acid	A						
Bromine, Anhydrous	A	U	U	U	B	A	
Bromine Pentafluoride	B* 2037						
Bromine Trifluoride	B* 7075	U	U	U	U	U	
Bromine Water	A*	U	B	U	B	A	
Bromobenzene	A	U	U	U	A	A	
Bromobenzene Cyanide	A						A
Bromochloro-trifluoroethane (Halothane)	A						U

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Bromoform	A						
Bromomethane (Methyl Bromide)	A						
Bromotrifluoromethane	B* 7075						
Brucine Sulfate	A						
Bunker "C" (Fuel Oil)	A	A	U	B	A	A	
Butadiene	A	U	C	U	B	A	
Butane	A	A	U	U	A	A	A
Butanediol	A*						
Butyl Acetate	A	U	C	U	U	U	C
Butyl Acetyl Ricinoleate	A	C	A	—	B	A	B
Butyl Acrylate	A	U	U	—	U	U	B
Butyl Alcohol	A	A	B	B	B	A	B
Butyl Amine	A* 6375	C	B	U	U	U	
Butyl Benzoate	A	U	B	—	A	A	
Butyl Benzolate	A						
Butyl Butyrate	A						U
Butyl Carbitol	A	U	A	U	U		U
Butyl Cellosolve5	A	C	A	—	U	U	
Butyl Cellosolve5 Acetate	A						
Butyl Chloride	A						A
Butyl Ether	A						A
Butyl Glycolate	A						
Butyl Lactate	A						
Butyl Laurate	A						
Butyl Mercaptan	A						U
Butyl Methacrylate	A						
Butyl Oleate	A	U	B	—	B	A	
Butyl Oxalate	A						
Butyl Phenols	A						
Butyl Stearate	A	B	C	—	B	A	A
Butylbenzoic Acid	A						
Butylene	A	B	U	U	B	A	B
Butyraldehyde	A* 6375	U	B	U	U	U	C
Butyric Acid	A						C
Butyric Anhydride	A						
Butyrolactone	A						
Butyryl Chloride	A						B
Cadmium Chloride	A						
Cadmium Cyanide	A						
Cadmium Nitrate	A						
Cadmium Oxide	A						
Cadmium Sulfate	A						
Cadmium Sulfide	A						
Calcium Acetate	A	B	A	U	U	U	U
Calcium Arsenate	A						
Calcium Benzoate	A						
Calcium Bicarbonate	A						
Calcium Bisulfide	A						U
Calcium Bisulfite	A	U	U	A	A	A	U
Calcium Bromide	A						
Calcium Carbide	A						
Calcium Carbonate	A						U
Calcium Chlorate	A						
Calcium Chloride	A	A	A	A	A	A	A
Calcium Chromate	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Calcium Cyanamide	A						C
Calcium Cyanide	A						A
Calcium Fluoride	A						
Calcium Gluconate	A						
Calcium Hydride	A						
Calcium Hydrosulfide	A						U
Calcium Hydroxide	A	A	A	A	A	A	U
Calcium Hypochlorite	A	B	A	B	B	A	B
Calcium Hypophosphite	A						B
Calcium Lactate	A						B
Calcium Naphthenate	A						B
Calcium Nitrate	A	A	A	B	A	A	A
Calcium Oxide	A						
Calcium Oxlate	A						
Calcium Permanganate	A						
Calcium Peroxide	A						U
Calcium Phenolsulphonate	A						
Calcium Phosphate	A						
Calcium Phosphate Acid	A						
Calcium Propionate	A						C
Calcium Pyridine Sulfonate	A						
Calcium Salts	A						
Calcium Stearate	A						
Calcium Sulfamate	A						
Calcium Sulfate	A						
Calcium Sulfide	A	A	A	B	A	A	
Calcium Sulfite	A						
Calcium Thiocyanate	A						
Calcium Tungstate	A						
Caliche	A						
Camphene	A						
Camphor	A						
Camphoric Acid	A						
Cane Sugar Liquors	A	A	A	A	A	A	
Capric Acid	A						
Caproic Acid	A						
Caproic Aldehyde	A						
Caprolactam	A						
Capronaldehyde	A* 6375						
Carbamate	A	C	B	—	A	A	
Carbazole	A						
Carbitol ⁵	A	B	B	B	B	B	
Carbolic Acid (Phenol)	A	U	B	U	A	A	
Carbon Bisulfide	A	C	U	U	A	A	
Carbon Dioxide	A	A	B	B	A	A	B
Carbon Disulfide	A						
Carbon Fluorides	A						
Carbon Monoxide	A	A	A	A	B	A	U
Carbon Tetrabromide	A						
Carbon Tetrachloride	A	C	U	U	C	A	C
Carbon Tetrafluoride	B						
Carbonic Acid	A	B	A	A	A	A	C
Casein	A						
Castor Oil	A	A	B	A	A	A	C
Caustic Lime	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Caustic Potash	A						
Caustic Soda (Sodium Hydroxide)	A						
Cellosolve ⁵	A	U	B	U	U	C	B
Cellosolve ⁵ Acetate	A	U	B	U	U	U	B
Cellulose Acetate	A						
Cellulose Acetate Butyrate	A						
Cellulose Ether	A						
Cellulose Nitrate	A						
Cellulose Tripropionate	A						
Cellulube ⁷ (Phosphate Esters)	A	U	A	A	C	A	U
Cerium Sulfate	A						C
Cerous Chloride	A						
Cerous Fluoride	A						
Cerous Nitrate	A						A
Cetane (Hexadecane)	A						A
Cetyl Alcohol	A						
Chaulmoogric Acid	A						
China Wood Oil (Tung Oil)	A	A	C	U	B	A	
Chloral	A						
Chloramine	A						
Chloranthraquinone	A						
Chlordane	A						
Chloric Acid	A						
Chlorinated Solvents	A						
Chlorine (Dry)	A	U	U	U	A	A	
Chlorine (Wet)	B*	U	C	U	B	B	
Chlorine Dioxide	B* 2037	U	C	—	B	A	
Chlorine Trifluoride	B	U	U	U	C	U	
1-Chloro-1-Nitro Ethane	A	U	U	U	U	U	
Chloro Oxyfluorides	B						
Chloro Xylenols	A						
Chloroacetaldehyde	B* 6375						
Chloroacetic Acid	A	U	A	—	U	U	
Chloroacetone	A	U	A	U	U	U	
Chloroacetyl Chloride	A						
Chloroamino Benzoic Acid	A						
Chloroaniline	A						
Chlorobenzaldehyde	A* 6375						
Chlorobenzene	A	U	U	U	B	A	U
Chlorobenzene Chloride	A						U
Chlorobenzene Trifluoride	A						U
Chlorobenzochloride	A						
Chlorobenzotrifluoride	A						
Chlorobromomethane	A	U	B	U	B	A	C
Chlorobromopropane	A						
Chlorobutadiene (Chloroprene)	A	U	U	U	B	A	
Chlorobutane (Butyl Chloride)	A						
Chlorodifluoromethane	B* 7075						
Chlorododecane	A	U	U	U	A	A	
Chloroethane	A						C
Chloroethane Sulfonic Acid	A						C
Chloroethylbenzene	A						
Chloroform	A	U	U	U	U	A	
Chlorohydrin	A						
O-Chloronaphthalene	A	U	U	U	B	A	

