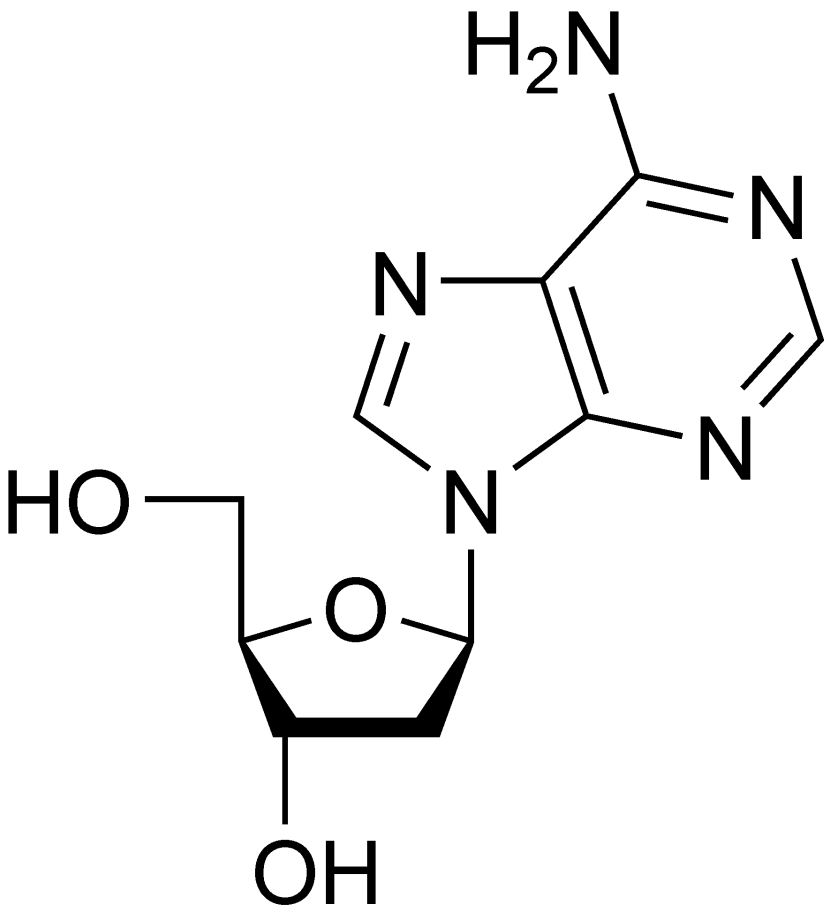
YTS

Chemical Corrosion Resistance Guide



Revised 2013

INTRODUCTION

This chapter is intended as a general guide in the selection of proper pump construction materials. This listing includes the most common liquids used in industrial and processing applications. In using this guide, please take note of the following:

1. The chart data has been compiled from many sources believed to be reliable. NO GUARANTEE IS IMPLIED OR EXPRESSLY STATED HEREIN.
2. Because of the extensive scope of this field the tabulation is not complete nor conclusive. Corrosion rates may vary widely with concentration, temperature and the presence of abrasives. Impurities or other trace elements common in industrial liquids may inhibit or accelerate the reaction of the material being pumped and the effect on pump materials.
3. Chemicals or liquids may independently be compatible with a type of pump construction, the combination of several liquids may change the chemical compatibility with a given metal/plastic and elastomer. It is important that this is remembered when selecting acceptable materials of construction for a pump.
4. In the case of uncertainty regarding corrosion resistance, testing the materials of construction under conditions as close to actual as possible is recommended.

KEY TO RATINGS:

A = Excellent
B = Good
C = Fair to Poor
X = Not Recommended
— = No Data Available

Data limited to % concentration and/or temperature (°F) shown; where not shown, temperature is 70°F.

HALOGENATED SOLVENTS WARNING

WARNING!

HALOGENATED HYDROCARBON SOLVENTS, SUCH AS 1, 1, 1 TRICHLOROETHANE AND METHYLENE CHLORIDE, SHOULD NOT BE USED IN ALUMINUM EQUIPMENT. A VIOLENT EXPLOSION COULD RESULT.