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Chlorosilanes	A						
Chlorosulfonic Acid	A	U	U	U	U	U	U
Chlorotoluene	A	U	U	U	B	A	U
Chlorotoluene Sulfonic Acid	A						U
Chlorotoluidine	A						U
Chlorotrifluoroethylene (CTFE)	B* 7075						A
Chlorotrifluoromethane (Freon® B)	B* 7075						A
Chloroxylols	A						
Cholesterol	A						
Chrome Alum	A						C
Chrome Plating Solutions	A	U	B	B	B	A	
Chromic Acid	A	U	C	C	C	A	U
Chromic Chloride	A						U
Chromic Fluorides	A						
Chromic Hydroxide	A						C
Chromic Nitrates	A						B
Chromic Oxide	A						C
Chromic Phosphate	A						
Chromic Sulfate	A						
Chromium Potassium Sulfate (Alum)	A						
Chromyl Chlorides	A						
Cinnamic Acid	A						
Cinnamic Alcohol	A						
Cinnamic Aldehyde	A						
Citric Acid	A	A	A	A	A	A	A
Clorox ¹⁶	A	B	B	B	B	A	
Coal Tar	A	A	U	U	A	A	
Cobaltous Acetate	A						
Cobaltous Bromide	A						
Cobaltous Chloride	A	A	A	B	A	A	
Cobaltous Linoleate	A						
Cobaltous Naphthenate	A						
Cobaltous Sulfate	A						
Coconut Oil	A	A	C	A	A	A	A
Cod Liver Oil	A	A	A	B	A	A	
Codien	A						
Coke Oven Gas	A	U	U	B	B	A	
Copper Acetate	A	B	A	U	U	U	U
Copper Ammonium Acetate	A						C
Copper Carbonate	A						
Copper Chloride	A	A	A	A	A	A	U
Copper Cyanide	A	A	A	A	A	A	
Copper Gluconate	A						
Copper Naphthenate	A						
Copper Nitrate	A						C
Copper Oxide	A						
Copper Salts	A						
Copper Sulfate	A	A	A	A	A	A	C
Corn Oil	A	A	C	A	A	A	C
Cottonseed Oil	A	A	B	A	A	A	C
Creosote (Coal Tar)	A	A	U	U	A	A	C
Cresol (Methyl Phenol)	A	U	U	U	B	A	C
Cresylic Acid	A	U	U	U	B	A	U
Crotonaldehyde	A						
Crotonic Acid	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Crude Oil	A						U
Cumaldehyde	A						
Cumene (Isopropylbenzene)	A	U	U	U	B	A	
Cumene Hydroperoxide	A						U
Cutting Oils	A						
Cyanamide	A						
Cyanides	A						
Cyanoacetic Acid	A* 7075						
Cyanogen Chloride	A						
Cyanogen Gas	A						
Cyanohydrin	A						
Cyanuric Chloride	A						
Cyclohexane	A	A	U	U	B	A	A
Cyclohexanol	A	C	C	U	A	A	B
Cyclohexanone	A	U	B	U	U	U	B
Cyclohexene	A						
Cyclohexylamine	A* 1050LF/6375						
Cyclohexylamine Carbonate	A* 1050LF/6375						
Cyclohexylamine Laurate	A* 1050LF/6375						
Cyclopentadiene	A						
Cyclopentane	A						
Cyclopolyolefins	A						
P-Cymene (Isopropyl-toluene)	A	U	U	U	B	A	U
DDT (Dichlorodiphenyl-trichloroethane)	A						
Decane	A	A	U	B	A	A	A
Deionized Water	A* 6375						U
Denatured Alcohol	A	A	A	A	A	A	
Detergent Solutions	A	A	A	A	A	A	
Developing Fluids	A	A	B	A	A	A	
Dextrin	A						
Dextro Lactic Acid	A						
Dextrose	A						
Diacetone	A	U	A	U	U	U	C
Diacetone Alcohol	A	U	A	B	U	U	C
Dialkyl Sulfates	A						
Diallyl Ether	A						
Diallyl Phthalate	A						
Diamylamine	A* 6375						
Diazinon	A						
Dibenzyl (sym-Diphenylethane)	A						
Dibenzyl Ether	A	U	B	—	—	U	B
Dibenzyl Sebecate	A	U	B	C	C	B	B
Diborane	A						
Dibromoethane	A						
Dibromoethylbenzene	A	U	U	U	B	B	
Dibutyl Amine	A* 6375	U	C	C	U	U	C
Dibutyl Cellosolve ⁵ Adipate	A						
Dibutyl Ether	A	U	C	U	C	C	A
Dibutyl Methylenedithio Glycolate	A						
Dibutyl Phthalate	A	U	B	B	C	C	B
Dibutyl Sebecate	A	U	B	B	B	B	B
Dibutyl Thioglycolate	A						
Dibutyl Thiourea	A						
Dichloroacetic Acid	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Dichloroaniline	A						
O-Dichlorobenzene	A	U	U	U	B	A	A
Dichlorobutane	A						U
Dichlorobutene	A						
Dichlorodifluoromethane	B* 7075						
Dichlorodiphenyl-Dichloroethane (DDD)	A						C
Dichloroethane	A						U
Dichloroethylene	A						
Dichlorofluoromethane	A						
Dichlorohydrin	A						
Dichloroisopropyl Ether	A	U	C	U	C	C	
Dichloromethane	A						U
Dichlorophenol	A						
Dichlorophenoxyacetic Acid	A						
Dichloropropane	A						U
Dichloropropene	A						
Dichlorosilane	A						U
Dichlorotetrafluoroethane	B						B
Dicyclohexylamine	A* 1050LF/6375	C	U	—	U	U	U
Dicyclohexylammonium Nitrate	A						
Dieldrin	A						
Diesel Oil	A	A	U	U	A	A	
Diethanolamine (DEA)	A* 1050LF/6375						C
Diethyl Carbonate	A						
Diethyl Ether	A	U	U	U	C	U	
Diethyl Phthalate	A						
Diethyl Sebecate	A	B	B	B	B	B	
Diethyl Sulfate	A						
Diethylamine	A* 6375	B	B	B	U	U	C
Diethylaniline	A						
Diethylbenzene	A	U	U	U	C	A	
Diethylene Glycol	A	A	A	B	A	A	
Diethylenetriamine	A* 1050LF						
Difluorodibromomethane	A						U
Difluorodichloromethane	B* 6375/7075						
Difluoroethane	A						
Difluoromonochloroethane	A						U
Diglycol Chloroformate	A						
Diglycolic Acid	A						
Dihydroxydiphenylsulfone	A						
Diisobutyl Ketone	A						
Diisobutylcarbinol	A						
Diisobutylene	A	B	U	U	C	A	C
Diisopropyl Ether (DIPE)	A						
Diisopropyl Ketone	A	U	A	U	U	U	
Diisopropylbenzene	A	U	U	—	B	A	
Diisopropylidene Acetone	A	U	C	U	U	U	
Dimethyl Acetamide	A						
Dimethyl Aniline (Xylidine)	A	C	B	U	U	U	
Dimethyl Disulfide (DMDS)	A						
Dimethyl Ether (Methyl Ether) (Monomethyl Ether)	A	A	U	A	A	A	
Dimethyl Formaldehyde	A						C
Dimethyl Formamide (DMF)	A	B	B	B	U	U	C
Dimethyl Hydrazine	A						
Dimethyl Phenyl Carbinol	A						B

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Dimethyl Phenyl Methanol	A						B
Dimethyl Phthalate	A	U	B	—	B	B	B
Dimethyl Sulfoxide (DMSO)	A						
Dimethyl Terephthalate (DMT)	A						
Dimethylamine (DMA)	A* 1050LF/6375						
Dinitrochlorobenzene	A						
Dinitrogen Tetroxide	B* 1045						
Dinitrotoluene (DNT)	A	U	U	U	U	U	U
Diethyl Phthalate	A	C	B	C	B	B	B
Diethyl Sebecate	A	U	B	C	C	B	C
Diethylamine	A						
Dioxane	A	U	B	U	C	U	U
Dioxolane	A	U	B	U	U	U	U
Dipentene	A	B	U	U	C	A	A
Diphenyl (Biphenyl/Phenylbenzene)	A	U	U	U	B	A	
Diphenyl Oxide (Diphenyl Ether)	A	U	U	C	B	A	U
Diphenylamine (DPA)	A						
Diphenylene Oxide	A						
Diphenylpropane	A						
Di-Tert-Butyl Peroxide	A						
Dodecylbenzene	A						
Dowanol ⁸ P Mix	A						
Dowtherm ⁸ Fluids	A	U	U	C	B	A	U
Dry Cleaning Fluids	A	C	U	U	B	A	U
Epichlorohydrin	A* 6375	U	B	U	U	U	U
Erucic Acid	A						
Ethane	A	A	U	U	B	A	A
Ethanol	A						A
Ethanolamine	A* 1050LF	B	B	B	U	U	U
Ethers	A						A
Ethyl Acetate	A	U	B	B	U	U	B
Ethyl Acetoacetate	A	U	B	B	U	U	B
Ethyl Acrylate	A	U	B	B	U	U	
Ethyl Alcohol	A	A	A	A	A	C	
Ethyl Aluminum Dichloride	A						
Ethyl Benzene	A	U	U	U	A	A	U
Ethyl Benzoate	A	U	A	U	A	A	B
Ethyl Bromide	A						
Ethyl Butyrate	A* 7075						
Ethyl Cellosolve ⁵	A	U	U	U	U	U	B
Ethyl Cellulose	A	B	B	C	U	U	U
Ethyl Chloride	A	A	C	U	A	A	U
Ethyl Chlorocarbonate	A	U	B	U	B	A	U
Ethyl Chloroformate	A	U	B	U	U	U	U
Ethyl Ether	A	C	C	U	C	U	C
Ethyl Formate	A* 7075	U	B	—	A	A	U
Ethyl Hexanol	A						
Ethyl Lactate	A						
Ethyl Mercaptan	A	U	C	C	—	B	
Ethyl Nitrite	A						
Ethyl Oxalate	A	U	A	U	B	A	A
Ethyl Pentachloro-benzene	A	U	U	U	B	A	
Ethyl Pyridine	A						
Ethyl Silicate	A	A	A	—	A	A	B
Ethyl Stearate	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Ethyl Tertiary Butyl Ether (ETBE)	A						C
Ethyl Valerate	A						
Ethylamine	A* 1050LF						C
Ethylcyclopentane	A						
Ethylene	A	A	B	—	A	A	
Ethylene Chloride	A	U	C	U	C	B	C
Ethylene Chlorohydrin	A	U	B	C	B	A	
Ethylene Cyanohydrin	A						
Ethylene Dibromide	A						
Ethylene Dichloride	A	U	C	U	C	A	C
Ethylene Glycol	A	A	A	A	A	A	B
Ethylene Hydrochloride	A						C
Ethylene Oxide	A* 2035/6375	U	C	U	U	U	
Ethylene Trichloride	A	U	C	U	C	A	C
Ethylenediamine	B* 1050LF	A	A	A	U	U	C
Ethyleneimine	A						
Ethylmorpholine	A						
Ethylsulfuric Acid	A						
Fatty Acids	A	B	C	C	—	A	
Ferric Acetate	A						
Ferric Ammonium Sulfate	A						
Ferric Chloride (aq)	A	A	A	B	A	A	A
Ferric Ferrocyanide	A						
Ferric Hydroxide	A						
Ferric Nitrate (aq)	A	A	A	C	A	A	A
Ferric Sulfate (aq)	A	A	A	B	A	A	A
Ferrous Ammonium Citrate	A						
Ferrous Ammonium Sulfate	A						
Ferrous Carbonate	A						
Ferrous Chloride	A						
Ferrous Iodide	A						
Ferrous Sulfate	A						
Ferrous Tartrate	A						
Fish Oil	A	A	U	A	A	A	
Fluorinated Cyclic Ethers	A* 7075	—	A	—	—	—	
Fluorine (Gas)	B						U
Fluorine (Liquid)	B	U	U	U	—	B	U
Fluorobenzene	A	U	U	U	B	A	
Fluoroboric Acid (Fluoboric Acid)	A* 7075	A	A	—	—	—	U
Fluorocarbon Oils	B* 7075	—	A	—	—	—	
Fluoroform	A* 7075						
Fluorolube ⁹	B* 7075	A	A	A	B	B	A
Fluorophosphoric Acid	A						
Fluorosilicic Acid	A	A	B	U	U	A	
Fluorosulfonic Acid	A						
Formaldehyde	A* 6375	C	A	B	U	U	
Formamide	A* 6375						
Formic Acid	A* 6375	B	A	B	C	C	B
Freon ⁶ 22	A* 6375	U	A	U	U	U	
Freon ⁶ 23	A* 6375						
Fuel Oils	A	A	U	U	A	A	
Fumeric Acid	A	A	B	B	A	A	
Fuming Sulfuric Acid	A						U
Furan, Furfuran	A	U	C	—	—	—	B
Furfural (Furfuraldehyde)	A*	U	B	U	—	U	U

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Furfuryl Alcohol	A						
Furoic Acid	A* 6375						
Fyrquel ⁷	A	U	A	A	C	A	U
Gallic Acid	A	B	B	—	A	A	
Gasoline	A	B	U	U	A	A	A
Gelatin	A	A	A	A	A	A	
Glauber's Salt	A	U	B	—	A	A	
Gluconic Acid	A						
Glucose	A	A	A	A	A	A	C
Glue	A	A	A	A	A	A	
Glutamic Acid	A						
Glycerin (Glycerol)	A	A	A	A	A	A	B
Glycerol Dichlorohydrin	A						
Glycerol Monochlorohydrin	A						
Glycerol Triacetate	A						
Glycerophosphoric Acid	A						
Glyceryl Phosphate	A						
Glycidol	A						B
Glycol Monoether	A						
Glycolic Acid	A						
Glycols	A	A	A	A	A	A	
Glyoxylic Acid	A						
Green Sulfate Liquor	A	B	A	A	B	A	
Halothane	A						U
Halowax ¹⁰ Oil	A	U	U	U	A	A	
Heavy Water	A						
Helium	A						A
Heptachlor	A						
Heptachlorobutene	A						
Heptaldehyde (Heptanal)	A* 6375						C
Heptane	A						C
Heptanoic Acid	A						
Hexachloroacetone	A						
Hexachlorobutadiene	A						
Hexachlorobutene	A						
Hexachloroethane	A						
Hexaethyl Tetraphosphate	A						
Hexafluoroethane	B* 7075						
Hexafluoroxylene	A						
N-Hexaldehyde	A* 6375	U	A	B	U	U	
Hexamethyldisilizane	A						
Hexamethylene (Cyclohexane)	A						
Hexamethylene Diammonium Adipate	A						
Hexamethylene diamine	B* 1050LF						
Hexamethylenetetramine	B* 1050LF						
Hexane	A	A	U	U	A	A	A
N-Hexene-1	A	B	U	U	A	A	
Hexone (Methyl Isobutyl Ketone)	A						
Hexyl Acetate	A						
Hexyl Alcohol	A	A	C	B	B	A	A
Hexylene Glycol	A						
Hexylresorcinol	A						
HCFC 141b	A* 6375						
HCFC 142b	B* 6375	A	B	—	—	U	
Hydrazine	A* 1050LF	B	A	C	U	U	U

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Hydrazine Dihydrochloride	A						
Hydrazine Hydrate	A* 1050LF						
Hydraulic Oils (Petroleum Base)	A	A	U	C	A	A	A
Hydraulic Oils (Synthetic Base)	A						B
Hydriodic Acid	A* 6375/7075						
Hydroabietyl Alcohol	A						
Hydrobromic Acid	A	U	A	U	C	A	
Hydrobromic Acid 40%	A	U	A	U	C	A	
Hydrocarbons	A						A
Hydrochloric Acid (cold) 37%	A	C	A	C	B	A	U
Hydrochloric Acid (conc.)	A						
Hydrochloric Acid (hot) 37%	A	U	C	U	C	B	U
Hydrocyanic Acid	A	B	A	C	B	A	U
Hydrofluoric Acid (Anhydrous)	A	U	C	U	U	U	U
Hydrofluoric Acid (conc.) Cold	A	U	C	U	U	A	U
Hydrofluoric Acid (conc.) Hot	A* 7075	U	U	U	U	C	U
Hydrofluosilicic Acid	A	A	B	U	U	A	U
Hydrogen Bromide (Anhydrous)	A						
Hydrogen Chloride (Anhydrous)	A						
Hydrogen Cyanide	A						U
Hydrogen Fluoride (Anhydrous)	A* 7075						
Hydrogen Gas	A	A	A	C	C	A	
Hydrogen Iodide (Anhydrous)	A						
Hydrogen Peroxide (90%)	A	U	B	B	B	B	C
Hydrogen Selenide	A						
Hydrogen Sulfide (Wet) Cold	A	U	A	C	C	U	A
Hydrogen Sulfide (Wet) Hot	A* 6375	U	A	C	C	U	A
Hydroquinone	A	U	B	B	B	B	C
Hydroxycitronellal	A						
Hydroxyacetic Acid	A						
Hydyne	A						C
Hypochlorous Acid	A* 2037	U	B	—	—	A	C
Indole	A						
Insulin	A						
Iodic Acid	A						
Iodine	A						
Iodine Pentafluoride	B	U	U	U	U	U	
Iodoform	A	—	U	—	—	—	
Iso Crotyl Chloride	A						
Iso Dodecane	A						
Isoamyl Acetate	A						C
Isoamyl Butyrate	A						C
Isoamyl Valerate	A						
Isoboreol	A						
Isobutane	A						
Isobutyl Acetate	A						
Isobutyl Alcohol	A	B	A	A	B	A	B
Isobutyl Chloride	A						B
Isobutyl Methyl Ketone	A						
Isobutyl Phosphate	A						
Isobutylene	A						
Isobutyric Acid	A						
Isodecanol	A						
Isoeugenol	A						
Isooctane	A	A	U	U	A	A	

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Isopentane	A						
Isophorone	A	U	C	U	U	U	
Isopropyl Acetate	A	U	B	U	U	U	B
Isopropyl Alcohol (Isopropanol)	A	B	A	A	B	A	B
Isopropyl Chloride	A	U	U	U	B	A	U
Isopropyl Ether	A	B	U	U	C	U	B
Isopropylacetone	A						
Isopropylamine	A* 6375						U
Isovaleric Acid	A						C
Jet A Fuel	A						
JP 3 Fuel	A						B
JP 4 Fuel	A						B
JP 5 Fuel	A						B
JP 6 Fuel	A						B
Kerosene	A	A	U	U	A	A	B
Lacquer Solvents	A	U	U	U	U	U	A
Lacquers	A	U	U	U	U	U	A
Lactic Acid (Cold)	A	A	A	A	A	A	C
Lactic Acid (Hot)	A	U	U	B	B	A	C
Lard (Animal Fats)	A	A	B	B	A	A	
Lauric Acid	A						
Lavender Oil	A	B	U	U	B	A	
Lead (Molten)	A						
Lead Acetate	A	B	A	U	U	U	
Lead Arsenate	A						
Lead Azide	A						
Lead Bromide	A						C
Lead Carbonate	A						C
Lead Chloride	A						C
Lead Chromate	A						
Lead Dioxide	A						C
Lead Linoleate	A						
Lead Naphthenate	A						
Lead Nitrate	A	A	A	B	A	—	C
Lead Oxide	A						
Lead Sulfamate	A	B	A	B	A	A	A
Ligroin (Benzene/Nitrobenzene)	A	A	U	U	A	A	A
Lime Bleach	A	A	A	B	A	A	C
Lime Sulfur	A	U	A	A	A	A	C
Lindol ⁷ (Hydraulic Fluids)	A	U	A	C	C	B	C
Linoleic Acid	A	B	U	B	—	B	C
Linseed Oil	A	A	C	A	A	A	B
Liquefied Petroleum Gas (LPG)	A	A	U	C	C	A	B
Lithium Bromide (Brine)	A						
Lithium Carbonate	A						
Lithium Chloride	A						
Lithium Citrate	A						
Lithium Hydroxide	A						
Lithium Hypochlorite	A						
Lithium Nitrate	A						
Lithium Nitrite	A						
Lithium Perchlorate	A* 2037						
Lithium Salicylate	A						
Lithopone	A						
Lubricating Oils (Petroleum Base)	A	A	U	U	A	A	

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Lubricating Oils (Synthetic Base)	A						
Lye A	B	A	B	A	B	B	
Magnesium Chloride	A	A	A	A	A	A	C
Magnesium Hydroxide	A	B	A	—	—	A	C
Magnesium Salts	A						
Magnesium Sulfate	A	A	A	A	A	A	C
Magnesium Sulfite	A						B
Magnesium Trisilicate	A						
Malathion	A						
Maleic Acid	A	U	B	—	—	A	B
Maleic Anhydride	A	U	B	—	—	U	
Maleic Hydrazide	A						
Malic Acid	A	A	B	B	A	A	
Mandelic Acid	A						
Manganese Acetate	A						
Manganese Carbonate	A						B
Manganese Dioxide	A						
Manganese Gluconate	A						
Manganese Hypophosphite	A						
Manganese Linoleate	A						
Manganese Naphthenate	A						
Manganous Chloride	A						
Manganous Phosphate	A						
Manganous Sulfate (aq)	A						
Mannitol	A						
MDI (Methylene-di-p-phenylene isocyanate)	A						
Mercaptan	A						
Mercaptobenzothiazole (MBT)	A						
Mercuric Acetate	A						
Mercuric Cyanide	A						
Mercuric Iodide	A						
Mercuric Nitrate	A						
Mercuric Sulfate	A						
Mercuric Sulfite	A						
Mercurous Nitrate	A						
Mercury	A	A	A	—	—	A	
Mercury Chloride	A	A	A	—	—	A	
Mercury Fulminate	A						
Mercury Salts	A						
Mesityl Oxide	A	U	B	U	U	U	B
Metacresol	A						
Metaldehyde	A						
Metanitroaniline	A						
Metatoluidine	A						
Methacrylic Acid	A	U	B	U	U	U	
Methallyl Chloride	A						
Methane	A	A	U	U	B	A	
Methoxychlor	A						
Methyl Abietate	A						
Methyl Acetate	A	U	A	U	U	U	C
Methyl Acetoacetate	A						B
Methyl Acetophenone	A						
Methyl Acrylate	A	U	B	U	U	U	B
Methyl Alcohol (Methanol)	A	A	A	A	A	U	C