- Carbon Tetrachloride
- Chloroform
- Dichlorethylene
- Methyl Chloride
- Methylene Chloride
- Trichlorethylene

INDEX OF CHEMICALS

INDEX OF CHEMICALS (CONTINUED)

C (continued)

D

E

F

G

H

INDEX OF CHEMICALS (CONTINUED)

H (continued)

I

J-K-L

M

N

O

P

INDEX OF CHEMICALS (CONTINUED)

P (continued)

Q-R-S

T

U-V-W-X-Z

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Acetaldehyde (Ethanal)	CH_3CHO	X	A	B	X	A	B	X	A	C	A	A	C	A	A/150°	A	A
Acetamide (Acetic Acid Amide)	CH_3COHN_2	B	A	–	B	A	B	B	A	B	X	A	A	–	A/140°	A	A
Acetate Solvents	CH_3COOR	X	–	–	X	A	B	X	A	X	A	–	X	A	A	A	A
Acetic Acid - 20%		C	A	X	B	A	A	C	B	X	A	C	B	A	A	A	–
30%		C	A	X	B	A	A	X	C	X	A	C	C	B	B	A	–
50%	CH_3COOH	C	A	–	C	A	A	C	X	X	A	C	C	B	B	A	–
Glacial	CH_3COOH	C	B	X	X	A	A	X	X	X	A	A	C	B	A/120°	A	A
Acetic Anhydride (Acetic Oxide)	$(CH_3CO)_2O$	C	B	C	B	A	A	X	B	B 212° 90%	A	A	X	X	B/70°	A	A
Acetone (Dimethylketone)	CH_3COHO_3	X	A	C	X	A	A	X	B	A	B	A	X	B	X	A	A
Acetone Cyanohydrin	$(CH_3)_2C(OH)CH$	X	X	–	B	A	A	X	A	C	A	–	–	–	–	A	–
Acetonitrile (Methyl Cyanide)	CH_3CN	C	A	–	A	A	B	X	A	A	B	B	B/100°	A	A	A	–
Acetophenone (Phenyl Methyl Ketone)	$CH_6H_5COCH_3$	X	A	–	X	A	B	X	B	B	A	B	A/70°	–	A	A	A
Acetyl Acetone (2,4-Pentanedione)	$CH_3COCH_2COH^2$	X	A	–	X	A	B	X	B	X	B	–	–	–	–	A	–
Acetyl Chloride	CH_3COCl	X	C	X	X	A	B	B	X	X	B	A	X	–	A	A	A
Acetylene (Ethyne)	$HC = CH$	A	A	A	C	A	C	A	A	A	A	A	X	A	A	A	A
Acetyl Salicyclic Acid (Aspirin)	$(CH_3OCO)\ CH6_4COOH$	–	B	–	X	A	A	–	A	X	B	–	–	–	–	A	–
Acetylene Tetrabromide (Tetra Bromoethane)	$(CHBr_2)_2$	X	–	–	X	A	X	A	X	X	A	–	–	–	–	A	–
Acrolein (Acrylaldehyde)	$H_2C=CHCHO$	B	–	–	–	A	A	A	A	B	B	–	–	–	–	A	–
Acrylonitrile (Vinyl Cyanide)	$CH_2=CHCN$	X	X	–	X	A	A	X	A	B	A	A	B	–	A	A	–
Adipic Acid (1,4-Butanedicarboxylic Acid)	$H00C(CH_2)_4$ COOH	B	-	-	X	A	B	B	B	B	B	A	A	A	A	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Alcohols																	
Allyl Alcohol (2-Propen-1-ol)	R-OH	A	A	–	A	A	B	B	B	A	A	–	–	–	–	A	A
Amyl (1-Penatol)	$C_4H_9CH_2O$	B	A	A	B	A	A	B	B	A	A	A	B	A	A	A	–
Benzyl (Phenylcarbinol)	$C_6H_5CH_2OH$	X	B	–	B	A	A	A	B	A	A	A	A	A	A	A	A
Butyl (Butanol)	C_3H7CH_2OH	A	B	B	A	A	A	A	B	B	A	A	B	A	A	A	–
Decyl Alcohol (Decanol)		A	–	–	X	A	–	B	–	–	–	A	–	A	–	A	A
Denatured Alcohol		A	A	–	B	A	A	B	B	B	A	A	A	A	A	A	–
Diacetone (Tyranton)	$(CH_3)_2C(OH)\ CH_2COCH_3$	X	B	–	X	A	B	X	A	A	A	A	X	A	A	A	–
Ethyl (Ethanol)	CH_3CH_2OH	X	A	A	A	A	B	X	B	A	A	A	B	A	A	A	–
Ethyl Butyl Alcohol		A	A	–	A	A	A	B	B	A	A	A	A	A	A	A	–
Hexyl (1-Hexanol)	$C_5H_{11}CH_2OH$	A	B	–	B	A	B	B	A	A	A	A	A/70°	A	A	A	–
Isoamyl Alcohol		A	A	–	B	A	B	A	A	A	A	A	A	A	A	A	–
Isobutyl (Isobutanol)		B	A	–	A	A	A	A	B	B	A	A	–	–	A	A	–
Isopropyl (Isopropanol)		B	A	–	B	A	A	B	B	B	A	A	A	–	A/150°	A	–
Lauryl Alcohol (n-Dodecanol)		A	A	A	B	A	A	A	A	A	A	A	A	–	A	A	–
Methyl Amyl Alcohol		A	–	–	–	A	B	B	A	A	A	A	–	–	–	A	–
Methyl (Methanol)		A	A	–	A	A	A	A	B	B	A	A	A/120°	–	A	A	–
Octyl (Caprylic Alcohol)		A	–	A	B	A	B	B	A	A	A	A	A	–	A	A	–
Propyl (Propanol)	$C_2H_5CH_2OH$	B	A	–	B	A	B	A	A	A	A	A	A	–	A/120°	A	–
Tridecyl Alcohol		A	A	–	–	A	–	B	A	A	A	A	A	–	A	A	–
Allyl Bromide (3-Bromopropene)	H2C=CHCH2Br	B	–	–	X	A	–	B	X	X	–	A	–	–	–	A	–
Allyl Chloride (3-Chloropropene)	CH2=CHCH2Cl	X	X	–	X	A	–	B	X	X	B	A	A/70°	–	A	A	–
Alkazene (Chlorethyl or Polyisopropyl benzenes)		X	–	–	X	A	X	A	X	–	B	A	A/70°	A	–	A	–
Alum (Aluminum Potassium Sulfate (Dodecahydrate)	$KAl(SO_4)_2 * 12H_20$	X	–	–	X	A	B	–	–	–	–	–	–	–	–	A	–
Aluminum Acetate (Burow's Solution)		A	A	–	A	A	A	X	–	–	B	A	A	–	A	A	–
Aluminum Ammonium Sulfate (Alum)	$AlNH_4(SO_4)_2$	C	A	–	C	A	A	X	B	C	A	A	A/100°	A	A	A	–
		B	-	-	B	A	A	A	-	-	-	-	A	-	A	A	-

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Aluminum Bromide	$AlBr_3$	B	A	–	A	A	–	–	–	–	–	–	–	–	A	A	–
Aluminum Chloride	$AlCl_3$	A	A	B	A	A	A	A	X	C	B	A	A	B	A	A	–
Aluminum Fluoride	AlF_3	A	B	–	A	A	A	A	A/50%	C	C	A	A	X	A	A	–
Aluminum Hydroxide (Alumina Trihydrate)	$Al(OH)_3$	B	A	–	A	A	A	C	B/10%	B/30%	B	B	A	–	A	A	–
Aluminum Nitrate	$Al(NO_3)_3 * {}_9H_20$	A	A	–	A	A	A	A	X	–	A/10%	B	A	–	A	A	–
Aluminum Phosphate	$AlPO_4$	A	A	–	A	A	A	A	–	–		–	–	–	–	A	A
Aluminum Potassium Sulfate (Potash Alum)	$KAl(SO_4)_2$	A	A	–	A	A	A	A	A/10%	X	A	B	A	A	A	A	–
Aluminum Sodium Sulfate (Soda Alum)	$NaAl(SO_4)_2$	A	A	–	A	A	–	A	–	–	A	–	–	–	–	A	A
Aluminum Sulfate (Cake Alum)	$Al_2(SO_4)_3$	A	A	B	A	A	A	A	B/30%	X	A 167° 50%	A	A	B	A	A	–
Amines	$R\text{-}NH_2$	X	A	A/70%	B	A	A	X	A	–	A	A	B	C	X	A	–
Ammonia Anhydrous, Liquid	NH_3	B	A	X	B	A	A	X	A	A	A	–	A	X	A	A	–
Ammonia Gas - Cold		A	–	–	A	A	A	A	–	–	–	–	–	–	–	A	–
Ammonia Gas - Hot		C	–	–	B	A	A	X	–	–	–	–	–	–	–	A	A
Ammonia Liquors		–	–	–	A	A	A	X	A	A	A	A	–	–	–	A	–
Ammonia Cupric Sulfate	$(NH_4)_2Cu(SO_4)_2$	A	–	–	–	A	–	A	–	–	–	–	–	B	–	A	–
Ammonium Acetate	$CH_3CO_2NH_4$	–	–	–	A	A	A	A	A	B/50%	A/50%	–	–	–	–	A	–
Ammonium Bicarbonate	NH_4HCO	A	A	–	A	A	B	A	B	B	B/90%	–	–	–	–	A	–
Ammonium Bifluoride - 10%	NH_4HF_2	B	A	–	X	A	A	A	C	X	B	B	A	–	A	A	–
Ammonium Carbonate	$(NH_4)_2CO_3$	X	A	–	B	A	A	A	B	B	B 212° 70%	B	A	–	A	A	A
Ammonium Casenite		-	-	-	A	-	A	-	-	-	B	-	-	-	-	-	-