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Methyl Amylketone	A						
Methyl Anthranilate	A						
Methyl Benzoate	A						B
Methyl Butyl Ketone	A	U	A	C	U	U	
Methyl Butyrate Cellosolve ⁵	A						
Methyl Butyrate Chloride							C
Methyl Carbonate	A						C
Methyl Cellosolve ⁵	A	C	B	U	U	U	
Methyl Cellulose	A						C
Methyl Chloride	A	U	C	U	B	B	C
Methyl Chloroacetate	A						
Methyl Chloroformate	A						C
Methyl Chlorosilanes	A						
Methyl Cyanide (Acetonitrile)	A						
Methyl Cyclohexanone	A						
Methyl Cyclopentane	A	U	U	U	B	B	B
Methyl Dichloride	A						
Methyl Ether (Dimethyl Ether/ Monomethyl Ether)	A	A	U	A	A	A	B
Methyl Ethyl Ketone (MEK)	A	U	A	U	U	U	A
Methyl Ethyl Ketone Peroxide	A						C
Methyl Ethyl Oleate	A						
Methyl Formate	A	U	B	—	—	—	C
Methyl Hexyl Ketone (2-Octanone)	A						
Methyl Iodide	A						
Methyl Isobutyl Ketone (MIBK)	A	U	B	U	U	U	
Methyl Isocyanate	A						C
Methyl Isopropyl Ketone	A						B
Methyl Isovalerate	A						
Methyl Lactate	A						
Methyl Methacrylate	A	U	C	U	U	U	B
Methyl Oleate	A	U	B	—	B	B	
Methyl Pentadiene	A						
Methyl Phenylacetate	A						
Methyl Salicylate	A	U	B	—	—	—	
Methyl Tertiary Butyl Ether (MTBE)	A						C
Methyl Valerate	A						
Methylacrylic Acid	A	U	B	U	U	U	C
Methylal	A* 6375						
Methylamine	A* 6375						
Methylamyl Acetate	A						
Methylene Bromide	A	B	U	—	A	A	C
Methylene Chloride	B	U	C	U	B	B	C
Methylene Iodide	A						
Methylglycerol	A						
Methylisobutyl Carbinol	A						
Methylpyrrolidine	A						
Methylpyrrolidone	A						
Methylsulfuric Acid	A						
MIL-L-23699 Lubricants	A						
MIL-L-7808 Lubricants	A						
Mineral Oil	A	A	C	B	A	A	
Mixed Acids	A						
Mobil 254 ¹¹ Lubricant	A						
MobilJet II ¹¹ Lubricant	A						
Molybdenum Oxide	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Molybdenum Trioxide	A						
Molybdic Acid	A						
Morpholine	A						
Motor Oils	A						B
Mustard Gas	A	—	A	A	—	—	
Myristic Acid	A						
Naphtha	A	B	U	U	B	A	
Naphthalene	A	U	U	U	A	A	B
Naphthalene Chloride	A						
Naphthalene Sulfonic Acid	A						
Naphthalenic Acid	A	B	U	U	A	A	B
Naphthalonic Acid	A						
Naphthenic Acid	A						
Naphthylamine	A						
Natural Gas	A	A	U	A	C	A	
Neatsfoot Oil	A	A	B	B	A	A	
Neon	A						A
Neville Acid	A	U	B	U	B	A	A
Nickel Acetate (aq)	A	B	A	U	U	U	
Nickel Ammonium Sulfate	A						
Nickel Chloride (aq)	A	A	A	A	A	A	A
Nickel Cyanide	A						
Nickel Nitrate	A						
Nickel Salts	A						
Nickel Sulfate (aq)	A	A	A	A	A	A	C
Nicotinamide (Niacinamide)	A						
Nicotinamide Hydrochloride	A						
Nicotine	A						
Nicotine Sulfate	A						
Niter Cake	A	A	A	A	A	A	C
Nitric Acid (0–50%)	A* 7075/6375	U	B	B	B	A	C
Nitric Acid (50–100%)	A* 7075/6375	U	U	U	C	C	C
Nitric Acid, Inhibited Red Fuming	A* 2037	U	U	U	U	U	C
Nitric Acid, White Fuming	B* 2037						
Nitroaniline	A						
Nitrobenzene	A	U	A	U	U	B	C
Nitrobenzoic Acid	A						
Nitrocellulose	A						
Nitrochlorobenzene	A						
Nitrochloroform	A						
Nitrodiethylaniline	A						
Nitrodiphenyl Ether	A						
Nitroethane	A	U	B	U	U	U	
Nitrofluorobenzene	A						
Nitrogen	A	A	A	A	A	A	A
Nitrogen Oxides	A						C
Nitrogen Peroxide	A* 2037						C
Nitrogen Tetroxide	B* 1045	U	C	U	U	U	C
Nitrogen Trifluoride	B* 7075						C
Nitroglycerine	A						
Nitroglycerol	A						
Nitroisopropylbenzene	A						
Nitromethane	A	U	B	U	U	U	
Nitrophenol	A						
Nitropropane	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Nitrosyl Chloride	A						
Nitrosylsulphuric Acid	A						
Nitrothiophene	A						
Nitrotoluene	A						C
Nitrous Acid	A						
Nitrous Oxide	A* 2037						
Nonane	A						
Octachlorotoluene	A	U	U	U	B	A	
Octadecane	A	A	U	U	A	A	
Octanal	A* 6375						
N-Octane	A	B	U	U	B	A	B
Octyl Acetate	A						
Octyl Alcohol	A	B	C	B	B	A	B
Octyl Chloride	A						
Octyl Phthalate	A						
Olefins	A						
Oleic Acid	A	C	U	U	—	B	
Oleum (Fuming Sulfuric Acid)	A	B	U	U	B	A	
Oleyl Alcohol	A						
Olive Oil	A	A	B	C	A	A	C
Ortho Chloroaniline	A						
Ortho Chlorophenol	A						
Ortho Cresol	A						
Ortho Nitrotoluene	A						C
Orthophos ¹⁷ Acid	A						
Oxalic Acid	A	B	A	B	A	A	
Oxygen (Cold)	A* 2037	B	A	A	A	A	C
Oxygen (Hot)	A* 2037	U	C	B	U	B	C
Ozone	A* 2037	U	A	A	B	A	A
Paint Thinner	A	U	U	U	B	B	
Paracymene	A						
Para-Dichlorobenzene	A						U
Paraffins	A						
Para-Formaldehyde	A* 6375						
Paraldehyde	A* 6375						U
Para-Nitroaniline	A						
Para-Nitrobenzoic Acid	A						
Para-Nitrophenol	A						
Parathion	A						
Para-Toluene Sulfonic Acid	A						
Peanut Oil	A	A	C	A	A	A	C
Pectin (Liquor)	A						
Pelagonic Acid	A						
Penicillin (Liquid)	A						
Pentachloroethane	A						
Pentachlorophenol	A						
Pentaerythritol	A						
Pentaerythritol Tetranitrate	A						
Pentane	A						A
Pentoxone ¹³	A						
Pentyl Pentanoate	A						
Peracetic Acid	A						C
Perchloric Acid	A* 7075	U	B	U	A	A	C
Perchloroethylene	A	B	U	U	B	A	B
Perfluorotriethylamine	B* 1050LF						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Permanganic Acid	A* 2037						
Persulfuric Acid (Caro's Acid)	A						C
Petrolatum	A						
Petrolatum Ether	A						
Petroleum, Crude	A* 6375						
Petroleum—Above 121 °C (250 °F)	A	U	U	U	U	B	
Petroleum—Below 121 °C (250 °F)	A	A	U	B	B	A	
Phenol (Carbolic Acid)	A	U	B	U	A	A	
Phenolic Sulfonate	A						
Phenolsulfonic Acid	A						
Phenyl Acetate	A						
Phenyl Ethyl Ether (Phenetole)	A	U	U	U	U	U	C
Phenyl Hydrazine	A* 1050LF	U	B	—	—	A	
Phenylacetamide	A						C
Phenylacetic Acid	A						
Phenylbenzene (Biphenyl/Diphenyl)	A	U	U	U	B	A	
Phenylene Diamine	A* 1050LF						
Phenylethyl Alcohol	A						
Phenylethyl Molonic Ester	A						
Phenylglycerine	A						
Phenylhydrazine Hydrochloride	A* 1050LF						U
Phenylmercuric Acetate	A						
Phorone (Diisopropylidene Acetone)	A	U	C	U	U	U	U
Phosgene	A						
Phosphine	A						
Phosphoric Acid, 20%	A	B	A	B	B	A	B
Phosphoric Acid, 45%	A	U	A	C	B	A	C
Phosphorus (Molten)	A						
Phosphorus Oxychloride	A						C
Phosphorus Trichloride	A	U	A	—	A	A	C
Phthalic Acid	A						
Phthalic Anhydride	A						
Pickling Solution	A	U	C	U	U	B	
Picric Acid	A	B	B	U	B	A	
Pine Oil	A	U	U	U	A	A	B
Pine Tar	A						
Pinene	A	B	U	U	B	A	
Piperazine	A* 6375						
Piperidine	A	U	U	U	U	U	
Plating Solution—Chrome	A	—	A	U	—	A	
Plating Solution—Others	A	A	A	U	—	A	
Polyethylene Glycol	A						
Polyglycerol	A						
Polyglycol	A						
Polyvinyl Acetate Emulsion	A	—	A	—	—	—	
Potassium (Molten)	U						
Potassium Acetate	A	B	A	U	U	U	C
Potassium Acid Sulfate	A						
Potassium Alum	A						
Potassium Aluminum Sulfate	A						
Potassium Antimonate	A						
Potassium Bicarbonate	A						
Potassium Bichromate	A						
Potassium Bifluoride	A						
Potassium Bisulfate	A						B

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Potassium Bisulfite	A						
Potassium Bitartrate	A						
Potassium Bromide	A						
Potassium Carbonate	A						
Potassium Chlorate	A						
Potassium Chloride	A	A	A	A	A	A	B
Potassium Chromates	A						
Potassium Citrate	A						
Potassium Cuprocyanide	A	A	A	A	A	A	A
Potassium Cyanate	A						
Potassium Cyanide	A	A	A	A	A	A	A
Potassium Dichromate	A	A	A	A	A	A	A
Potassium Diphosphate	A						
Potassium Ferricyanide	A						
Potassium Fluoride	A						B
Potassium Glucocyanate	A						
Potassium Hydroxide	A	B	A	C	C	U	B
Potassium Hypochlorite	A						
Potassium Iodate	A						
Potassium Iodide	A						
Potassium Metabisulfate	A						
Potassium Metasilicate	A						
Potassium Monochromate	A						
Potassium Nitrate	A	A	A	A	A	A	A
Potassium Nitrite	A						
Potassium Oxalate	A						
Potassium Perchlorate	A						
Potassium Perfluoro Acetate	A						
Potassium Permanganate	A						
Potassium Peroxide	A						
Potassium Persulfate	A						
Potassium Phosphate (Acid)	A						
Potassium Phosphate (Alkaline)	A						
Potassium Phosphate (Di/Tri Basic)	A						
Potassium Pyrosulfate	A						
Potassium Salts	A						
Potassium Silicate	A						
Potassium Sodium Tartrate	A						
Potassium Stannate	A						
Potassium Stearate	A						
Potassium Sulfate	A	A	A	A	A	A	B
Potassium Sulfide	A						
Potassium Sulfite	A						
Potassium Tartrate	A						
Potassium Thiocyanate	A						
Potassium Thiosulfate	A						
Potassium Triphosphate	A						
Prestone ⁵ Anti-freeze	A						
Producer Gas	A	A	U	B	B	A	U
Propane	A	A	U	U	B	A	A
Propionaldehyde	A* 6375						
Propionic Acid	A						
Propionitrile	A						A
Propyl Acetate	A	U	B	U	U	U	C
Propyl Acetone (Methyl Butyl Ketone)	A	U	A	C	U	U	A