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Ammonium Chloride (Sal Ammoniac)	NH_4Cl	A	A	A	A	A	A	A	X	X	A/30%	A	A	-	A	A	–
Ammonium Dichromate	$(NH_4)_2Cr_2O^7$	A	A	A	A	A	A	-	A	A	B	-	-	X	-	A	–
Ammonium Fluoride	NF_4F	B	A	-	B	A	-	A/20%	B/10%	B/20%	A/50%	A	B	-	A	A	–
Ammonium Hydroxide (Aqua Ammonia)	NH_4OH	B	A	-	B	A	A	B	B/30%	B/30%	B	A	A	-	A	A	–
Ammonium Metaphosphate		A	A	-	A	A	-	A	B/90%	B	A	A	A	B	A	A	A
Ammonium Nitrate		A	A	-	A	A	A	A	B	A	-	A	A	-	A	A	–
Ammonium Nitrite	NH_4NO_2	A	-	-	A	A	A	-	-	-	A	-	A/70%	A	A	A	A
Ammonium Oxalate	$(NH_4OOC)_2$	A	-	-	A	-	A	-	-	-	-	A	B	-	B	A	–
Ammonium Persulfate	$(NH_4)_2S_2O_8$	B	A	-	A	A	A	A	C	X	A	-	A	-	A	A	–
Ammonium Phosphate, Monobasic	$(NH_4)H_2PO_4$	A	A	B	A	A	A	A	X	X	B	A	A	A	A	A	–
Ammonium Phosphate, Di Basic	$(NH_4)_2HPO_4$	A	-	-	A	A	A	A	B	-	A	A	A	B	A	A	A
Ammonium Phosphate, Tri-Basic	$(NH_4)_2PO_4 * 3H_20$	A	-	-	A	A	A	A	X	-	B	B	A	-	A	A	–
Ammonium Sulfate	$(NH_4)_2SO_4$	A	A	C	A	A	A	A	X	B	A 212⁰ 80%	B	A	B	A	A	A
Ammonium Sulfide	$(NH_4)2_S$	A	-	A	A	-	A	B	C	B	B	-	A	-	A	A	
Ammonium Sulfite	$(NH_4)_2SO * {}_3H_2O$	A	-	-	-	A	-	A	C	X	B	A	A	X	A	A	–
Ammonium Thiocyanate	NH_4SCN	A	A	-	A	A	-	A	C	C	A/50%	A	B		A	-	A
Ammonium Thiosulfate	$(NH_4)_2S_20_3$	A	A	-	A	A	A	A	A/40%	X	A/10%	A	-	-	B	A	–
n-Amyl Amine (1-Aminopentane)	$CH_3CO_2C_3H_{11}$	C	X	-	X	A	-	X	-	-	-	-	-	-	-	A	–
Amyl Borate	$C_5H_{11}B0_3$	A	X	-	B	A	B	A	-	-	-	B	-	-	-	A	