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Propyl Alcohol	A	A	A	A	A	A	A
Propyl Nitrate	A	U	B	U	U	U	
Propyl Propionate	A						
Propylamine	A* 6375						
Propylbenzene	A						
Propylene	A	U	U	U	B	A	B
Propylene Chloride	A						
Propylene Chlorohydrin	A						
Propylene Dichloride	A						
Propylene Glycol	A						
Propylene Imine	A* 1050LF						
Propylene Oxide	A* 2035/6375	U	B	U	U	U	
Pydraul ² , 10E, 29 ELT	A	U	A	U	U	A	
Pydraul ² , 30E, 50E, 65E, 90E	A	U	A	A	A	A	C
Pydraul ² , 115E	A	U	A	U	C	A	C
Pydraul ² , 230E, 312C, 540C	A	U	U	U	U	A	C
Pyranol ¹² , Transformer Oil	A	A	U	U	A	A	A
Pyridine	A	U	B	U	U	U	C
Pyridine Sulfate	A						
Pyridine Sulfonic Acid	A						C
Pyrogallol (Pyrogallic Acid)	A						
Pyroligneous Acid	A	U	B	—	U	U	
Pyrosulfuric Acid	A						
Pyrosulfuryl Chloride	A* 7075						
Pyrrole	A	U	C	B	C	U	C
Pyruvic Acid	A						
Quinidine	A						
Quinine	A						
Quinine Bisulphate	A						
Quinine Hydrochloride	A						
Quinine Sulfate	A						
Quinine Tartrate	A						
Quinizarin	A						
Quinoline	A						
Quinone	A						
Raffinate	A						
Rapeseed Oil	A	B	A	U	A	A	C
Red Oil (MIL-H-5606)	A	A	U	U	A	A	A
Resorcinol	A						
Rhodium	A						
Riboflavin	A						
Ricinoleic Acid	A						
RJ-1 (MIL-F-25558 B)	A	A	U	U	A	A	
Rosin	A						
RP-1 (MIL-H-25576 C)	A	A	U	U	A	A	A
Saccharin Solution	A						
Sal Ammoniac	A	A	A	B	A	A	
Salicylic Acid	A	B	A	—	A	A	
Salt Water	A*	A	A	A	A	A	
Sebacic Acid	A						
Secondary Butyl Alcohol	A						
Selenic Acid	A						
Selenous Acid	A						
Sewage	A*						
Shellac	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Silane	A						
Silicate Esters	A	B	U	U	A	A	
Silicon Fluoride	A						
Silicone Greases	A	A	A	C	A	A	
Silicone Oils	A	A	A	C	A	A	A
Silicone Tetrachloride (Dry)	A						
Silicone Tetrachloride (Wet)	A						B
Silicone Tetrafluoride	A* 7075						B
Silver Bromide	A						
Silver Chloride	A						
Silver Cyanide	A						
Silver Nitrate	A	B	A	A	A	A	
Silver Sulfate	A						
Skydrol ² 500	A	U	A	C	C	U	
Skydrol ² 7000	A	U	A	C	C	B	
Soap Solutions	A	A	A	A	A	A	
Soda Ash	A	A	A	A	A	A	
Sodium (molten)	U						
Sodium Acetate	A	B	A	U	U	U	U
Sodium Acid Bisulfate	A						
Sodium Acid Fluoride	A						
Sodium Acid Sulfate	A						
Sodium Aluminate	A						B
Sodium Aluminate Sulfate	A						
Sodium Anthraquinone Disulfate	A						
Sodium Antimonate	A						
Sodium Arsenate	A						
Sodium Arsenite	A						
Sodium Benzoate	A						
Sodium Bicarbonate	A	A	A	A	A	A	C
Sodium Bichromate	A						B
Sodium Bifluoride	A						
Sodium Bisulfate	A						C
Sodium Bisulfide	A						C
Sodium Bisulfite	A	A	A	A	A	A	C
Sodium Bitartrate	A						
Sodium Borate	A	A	A	A	A	A	
Sodium Bromate	A						
Sodium Bromide	A						
Sodium Carbonate (Soda Ash)	A						C
Sodium Chlorate	A						
Sodium Chloride	A	A	A	A	A	A	C
Sodium Chlorite	A						B
Sodium Chloroacetate	A						
Sodium Chromate	A						B
Sodium Citrate	A						
Sodium Cyanamide	A						C
Sodium Cyanate	A						
Sodium Cyanide	A	A	A	A	A	A	A
Sodium Diacetate	A						
Sodium Diphenyl Sulfonate	A						
Sodium Diphosphate	A						
Sodium Disilicate	A						
Sodium Ethylate	A						
Sodium Ferricyanide	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Sodium Ferrocyanide	A						A
Sodium Fluoride	A						B
Sodium Fluosilicate	A						
Sodium Glutamate	A						
Sodium Hydride	A						
Sodium Hydrogen Sulfate	A						B
Sodium Hydrosulfide	A						
Sodium Hydrosulfite	A						
Sodium Hydroxide	A	B	A	B	B	B	C
Sodium Hypochlorite	A	B	B	B	B	A	C
Sodium Hypophosphate	A						
Sodium Hypophosphite	A						
Sodium Hyposulfite	A						B
Sodium Iodide	A						
Sodium Lactate	A						
Sodium Metaphosphate	A	A	A	—	A	A	
Sodium Metasilicate	A						B
Sodium Methylate	A						
Sodium Monophosphate	A						
Sodium Nitrate	A	B	A	U	—	—	B
Sodium Oleate	A						
Sodium Orthosilicate	A						
Sodium Oxalate	A						
Sodium Perborate	A	B	A	B	A	A	B
Sodium Percarbonate	A						
Sodium Perchlorate	A						
Sodium Peroxide	A	B	A	U	A	A	
Sodium Persulfate	A						
Sodium Phenolate	A						
Sodium Phenoxide	A						
Sodium Phosphate	A	A	A	U	—	A	B
Sodium Plumbite	A						
Sodium Pyrophosphate	A						
Sodium Resinate	A						
Sodium Salicylate	A						
Sodium Salts	A						
Sodium Sesquisilicate	A						
Sodium Silicate	A	A	A	—	—	—	B
Sodium Silicofluoride	A						
Sodium Stannate	A						
Sodium Sulfate	A	A	A	A	A	A	A
Sodium Sulfide	A						B
Sodium Sulfite	A						
Sodium Sulfocyanide	A						B
Sodium Tartrate	A						
Sodium Tetraborate	A						B
Sodium Tetraphosphate	A						
Sodium Tetrasulfide	A						
Sodium Thioarsenate	A						
Sodium Thiocyanate	A						
Sodium Thiosulfate	A	B	A	A	A	A	B
Sodium Trichloroacetate	A						
Sodium Triphosphate	A						
SOLVESSO ¹⁴ 100, 150	A						
Sorbitol	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Sour Crude Oil	A* 6375						
Sour Natural Gas	A* 6375						
Soybean Oil	A	A	C	A	A	A	
Stannic Ammonium Chloride	A						
Stannic Chloride (aq)	A	A	A	B	A	A	
Stannic Tetrachloride	A						
Stannous Bisulfate	A						
Stannous Bromide	A						
Stannous Chloride (aq)	A	A	A	B	A	A	B
Stannous Fluoride	A						B
Stannous Sulfate	A						
Stauffer ⁷ 7700	A						A
Steam Above 149 °C (300 °F)	A* 6375	U	C	U	U	U	C
Steam Below 149 °C (300 °F)	A* 6375	U	A	C	U	U	
Stearic Acid	A	B	B	B	—	—	B
Stoddard Solvent	A	A	U	U	A	A	B
Strontium Acetate	A						
Strontium Carbonate	A						
Strontium Chloride	A						
Strontium Hydroxide	A						
Strontium Nitrate (aq)	A						
Styrene	A* 3018	U	U	U	C	B	C
Succinic Acid	A						
Sucrose Solution	A	A	A	A	A	A	C
Sulfamic Acid	A						
Sulfanilic Acid	A						
Sulfanilic Chloride	A						
Sulfanilimide	A						
Sulfite Liquors	A	B	B	U	B	A	
Sulfonic Acid	A						
Sulfur	A	U	A	C	A	A	C
Sulfur Chloride	A	C	U	C	A	A	C
Sulfur Dioxide (Dry)	A	U	A	B	B	A	C
Sulfur Dioxide (Liquified)	A	U	A	B	B	A	C
Sulfur Dioxide (Wet)	A	U	A	B	B	A	C
Sulfur Hexafluoride	B* 7075	B	B	B	B	B	
Sulfur Monochloride	A						
Sulfur Trioxide	A	U	B	B	B	A	
Sulfuric Acid (Conc.)	A	U	C	U	U	A	
Sulfuric Acid (Dilute)	A	C	B	U	C	A	
Sulfuric Acid (20% Oleum)	A	U	U	U	U	A	
Sulfurous Acid	A	B	B	U	—	A	
Sulfuryl Chloride	A						C
Sulphonated Oils	A						
Sulphonyl Chloride	B* 7075						C
Sulphuric Chlorohydrin (Chlorosulfonic Acid)	A						C
Suva [®] 326	B* 7075	A	A	—	—	U	
Suva [®] 1166	B* 7075						
Suva [®] 1236	C* 7075						
Suva [®] 1246	B* 7075						
Suva [®] 134a6	A* 6375						
Suva [®] 152a	B* 7075	A	A	—	—	U	
Tallow	A						
Tannic Acid (Tannin)	A	A	A	B	—	A	A
Tar, Bituminous	A	B	C	B	A	A	

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Tartaric Acid	A	A	B	A	A	A	C
TDI (Toluene Diisocyanate)	A	U	B	U	U	U	C
Tellone ³ II	A						
Terephthalic Acid	A						
Terpineol	A	B	C	—	A	A	A
Terpinyl Acetate	A						
Tertiary Amyl Methyl Ether (TAME)	A						
Tertiary Butyl Alcohol	A	B	B	B	B	A	C
Tertiary Butyl Catechol	A	U	B	—	A	A	C
Tertiary Butyl Mercaptan	A	U	U	U	—	A	
Tetrabromoethane	A	U	U	U	B	A	
Tetrabromomethane	A	U	U	U	B	A	
Tetrabutyl Titanate	A	B	A	—	A	A	
Tetrachloroethylene	A	U	U	U	B	A	C
Tetraethyl Lead	A	B	U	—	B	A	
Tetrafluoromethane	B* 7075						A
Tetrahydrofuran	A	U	C	U	U	U	A
Tetramethyl Ammonium Hydroxide	A* 6375						
Tetramethyldihydropyridine	A						
Tetraphosphoglucosate	A						
Tetraphosphoric Acid	A						
Therminol ² 55	A						
Therminol ² 66	A						
Therminol ² FR	A						
Thio Acid Chloride	A						
Thioamyl Alcohol	A						
Thiodiacetic Acid	A						
Thioethanol	A						
Thioglycolic Acid	A						
Thionyl Chloride	A	U	C	—	—	B	
Thiophene (Thiofuran)	A						
Thiophosphoryl Chloride	A						
Thiourea	A						
Thorium Nitrate	A						
Tin Ammonium Chloride	A						
Tin Chloride	A						
Tin Tetrachloride	A						
Titanic Acid	A						
Titanium Dioxide	A						
Titanium Sulfate	A						
Titanium Tetrachloride	B* 7075	B	U	U	B	B	B
Toluene	A	U	U	U	B	A	A
Toluene Bisodium Sulfite	A						
Toluene Diisocyanate (TDI)	A	U	B	U	U	U	C
Toluene Sulphonyl Chloride	A						C
Toluenesulphonic Acid	A						
Toluidine	A						
Toluol	A						
Toluquinone	A						
Tolylaldehyde	A						
Transformer Oil	A	A	U	B	A	A	
Transmission Fluid Type A	A	A	U	B	A	A	
Triacetin	A	B	A	—	U	U	
Triaryl Phosphate	A	U	A	C	B	A	
Tribromomethylbenzene	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Tributoxyethyl Phosphate	A	U	A	—	B	A	A
Tributyl Citrate	A						
Tributyl Mercaptan	A	U	U	U	C	A	C
Tributyl Phosphate	A	U	B	U	U	U	B
Tributylamine	A* 1050LF						
Trichloroacetic Acid	A* 6375	B	B	—	U	C	
Trichloroacetyl Chloride	A						
Trichlorobenzene	A						
Trichloroethane	A	U	U	U	B	A	C
Trichloroethanolamine	A* 1050LF						C
Trichloroethylene	A	U	U	U	B	A	
Trichlorofluoromethane	B* 7075						
Trichloromethane	A						C
Trichloronitromethane (Chloropicrin)	A						
Trichlorophenylsilane	A						
Trichloropropane	A						
Trichlorotrifluoroethane	B* 7075						
Tricresyl Phosphate	A	U	U	C	B	A	
Triethanolamine (TEA)	A* 7075	B	A	—	U	U	
Triethyl Phosphate	A						B
Triethylaluminum	A	U	C	—	—	B	
Triethylamine	A* 6375						
Triethylborane	A	U	C	—	—	A	
Triethylene Glycol	A						
Triethylenetetramine	A* 1050LF						
Trifluoroacetic Acid	A* 6375						
Trifluorochloroethylene	B* 7075						
Trifluoromethane (Freon ⁶ 23)	A* 7075						
Trifluorovinylchloride	A						
Triisopropylbenzylchloride	A						
Trimethylamine	A* 1050LF						
Trimethylbenzene	A						
Trimethylpentane	A						
Trinitrotoluene	A	U	U	—	B	B	B
Trioctyl Phosphate	A	U	A	C	B	B	B
Triphenylphosphite	A						
Tripotassium Phosphate	A						
Trisodium Phosphate	A						
Tritium	A						
Tung Oil (China Wood Oil)	A	A	C	U	B	A	
Tungsten Hexafluoride	B* 7075						
Tungstic Acid	A						
Turbine Oils	A	B	U	U	B	A	A
Turpentine	A	A	U	U	B	A	B
Ucon ⁵ Lubricants/Fluids	A						
Undecylenic Acid	A						
Undecylic Acid	A						
Unsymmetrical Dimethyl Hydrazine (UDMH)	A* 1050LF	B	A	U	U	U	
Uranium Hexafluoride	B* 7075						
Uranium Sulfate	A						
Uric Acid	A						
Valeraldehyde	A* 6375						
Valeric Acid	A						
Vanadium Oxide	A						
Vanadium Pentoxide	A						

*See page 3.

Chemical	DuPont™ Kalrez®	NBR	EPDM	VMQ	FVMQ	FKM	T
Vanilla Extract	A* 6375						
Varnish	A	B	U	U	B	A	
Vegetable Oils	A	A	C	B	A	A	
Versilube F-50	A	A	A	C	A	A	
Vinegar	A	B	A	A	C	A	
Vinyl Acetate	A						C
Vinyl Benzene	A						
Vinyl Benzoate	A						
Vinyl Chloride	A	U	U	—	—	A	
Vinyl Fluoride	A						
Vinylidene Chloride	A						
Vinylpyridine	A						
Vitriol (White)	A						
Wagner 21B Brake Fluid	A	C	A	C	U	U	
Water (Cold)	A	A	A	A	A	A	
Water (Hot)	A* 6375						
White Oil	A	A	U	U	A	A	A
White Pine Oil	A	B	U	U	A	A	
Wood Alcohol (Methanol)	A						
Wood Oil	A	A	U	U	B	A	B
Xenon	A						A
Xylene	A	U	U	U	A	A	B
Xylidine (Di-methyl Aniline)	A	C	B	U	U	U	C
Xylol	A						
Zeolites	A	A	A	—	A	A	
Zinc Acetate	A	B	A	U	U	U	C
Zinc Ammonium Chloride	A						
Zinc Chloride	A	A	A	A	A	A	B
Zinc Chromate	A						
Zinc Cyanide	A						
Zinc Diethyldithiocarbamate	A						
Zinc Dihydrogen Phosphate	A						
Zinc Fluorosilicate	A						
Zinc Hydrosulfite	A						
Zinc Naphthenate	A						
Zinc Nitrate	A						
Zinc Oxide	A						
Zinc Phenolsulfonate	A						
Zinc Phosphate	A						
Zinc Salts	A						C
Zinc Silicofluoride	A						
Zinc Stearate	A						
Zinc Sulfate	A	A	A	A	A	A	C
Zinc Sulfide	A						
Zirconium Nitrate	A						C

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¹Andersol Company, E. Hanover, NJ

²Monsanto

³American Society for Testing and Materials

⁴Calgon Corp.

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⁶DuPont Company

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⁸Dow Chemical

⁹Occidental Chemical Company

¹⁰Koppers Company

¹¹Mobil Corp.

¹²General Electric

¹³Shell Chemical

¹⁴Exxon

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¹⁶The Clorox Company

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DuPont™ Kalrez® KVSP™ Chemical Compatibility Resists Chemical Attack From All Chemicals Listed Under the Clean Air Act.

The Kalrez® valve stem packing systems (KVSP) are virtually unaffected by over 1800 chemicals and solvents . . . from acetone to sulfuric acid, from heat transfer fluids to steam service. The Kalrez® valve stem packing systems are based on using component materials with chemical resistance similar to DuPont™ Teflon® and as such resist chemical attack and can handle temperatures to 288 °C (550 °F).

Kalrez® is an elastomeric derivative of Teflon®, using the same base monomer as Teflon® TFE as part of its chemical structure. Kalrez® provides a unique balance of nearly universal chemical resistance and high temperature stability combined with the memory and sealing characteristics of a rubber.

The Environmental Protection Agency (EPA) regulations include the volatile hazardous air pollutants (VHAPs) under Appendix A and extend through the five production process category groups listed under Appendix B.

Appendix A. Volatile Hazardous Air Pollutants

Chemical Name	CAS Number	Chemical Name	CAS Number
Acetaldehyde	75070	Cresols/Cresylic acid	
Acetamide	60355	(isomers and mixture)	106445
Acetonitrile	75058	Cumene	98828
Acetophenone	98862	2,4-D, salts and esters	94757
2-Acetylaminofluorine	53963	DDE	3547044
Acrolein	107028	Diazomethane	334883
Acrylamide	79061	Dibenzofurans	132649
Acrylic acid	79107	1,2-Dibromo-3-chloropropane	96128
Acrylonitrile	107131	Dibutylphthalate	84742
Allyl chloride	107051	1,4-Dichlorobenzene(p)	106467
4-Aminobiphenyl	92671	3,3-Dichlorobenzidene	91941
Aniline	62533	Dichloroethyl ether	
o-Anisidine	90040	(bis[2-chloroethyl]ether)	111444
Benzene	71432	1,3-Dichloropropene	542756
Benzidine	92875	Diethanolamine	111422
Benzotrithloride	98077	N,N-Diethyl aniline	
Benzyl chloride	100447	(N,N-Dimethylaniline)	121697
Biphenyl	92524	Diethyl sulfate	64675
Bis		3,3'-Dimethoxybenzidine	119904
(2-ethylhexyl)phthalate (DEHP)	117817	Dimethyl aminoazobenzene	60117
Bis (chlormethyl)ether	542881	3,3'-Dimethyl benzidine	119937
Bromoform	75252	Dimethyl carbamoyl chloride	79447
1,3-Butadiene	106990	Dimethyl formamide	68122
Caprolactam	105602	Dimethyl hydrazine	57147
Carbon disulfide	75150	Dimethyl phthalate	131113
Carbon tetrachloride	56235	Dimethyl sulfate	77781
Carbonyl sulfide	463581	4,6-Dinitro-o-cresol, and salts	534521
Catechol	120809	2,4-Dinitrophenol	51285
Chloroacetic acid	79118	2,4-Dinitrotoluene	121142
2-Chloroacetophenone	532274	1,4-Dioxane	
Chlorobenzene	108907	(1,4-Diethyleneoxide)	123911
Chloroform	67663	1,2-Diphenylhydrazine	122667
Chloromethyl methyl ether	107302	Epichlorohydrin	
Chloroprene	126998	(1-Chloro-2,3-epoxypropane)	106898
Cresols/Cresylic acid		1,2-Epoxybutane	106887
(isomers and mixture)	319773	Ethyl acrylate	140885
Cresols/Cresylic acid		Ethyl benzene	100414
(isomers and mixture)	95487	Ethyl carbamate (Urethane)	51796
Cresols/Cresylic acid		Ethyl chloride (Chloroethane)	75003
(isomers and mixture)	108394		

Appendix A. Volatile Hazardous Air Pollutants (continued)