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Amyl Chloride (Chloropentane)	$CH_3(CH_2)_4Cl$	C	X	–	X	A	C	A	X	A	A	B	X	A	A	A	–
Amyl Chloronaphthalene		X	–	–	X	A	C	A	–	–	–	–	–		–	A	–
Amyl Naphtalene	$C_{15}H_{18}$	X	X	–	X	A	C	A	–	–	–	–	–	–	–	A	–
Amyl Phenol	$C_6H_4(OH)C_5H_{11}$	X	–	–	–	A	–	A	A	A	A	A	–	A	–	A	–
Anilene (Anilene Oil) (Amino Benzene)	$C_6H_5NH_2$	X	C	X	X	A	A	B	B	A	A	B	A	B	A	A	A
Anilene Dyes		X	C	–	X	A	B	B	B	C	B	–	A	–	A	A	–
Anilene Hydrochloride	$C_3H_5NH_2$ * HCl	C	–	–	X	A	A	B	X	X	X	–	X	–	A	A	–
Animal Gelatin		A	A	–	A	A	A	A	–	–	A	A	A	–	A	A	–
Anisole (Methylphenyl Ether)	$C_6H_5OCH_3$	C	–	–	X	A	–	X	B	B	B	–	–	B	–	A	–
Ansul Ether		C	–	–	X	A	X	X	–	–	–	B	–	–	–	A	–
Anthraquinone	$C_{14}H_80_2$	A	–	–	–	A	–	–	B	B	B	–	–	A	–	A	–
Anti-Freeze - Alcohol Base Anti-Freeze - Glycol Base		A A	A A	A A	A B	A A	A A	A A	A A	A A	A A	A A	A A	A A	A A	A A	– –
Antimony Pentachloride	$SbCl_3$	X	–	–	–	A	–	–	A	A	A	A	–	A	–	A	–
Antimony Trichloride	$SbCl_5$	B	A	–	–	A	–	A	B	A	A	A	A	B	A	A	–
Aqua Regia (Nitric & Hydrochloric Acid)		X	X	–	X	A	X	B	X	X	X	C	C	C	A	A	X
Aroclor	PCB Mixtures	C	X	–	X	A	–	A	A	B	A	–	–	–	–	A	–
Aromatic Hydrocarbons	C_6H_5R	X	X	C	X	A	C	A	A	A	A	A	X	–	A	A	–
Aromatic Solvents (Benzene, etc.)		C	X	X	X	A	–	A	A	B	A	A	B	–	A	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ^{0}F shown. Where not shown, temperature is 70^0 F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Arsenic Acid	AsH_3O_4	B	A	–	A	A	A	A	A	X	B	B	A	B	A	A	A
Arsenic Trichloride (Arsenic Butter)	$AsCl_3$	C	X	–	A	A	B	X	B	B	X	B	–	–	–	A	–
Absorbic Acid	$C_6H_8O_6$	–	–	–	–	A	–	A	A	X	A	–	–	–	–	A	–
Askarel (Pyranol)	PCB Mixtures	B	X	–	X	A	X	C	–	–	A	–	–	–	–	A	–
Asphalt	Hydrocarbons	B	X	–	C	A	B	A	A	B	A	–	A	–	A	A	–
Asphalt Topping		C	–	–	A	A	–	C	–	A	A	–	–	B	A	A	–
ASTM - Ref Motor Fuel																	
A (Aliphatic)		A	X	A/158⁰	B	A	C	A	A	A	A	A	–	–	–	A	–
B (30% Aromatic)		A	X	A/158⁰	X	A	X	A	A	A	A	A	–	–	–	A	–
C (50% Aromatic)		B	X	C	X	A	X	A	A	A	A	A	–	–	–	A	–
ASTM - Ref Oil																	
#1 (High Anilene)		A	X	A/212⁰	B	A	B	A	A	A	A	A	–	–	–	A	–
#2 (Medium Anilene)		A	X	A	B	A	–	A	A	A	A	A	–	–	–	A	–
#3 (Low Anilene)		A	X	A/212⁰	C	A	–	A	A	A	A	A	–	–	–	A	–
#4 (High Anilene)		B	X	–	X	A	–	A	A	A	A	A	–	–	–	A	–
Aviation Gasoline		A	X	–	C	A	X	A	A	A	A	A	–	–	–	A	–
Barbeque Sauce	Water, oils, spices	A	–	–	A	A	B	–	–	X	A	–	A	–	A	A	–
Barium Carbonate	$BaCO_5$	A	A	–	A	A	A	A	X	B	B	B	A	–	A	A	A
Barium Chloloride Dihydrate	$BaCl_2 * 2H_2O$	A	A	–	A	A	–	A	B/50%	B	B/212⁰	B	A	A	A	A	A
Barium Cyanide	$Ba(CN)_2$	C	–	X	A	–	A	A	–	–	A	–	X	–	–	A	–
Barium Hydroxide (Barium Hydrate)	$Ba(OH)_2$	A	A	B	A	A	A	A	X	B	B	122⁰	A B	A	A	A	–
Barium Nitrate	$Ba(NO_3)_2$	A	–	–	A	A	A	–	B	A	A	–	A	B	A	A	A
Barium Sulfate (Blanc Fixed)	$BaSO_4$	A	A	X	A	A	A	A	B	B	B	–	A	B	A	A	A
Barium Sulfide	BaS	A	A	–	A	A	A	A	X	–	B	–	A	–	A	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ^{0}F shown. Where not shown, temperature is 70^0 F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Beef Extract		A	–	–	A	A	–	A	–	X	A	–	–	–	–	A	–
Beer	Water, Carbonate	C	A	B	A	A	A	A	A	X	A	–	A/75⁰	A	A/175⁰	A	A
Beet Sugar Liquors (Sucrose)		A	A	–	A	A	A	A	A	B	A	–	A	B	A	A	–
Benzaldehyde	C6H5CHO	X	B	B	X	A	B	X	A	A	A	–	X	–	A	A	A
Benzene (Benzol)	C6H6	X	X	C/70⁰	X	A	C	B	B	B	A/167⁰	B	X	A	B	A	A
Benzene Sulfonic Acid	C6H5DO3H	X	C	–	A	A	–	A	C	A	A	–	X	–	B/100⁰	A	A
Benzoic Acid (Benzene Carboxylic Acid)	C6H5COOH	X	B	–	B	A	A	A	B	X	B	–	X	B	A	A	A
Benzoyl Chloride	C6H2COCI	X	X	–	X	A	A	X	X	X	B	–	A	A	A	A	A
Benzyl Acetate	CH3CO2 CH2C6H5	X	–	–	–	A	A	X	A	A	A	–	–	–	–	A	–
Benzyl Benzoate	C6H5CO2CH2C6H5	X	B	–	X	A	C	A	A	B	B	–	–	–	–	A	–
Benzyl Chloride (Chlorotoluene)	C6H5CH2CI	X	X	–	X	A	C	A	X	A	B	–	X	–	A	A	–
Benzyl Dichloride (Benzal Chloride)	C6H5CHCI	X	X	–	X	A	–	A	X	B	A	–	B	–	A	A	–
Benzol (Benzene)	C6H6	X	X	C/70⁰	X	A	B	B	B	B	–	B	X	A	B	A	A
Biphenyl (Diphenyl)	$C_6H_5C_8H_5$	X	X	–	X	A	–	A	A	A	–	–	–	–	–	A	–
Bismuth Subcarbonate (Bismuth Carbonate)	$(Bi0)_2CO_3$	A	A	–	A	A	–	A	–	–	B/10%	–	B	–	A	A	–
Black Sulfate Liquor		B	A	B	A	A	B	A	C	B	A	B	–	–	–	A	–
Blast Furnace Gas	CO,H_2,CH_4,CO_2,N_2	C	–	B	A	A	–	A	–	–	–	–	–	–	–	A	–
Bleach Solutions	Water, chlorine, oxygen	X	A	X	X	A	B	B	X	–	B	A	B/3%	–	A	A	–
Borax (Sodium Borate)	$B_4Na_20_2$	B	A	A	A	A	A	A	B	B	A	A	A	B	A	A	A
Bordeaux Mixture	Copper sulfate salts	A	A	B	A	A	A	–	–	–	A	A	–	–	–	A	–
Boric Acid (Boracic Acid)	H_3BO_3	A	A	A	A	A	A	A	A	X	A/30%	A	A	C	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Brake Fluid (non-petroleum base)	Silcones or glycols	X	A	–	A	A	A	–	A	A	A	A	X	–	–	A	–
Brewery Slop		A	–	–	A	A	A	A	–	A	A	–	–	–	–	A	–
Brine (Sodium Chloride)	Salt Water	A	A	B	A	A	A	A	–	X	A	A	A	–	A	A	–
Bromine - Anhydrous	Br_2	X	C	X	X	A	C	A	B	C	X	A	X	–	A/150⁰	A	–
Bromine Trifluoride	BrF_3	X	X	–	X	A	C	X	A	–	B	–	X	–	–	A	–
Bromine Water		X	X	–	B	A	B	B	X	–	X	A	C	–	A	A	–
Bromobenzene	C65H5Br	X	X	–	X	A	X	B	X	X	A	B	X	–	–	A	–
Bromochloromethane	BrCH2Cl	X	B	–	X	A	–	C	X	B	B	B	–	–	–	A	–
Bromotoluene	C6H4BrCH3	X	–	–	–	A	–	B	X	B	A	A	–	–	–	A	–
Bronzing Liquid		X	B	–	X	A	A	X	–	–	A	A	–	–	–	A	–
Butadiene	C4H6	X	C	–	C	A	A	C	A	–	A	A	X	–	A	A	A
Butane (LPG) (Buty Hydride)	C4H10	A	X	A	B	A	C	A	A	A	A	–	X	B	A	A	A
Butter	Fats	A	A	B	C	A	A	A	A	X	A	A	A	–	–	A	–
Buttermilk	Fats, water	A	–	–	A	–	A	A	A	X	A	–	A	–	A/100⁰	A	–
Butyl Acetate	CH3CO2(CH2)3CH3	X	B	–	X	A	C	X	A	A	A	–	X	–	B	A	–
n-Butyl Acetate	CH3CO2(CH2)3CH3	X	B	–	X	A	B	X	A	A	A	A	–	–	–	A	–