Chemical Name	CAS Number	Chemical Name	CAS Number
Ethylene dibromide (Dibromoethane)	106934	N-Nitroso-N-methylurea	684935
Ethylene dichloride (1,2-Dichloroethane)	107062	N-Nitrosodimethylamine	62759
Ethylene glycol	107211	N-Nitrosomorpholine	59892
Ethylene oxide	75218	Phenol	108952
Ethylene thiourea	96457	p-Phenylenediamine	106503
Ethylidene dichloride (1,1-dichloroethane)	75343	Phosogene	75445
Formaldehyde	50000	Phthalic anhydride	85449
Glycol ethers	0	Polychlorinated biphenyls (Aroclors)	1336363
Hexachlorobenzene	118741	1,3-Propane sultone	1120714
Hexachlorobutadiene	87683	beta-Propiolactone	57578
Hexachloroethane	67721	Propionaldehyde	123386
Hexamethylene-1,6-diisocyanate	822060	Propoxur (Baygon)	114261
Hexamethylphosphoramide	680319	Propylene dichloride (1-2-dichloropropane)	78875
Hexane	110543	Propylene oxide	75569
Hydrazine	302012	1,2-Propylenimine (2-Methyl aziridine)	75558
Hydroquinone	123319	Quinone	106514
Isophorone	78591	Styrene	100425
Maleic anhydride	108316	Styrene oxide	96093
Methanol	67561	2,3,7,8-Tetrachlorodibenzo- p-dioxin	1746016
Methyl bromide (Bromomethane)	74839	1,1,2,2-Tetrachloroethane	79345
Methyl chloride (Chloromethane)	74873	Tetrachloroethylene (Perchloroethylene)	127184
Methyl chloroform (1,1,1-Trichloroethane)	71556	Toluene	108883
Methyl ethyl ketone (2-Butanone)	78933	2,4-Toluene diamine	95807
Methyl hydrazine	60344	2,4-Toluene diisocyanate	584849
Methyl iodide (Iodomethane)	74884	o-Toluidine	95534
Methyl isobutyl ketone (Hexone)	108101	1,2,4-Trichlorobenzene	120821
Methyl isocyanate	624839	1,1,2-Trichloroethane	79005
Methyl methacrylate	80626	Trichloroethylene	79016
Methyl tert butyl ether	1634044	2,4,5-Trichlorophenol	95954
4,4-Methylene bis (2-chloroaniline)	101144	2,4,6-Trichlorophenol	88062
Methylene chloride (Dichloromethane)	75092	Triethylamine	121448
Methylene diphenyl diisocyanate (MDI)	101688	Trifluralin	1582098
4,4'-Methylenedianiline	101779	2,2,4-Trimethylpentane	540841
Naphthalene	91203	Vinyl acetate	108054
Nitrobenzene	98953	Vinyl bromide	593602
4-Nitrobiphenyl	92933	Vinyl chloride	75014
4-Nitrophenol	100027	Vinylidene chloride (1,1-Dichloroethylene)	75354
2-Nitropropane	79469	Xylenes (isomers and mixture)	1330207
		Xylenes (isomers and mixture)	95476
		Xylenes (isomers and mixture)	108383
		Xylenes (isomers and mixture)	106423

Appendix B. Hazardous Organic Chemical Production Processes

Chemical Name	CAS Number	Chemical Name	CAS Number
Group I		Diethylene glycol monomethyl ether (Glycol ether)	111773
1-Chloro-3-nitrobenzene	121733	Dimethyl sulfate	77781
Acetone	67641	Dimethylaminoethanol (2-isomer)	108010
Acetonitrile	75058	Dinitrobenzenes	25154545
Acetophenone	98862	Dioxide (1,4-Diethyleneoxide)	123911
Acrylamide	79061	Dioxilane	646060
Acrylonitrile	107131	Diphenyl methane	101815
Adiponitrile	111693	Diphenyl oxide (POM)	101848
Allyl alcohol	107186	Dipropylene glycol	25265718
Aminophenol (p-isomer)	123308	Dodecylbenzene (n-isomer)	121013
Aniline	62533	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106898
Azobenzene	103333	Ethanolamines (all isomers)	141435
Benzene	71432	Ethyl benzene	100414
Benzenedisulfonic acid	98486	Ethylene carbonate	96491
Benzenesulfonic acid	98113	Ethylene dibromide (Dibromoethane) (EDB)	106934
Benzidine	92875	Ethylene glycol	107211
Benzophenone (POM)	119619	Ethylene glycol diacetate	111557
Biphenyl	92524	Ethylene glycol diethyl ether	6299141
Bis (Chloromethyl)Ether	542881	Ethylene glycol dimethyl ether (Glycol ether)	110714
Bromobenzene	10861	Ethylene glycol monobutyl ether acetate (Glycol ether)	112072
Butanediol (1,4-isomer)	110634	Ethylene glycol monobutyl ether (Glycol ether)	111762
Butyrolactone	96480	Ethylene glycol monoethyl ether acetate (Glycol ether)	2511159
Carbon tetrachloride	56235	Ethylene glycol monoethyl ether (Glycol ether)	110805
Chloroacetophenone (2-isomer)	532274	Ethylene glycol monomethyl ether acetate (Glycol ether)	110496
Chloroaniline (o-isomer)	95512	Ethylene glycol monomethyl ether (Glycol ether)	109864
Chlorobenzene	108907	Ethylene glycol monophenyl ether (Glycol ether)	122996
Chlorodifluoromethane	25497294	Ethylene glycol monopropyl ether (Glycol ether)	2807309
Chloroform	67663	Ethylene oxide	75218
Chloronitrobenzene (o-isomer)	88733	Formaldehyde	50000
Chloronitrobenzene (p-isomer)	100005	Fumaric acid	110178
Cumene hydroperoxide	80159	Hexamethylenetetramine	100970
Cumene (Isopropyl benzene)	98828	Hydroquinone	123319
Cyclohexane	110827	Isopropylamine	75310
Cyclohexanol	108930	Linear alkylbenzene (Linear dodecylbenzene)	123013
Cyclohexanone	108941	Maleic acid	110167
Cyclohexene	110838	Maleic anhydride	108316
Dichloroaniline (all isomers)	95761	Maleic hydrazide	123331
Dichlorobenzene (1,4-isomer) (PDB)	106467	Malic acid	6915157
Dichlorobenzene (m-isomer)	541731	Metanilic acid	121471
Dichlorobenzene (o-isomer)	95501	Methionine	63683
Dichlorobenzidine (3,3-isomer)	1331471	Methylene chloride (Dichloromethane)	75092
Dichloroethane (1,2-isomer) (EDC)	107062	Methylene dianiline (4,4-isomer) (MDA)	101779
Dichloroethyl ether (bis[2-chloroethyl]ether)	111444	Methylstyrene (a-isomer)	98839
Dichlorodifluoromethane	75718	Morpholine	110918
Diethanolamine	111422	Nitroaniline (o-isomer)	88744
Diethylene glycol	111466	Nitroaniline (p-isomer)	100016
Diethylene glycol dibutyl ether	112732	Nitrobenzene	98953
Diethylene glycol diethyl ether (Glycol ether)	112367	Octene-1	111660
Diethylene glycol dimethyl ether (Glycol ether)	111966	Paraformaldehyde	9002817
Diethylene glycol monobutyl ether acetate	124174		
Diethylene glycol monobutyl ether acetate (Glycol ether)	124177		
Diethylene glycol monobutyl ether (Glycol ether)	112345		
Diethylene glycol monoethyl ether acetate (Glycol ether)	112152		
Diethylene glycol monoethyl ether (Glycol ether)	111900		

Appendix B. Hazardous Organic Chemical Production Processes (continued)

Chemical Name	CAS Number	Chemical Name	CAS Number
Pentaerythritol	115775	Chlorotrifluoromethane	75729
Perchloroethylene (Tetrachloroethylene)	127184	Crontoaldehyde	4170300
Phenylenediamine (o-isomer)	95545	Crotonic acid	3724650
Phenylenediamine (p-isomer)	106503	Cyanoacetic acid (CN compound)	372098
Piperazine	110850	Cyclooctadiene	111784
Propiolacetone (b-isomer)	57578	Cyclooctadiene (1,5-isomer)	1552121
Propionic acid	79094	Dichloro-1-butene (3,4-isomer)	760236
Propylene glycol	57556	Dichloroethylene (1,4-isomer)	540590
Propylene glycol monomethyl ether	107982	Dichloropropene (1,3-isomer)	542756
Propylene oxide	75569	Diethyl sulfate	64675
Resorcinol	108463	Dimethyl benzidine (3,3-isomer)	119937
Styrene (Vinyl benzene)	100425	Dimethyl formamide (NN-isomer) (DMF)	68122
Succinic acid	110156	Dimethyl hydrazine (1,1-isomer)	57147
Succinonitrile	110612	Dimethyl terephthalate	120616
Tartaric acid	526830	Ethyl acetate	141786
Tetrachlorobenzene (1,2,3,5-isomer)	634902	Ethyl acetoacetate	141979
Tetrachlorobenzene (1,2,4,5-isomer)	95943	Ethyl acrylate	140885
Tetraethylene glycol	112607	Ethyl chloroacetate	105395
Tetrahydrofuran	109999	Ethyl sodium oxalacetate	41892711
Toluene	108883	Ethylene imine (Aziridine)	151564
Trichlorobenzene (a,2,4-isomer)	102821	Ethylenediamine	107153
Trichloroethylene	79016	Ethylhexanol (2-isomer)	104767
Trichlorofluoromethane	75694	Ethylhexyl acrylate (2-isomer)	103117
Trichlorotrifluoroethane	76131	Formamide	75127
Trichlorophenol (2,4,5-isomer)	95954	Formic acid	64186
Triethanolamine	102716	Glycerol	56815
Triethylene glycol	112276	Glycerol dichlorohydrin	26545737
Triethylene glycol dimethyl ether (Glycol ether)	112492	Glycerol triether	25791962
Triethylene glycol monomethyl ether	112356	Glycine	56406
Trimethylpropane	77996	Glyoxal	107222
Vinyl chloride (Chloro ethylene)	75014	Hexachlorobenzene	118741
Xylenes (mixtures)	1330207	Hexachlorobutadiene	87683
Xylenes (o-isomer)	95476	Hexachloroethane	67721
Xylenes (p-isomer)	106423	Hexadiene (1,4-isomer)	592450
		Hexamethylenediamine	124094
Group II		Methyl formate	107313
Acetaldehyde	75070	Methyl phenol carbinol	98851
Acetaldol	107891	m-Nitroaniline	99092
Acetamide	60355	Nitropropane	79469
Acetanilide	103844	Paraldehyde	123637
Acetic acid	64197	Peracetic acid	79210
Acetic anhydride	108247	Picoline (b-isomer)	108996
Acetyl chloride	75365	Piperadine	110894
Aminoethylethanolamine	111411	Pyridine	110861
Anisidine (o-isomer)	90040	Sebacic acid	111206
Butadiene (1,3-isomer)	106990	Sodium acetate	127093
Butyl acetate (n-isomer)	123864	Sodium chloroacetate	3926623
Butyl alcohol (n-isomer)	71363	Sorbic acid	110441
Butylamine (n-isomer)	109739	Sulfolane	126330
Butylene glycol (1,3-isomer)	107880	Terephthalic acid	100210
Butyraldehyde (n-isomer)	123728	Tetrachloroethane (1,1,2,2-isomer)	79345
Butyric acid	107926	Tetrahydrophthalic anhydride	85438
Butyric anhydride	106310	Tetramethylenediamine	110601
Caprolactam	105602	Toluene 2,4 diamine	95807
Carbon tetrabromide	558134	Toluene 2,4 diisocyanate	584849
Carbon tetrafluoride	75730	Toluene diisocyanates (mixture)	26471625
Chloral	75876	Toluidine (o-isomer)	95534
Chloroacetic acid	79118	Trichloroethane (1,1,1-isomer)	71556
Chloroaniline (m-isomer)	108429	Trichloroethane (1,1,2-isomer) (vinyl trichloride)	79005
Chloroaniline (p-isomer)	106478	Vinyl acetate	108054
Chlorophenol (m-isomer)	108430	Vinylcyclohexene (4-isomer)	100403
Chlorophenol (p-isomer)	106489	Vinylidene chloride	
Chloroprene (2-Chloro- 1,3-Butadiene)	126998	(1,1-Dichloroethylene)	75354

Appendix B. Hazardous Organic Chemical Production Processes (continued)

Chemical Name	CAS Number	Chemical Name	CAS Number
Group III			
Acetoacetanilide	102012	Nitroanisole (o-isomer)	91236
Adipic acid	124049	Nitroanisole (p-isomer)	100174
Aminobenzoic acid	132115	Nitrobenzoic acid	
Aniline hydrochloride	142041	(o-, m-, & p-isomers)	27178832
Anisole	100663	Nitrophenol (4-isomer)	108027
Anthranilic acid	118923	Nitrophenol (o-isomer)	
Anthraquinone (POM)	84651	(2-Nitrophenol)	88755
Benzaldehyde	100527	Nitrotoluene	1321126
Benzamide	55210	Nitrotoluene (2-isomer)	88722
Benzil (POM)	134816	Nitrotoluene (3-isomer)	99081
Benzilic acid (POM)	76937	Nitrotoluene (4-isomer)	99990
Benzoic acid	65850	Octylphenol	27193288
Benzoin (POM)	119539	Pentachlorophenol	87865
Benzonitrile	100470	Phenetidine (o-isomer)	94702
Benzotrichloride	98077	Phenetidine (p-isomer)	156434
Benzoyl chloride	96884	Phenol	108952
Benzyl acetate	140114	Phenolphthalein	77098
Benzyl alcohol	100516	Phenolsulfonic acids (all isomers)	98679
Benzyl benzoate (POM)	120514	Phenyl anthranilic acid	91407
Benzyl chloride	100447	Phloroglucinol	108736
Benzyl dichloride	96873	Phthalic acid	88993
Benzylamine	100469	Phthalic anhydride	85449
Bisphenol A (POM)	80057	Phthalimide	85416
Butylbenzyl phthalate	85687	Phthalonitrile	91156
Chlorobenzaldehyde	35913098	p-tert-butyl toluene	98511
Chlorobenzoic acid (all isomers)	118912	Quinone	106514
Chlorobenzotrichloride (all isomers)	2136814	Salicylic acid	69727
Chlorobenzoyl chloride	1321035	Sodium benzoate	532321
Chlorophenol (o-isomer)	95578	Sodium phenate	139026
Chlorotoluene (m-isomer)	108418	Stilbene	588590
Chlorotoluene (o-isomer)	95498	Sulfanilic acid	121573
Chlorotoluene (p-isomer)	106434	Tetrabromophthalic anhydride	632791
Cresol (m-isomer)	108394	Tetrachlorophthalic anhydride	117088
Cresols cresylic acid (mixed)	1319773	Toluenesulfonamide	1333079
Cresols (o-isomer)	95487	Toluenesulfonic acids (all isomers)	104154
Cresols (p-isomer)	106445	Toluenesulfonyl chloride	98599
Cyclophexylamine	108918	Trichloroaniline (2,4,6-isomer)	634935
Diallyl isophthalate	1087214	Vinyl toluene	25013154
Diaminobenzoic acid	27576041	Xylene sulfonic acid	25321419
Dichlorophenol (2,4-isomer)	120832	Xylidine	1300738
Dicyclohexylamine (Ciclohexylamine)	101837		
Diethylaniline (N,N-isomer)	91667	Group IV	
Diethyl phthalate	84662	Acrolein	107028
Diisodecyl phthalate	26761400	Acrylic acid	79107
Dimethyl phthalate	131113	Allyl chloride	107051
Dimethylaniline-N,N		Allyl cyanide	109751
(N,N-diethylaniline)	121697	Ammonium thiocyanate	1762954
Dinitrobenzoic acid (3,5-isomer)	99343	Bromonaphthalene (POM)	27497514
Dinitrophenol (2,4-isomer)	51285	Butyronitrile	109740
Dinitrotoluene (2,4-isomer) (DNT)	121142	Carbon disulfide	75150
Di-o-tolyguanidine	97392	Chloronaphthalene (POM)	25586430
Diphenyl thiourea (POM)	102089	Decahydronaphthalate	91178
Diphenylamine (POM)	122394	Diallyl Phthalate	131179
Dodecylphenol	27193868	Diethylamine	109897
Ethylaniline (N-isomer)	103695	Dimethyl ether-N,N	115106
Ethylaniline (o-isomer)	578541	Dimethyl sulfide	75183
Hydroxybenzoic acid (p-isomer)	99967	Dimethyl sulfoxide	67685
Isophthalic acid	121915	Dimethylamine	124403
Isopropylphenol	25168063	Ethyl chloride (Chloroethane)	75003
m-Chlorophenol	108430	Glutaraldehyde	111308
Methylaniline (n-isomer)	100618	Hexanetriol (1,2,6-isomer)	10694
Methylcyclohexane	108872	Isophorone	78591
Methylcyclohexanone	1331222	Isopropyl acetate	108214
Methylene diphenyl diisocyanate (MDI)	101688	Methanol	67561
m-Xylene	108383	Methyl acetate	79209
Nitroaniline (m-isomer)	99092	Methyl acetoacetate	105453

Appendix B. Hazardous Organic Chemical Production Processes (continued)

Chemical Name	CAS Number	Chemical Name	CAS Number
Methyl bromide (Bromomethane)	74839	Diacetone alcohol	123422
Methyl chloride (Chloromethane)	74873	Diaminophenol hydrochloride	137097
Methyl hydrazine	60344	Dibromoethane	74953
Methyl isobutyl carbinol	108112	Dichlorohydrin	96231
Methyl isobutyl ketone (Hexone)	108101	Dicyanadimide	461585
Methyl isocyanate	624839	Diethylaniline (2,6-isomer)	579668
Methyl mercaptan	74931	Difluoroethane	75376
Methyl methacrylate	80626	Diisobutylene	25167708
Methylamine	74895	Diisooctyl phthalate	27554263
Naphthalene	91203	Diketene	674828
Naphthalene sulfonic acid (a-isomer) (POM)	85472	Dodecylaniline	26675174
Naphthalene sulfonic acid (b-isomer) (POM)	120183	Ethyl orthoformate	122510
Naphthol (a-isomer) (POM)	90153	Ethyl oxalate	95921
Naphthol (b-isomer) (POM)	135193	Ethylamine	75047
Nitronaphthalene (1-isomer)	86577	Ethylcellulose	9004573
Perchloromethyl mercaptan	594423	Ethylcyanoacetate	105566
Phosgene	75445	Hexachlorocyclopentadiene	77474
Propionaldehyde	123386	Hexamethylene glycol	629118
Propyl alcohol (n-isomer)	71238	Hydrogen cyanide (CN compound)	74908
Propyl chloride	540545	Isobutyl acrylate	106638
Propylamine	107108	Isobutylene	115117
Propylene dichloride (1,2-Dichloropropane)	78875	Ketone	463514
Sodium methooxide	124414	Linear alkyl sulfonate (no CAS# assigned)	—
Tetraethyl lead	78002	Mesityl oxide	141797
Tetrahydronaphthalene (Tetralin) (POM)	119642	Methacrylic acid	79414
Triethylamine	121448	Methallyl chloride	563473
Trimethylamine	75503	Methyl acrylate	96333
Trimethylcyclohexanol	933482	Methyl ethyl ketone (2-Butanone)	78933
Trimethylcyclohexanone	2408379	Methyl tert butyl ether	1634044
Group V		Methylpentynol	77758
Acetal	105577	n-Dodecylbenzene	121013
Acetone cyanohydrin (CN compound)	75865	Neopentanoic acid	75989
Alkyl naphthalenes (no CAS# assigned) (POM)	—	Nonylphenol	25154523
Bromoform	75252	N-vinyl-2-pyrrolidine	88120
Butyl acrylate (n-isomer)	141322	Polyethylene glycol	25322683
Butyl alcohol (s-isomer)	78922	Polypropylene glycol	25322694
Butyl alcohol (t-isomer)	75650	Resorcylic acid	27138674
Butyl benzoic acid (p-tert-isomer)	96737	Sodium carboxymethyl cellulose	9004324
Butylamine (s-isomer)	13952846	Sodium cyanide	143339
Butylamine (t-isomer)	75649	Sodium formate	141537
Carbaryl	63252	tert-Butylbenzene	98066
Cellulose acetate	9004357	Tetramethyl lead	75741
Chlorodifluoroethane	75456	Tetramethylmethylenediamine	110189
Chlorophenols	25167800	Triisobutylene	7756947
Chlorosulfonic acid	7790945	Trimethylpentane (2,2,4-isomer)	540841
Cyanamide	420042	Urea	57136
Cyanogen chloride (CN compound)	506774	Xylenol	1300716
Cyanuric acid	108805	Xylenol (2,3-isomer)	526750
Cyanuric chloride	108770	Xylenol (2,4-isomer)	105679
		Xylenol (2,5-isomer)	95874
		Xylenol (2,6-isomer)	576261
		Xylenol (3,4-isomer)	95658
		Xylenol (3,5-isomer)	108689

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