Butyl Acetyl Ricinoleate	C24H4405	C	C	–	X	A	B	B	–	A	–	–	–	–	–	A	–
Butyl Acrylate	CH2CHCO2C4H9	X	X	–	X	A	C	X	–	–	–	–	–	–	C	A	–
Butyl Amine (Aminobutane)	CH3(CH2)CH2NH2	B	X	–	X	A	A	X	A	A	A	–	X	C	B/70⁰	A	A
Butyl Benzoate	C6H5COO (CH2)3CH3	–	B	X	X	A	C	A	B	B	B	B	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Butyl Butyrate	$CH_3(CH_2)_2\ CH_2CO_2C^4H_2$	X	–	–	–	A	–	X	A	A	A	A	–	–	–	A	–
Butyl Carbitol	$CH_3(CH^2)_3OCH\ CH_2OCH_2CH_2OH$	A	A	–	B	A	B	A	–	–	–	–	–	–	–	A	–
Butyl Cellosolve	$HOCH_2CH_2OC_4H_9$	B	A	–	C	A	A	C	A	A	A	A	A	A	B	A	–
Butyl Chloride (Chlorobutane)	$CH_3(CH_2)_3CL$	X	–	–	–	A	–	A	X	B	B	B	X	–	A	A	–
Butyl Ether (Dibutyl Ether)	$(CH_3(CH_2)_3CL$	A	–	–	B	A	–	C	A	B	A	A	X	–	A/100⁰	A	A
Butyl Oleate	$C_{22}H_{42}0_2$	–	C	–	X	A	C	A	–	–	–	–	–	–	–	A	–
Butyl Stearate	CH3(CH2)16 CO2(CH2)3CH3	A	C	–	X	A	C	B	B	B	B	B	–	–	A	A	–
Butylene (Butene)	C4H8	B	X	–	X	A	X	B	A	–	A	A	X	–	A	A	A
Butyraldehyde	$CH_3(CH_2)^2CH0$	X	C	–	X	A	C	X	A	A	A	A	–	–	B	A	–
Butyric Acid	$CH_3(CH_2)C0_2H$	C	C	B	X	A	C	X	A	A	A	A	A	–	A	A	–
Butyric Anhydride	$(CH_3CH_2CH_2CO)_2O$	C	C	B	X	A	A	C	A	X	B	A	–	X	A	A	A
Butyronitrile	$CH_3CH_2CH_2CN$	C	A	–	–	A	–	–	A	–	A	A	–	A	–	–	A
Calcium Acetate Hydrate	$Ca(CH_3COO)_2 * H_20$	X	A	X	C	X	A	X	C	–	B	–	–	–	–	–	A
Calcium Bisulfite	$Ca(HSO_3)_2$	B	A	–	C	A	–	X	C	C	B	B	–	–	–	A	–
Calcium Carbonate (Chalk)	$CaCO_3$	A	A	–	A	A	–	A	C	B	A/90⁰	A	A	X	A	A	A
Calcium Chlorate	$Ca(ClO_3)_2$	A	A	–	A	A	A	A	C	B	B	B	A	A	A	A	–
Calcium Chloride (Brine)	$CaCl_2 * 6H_20$	A	A	–	A	A	–	A	B/30%	B	A/30%	B	A	–	A	A	–
Calcium Hydrosulfide (Calcium Sulfhydrate)	$Ca(HS)_2 * 6H_20$	A	A	–	A	A	A	A	–	A	A	A	A	X	A	A	A
Calcium Hydroxide (Slaked Lime)	$Ca(OH)0_2$	A	A	–	A	A	A	A	X	B	B	–	A	–	A	A	–
Calcium Hypochlorite 20% (Calcium Oxichloride)	$Ca(ClO)_2$	C	B	X	X	A	A	A	X	X	B	B	A	A	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Calcium Nitrate	$Ca(NO3)_2$	A	A	–	A	A	A	A	B 212° 40%	B 212° 30%	B 212° 40%	B	A	X	A	A	A
Calcium Oxide (Unslaked Lime)	CaO	A	A	B	A	A	B	A	A	A	A	A	B	–	A	A	–
Calcium Silicate	$Ca2SiO_4$	A	–	–	–	A	–	A	A	B	A	A	–	–	–	A	–
Calcium Sulfate (Gypsum)	$CaSO_4$	A	A	–	A	A	A	A	C	B/10%	A/10%	A	A	X	A	A	A
Calcium Sulfide	CaS	A	A	–	B	A	A	A	A/20%	B	B	A	A/120°	–	A	A	–
Calcium Sulfite	$CaSO_3 * 2H_2O$	A	–	–	–	A	A	A	B/10%	B	A/10%	–	B/70°	–	B/70°	A	–
Calgon	$(NaPO_3)_6$	A	–	–	A	–	A	–	–	X	A	–	A	–	–	A	–
Cane Juice	Sucrose, water	A	–	–	A	–	A	A	B	A	A	–	X	–	–	A	–
Cane Sugar Liquors		A	A	B	A	A	A	B	A	A	A	–	A	–	A	A	–
Capryl Alcohol (Octanol)	$CH_3(CH_2)_6CH_2OH$	A	C	–	B	A	–	B	A	A	A	A	–	–	–	A	–
Caprylic Acid (Octanoic Acid)	$CH_3(CH_2)_6$ COOH	C	–	–	–	A	–	–	A	–	A	A	–	–	A	A	–
Carbamate	H_2NCO_2R	C	C	–	C	A	A	A	–	–	–	–	–	–	–	A	–
Carbitol	$CH_3CH_2OCH_2CH_2$ OCH_2CH_2OH	B	C	–	C	A	B	C	A	A	A	A	–	–	–	A	–
Carbolic Acid (see Phenol)	C_6H_5OH	X	C	X	C	A	A	A	B	A	B	A	C	X	A/150°	A	–
Carbon Dioxide (Carbonic Acid Gas)	CO_2	A	B	A	A	A	B	A	A	A	A	A	A	A	A	A	A
Carbon Sidulfide (Carbon Bisulfide)	CS_2	X	X	C	X	A	X	A	A	B	A/90°	–	X	B	A	A	A
Carbon Monoxide	CO	C	C	A	A	A	A	C	A	A	A	A	A	B	A	A	–
Carbon Tetrachloride (Tetrachloromethane)	CCL_4	C	X	X	X	A	X	A	X	C	B	A	X	B	A	A	A
Carbonated Beverages	$C0_2/H_20$	B	B	A/50%	X	A	A	A	X	X	A	A	A	A	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Carbonic Acid (liquid)	H_2CO_3	B	–	C	A	A	A	A	A	X	B	A	A	A	A	A	A
Casein	a phosphoprotein	A	A	–	A	A	–	A	B	–	B	B	–	–	–	A	–
Catsup (Ketchup)		A	A	–	C	A	A	A	B	X	A	A	A	–	–	A	–
Cellosolve (Glycol Ethers)	$HOCH_2CH_2OR$	C	C	X	C	A	C	B	A	–	A	A	A/100⁰	A	A	A	A
Cellulose Acetate	$C_8H_{12}O_5$	B	–	–	B	A	–	C	B	B	A	A	C	–	A	A	–
Cellelube Hydraulic Fluids (Phosphate Esters)		X	A	C	X	A	X	B	A	A	A	A	–	–	–	A	–
Chlorinated Lime - 35% Bleach	$CA(ClO)_2$	C	A	X	X	A	X	A	–	X	A	–	–	–	–	A	–
Chlorinated Water		C	–	X	C	A	–	A	X	X	B	–	B	X	A	A	–
Chlorine - Dry	CL_2	C	–	X	C	A	–	A	X	–	B	–	X	–	A	A	–
Wet	Cl_2/H_20	C	X	X	X	A	C	A	B	C	A	A	X	X	A	A	X
Anhydrous Liquid	Cl_2	X	–	–	X	A	C	A	X	X	X	A	–	A	A	–	
Chlorine Dioxide	ClO_2	X	C	–	X	A	X	B	B	–	X	B	X	–	A	A	–
Chlorine Trifluoride	ClF_3	X	X	–	X	A	X	B	A	–	A	–	X	–	–	–	–
Chloroacetic Acid (Monochloroacetic Acid)	$ClCH_2COOH$	X	B	X	C	A	–	C	X	X	X	A	A	X	A	A	A
Chloroacetone (Monochloroacetone)	$ClCH_2COCH_3$	X	A	–	C	A	C	C	X	B	B	B	X	–	–	A	–
Chlorobenzene (Monchlorobenzene)	C6H5Cl	X	X	X	X	A	C	A	X	B	B	B	X	A	A/150⁰	A	A
Chlorobutadiene (Chloroprene)	C4H5CL	X	X	–	X	A	C	A	X	B	B	B	X	–	–	A	–
Chlorobromomethane	ClCH2Br	X	–	–	X	A	X	A	X	B	B	–	X	–	–	A	–
Chloroform	$CHCl_3$	X	X	X	X	A	X	A	X	A	A	A	X	A	A	A	A
1-Chloronaphthalene	$C_{10}H_7Cl$	X	X	–	X	A	X	C	X	B	B	A	X	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Chlorosulfonic Acid	HSO_3CL	X	X	X	X	A	A	X	B	B	B	A	X	–	X	A	X
o-Chlorophenol	C_6H_5ClO	X	X	–	X	A	–	B	B	B	B	B	–	B	A	A	A
Chlorothene (Chlorinated Solvents)	CH_3CCL_3	X	–	–	X	A	–	C	X	X	A	A	–	–	–	A	–
Chlorotrifluoroethylene	C_2H_2ClF	X	–	–	–	A	–	–	B	B	B	B	–	–	–	A	–
Chlorox		C	A	X	B	A	B	A	–	X	A	B	B	–	A	A	–
Chocolate Syrup	Corn Syrup, water, sugar	A	–	–	A	A	A	–	–	X	A	–	A	–	–	A	–
Chromic Acid - to 25%	H_2CrO	X	A	X	X	A	A	A	B/10%	B	X	B	C	X	A/120%	A	A
Chromic Acid - Over 25%	H_2CrO_4	X	C	X	X	A	A	A	X	B	X	B	C	X	A/120%	A	A
Cider (Apple Juice)	Sucrose, water	A	B	B	A	A	A	A	B	X	A	A	–	–	–	A	–
Citric Acid	$C_6H_8O7 * H_20$	B	A	A	A	A	A	A	B	X	A/30%	A	B	B	A	A	A
Citrus Pectin Liquor		A	–	–	A	A	–	A	–	–	A	A	A	–	–	A	–
Cobalt Chloride	$CoCl_2 * 6H_20$	A	C	–	A	A	A	A	X	–	–	–	A	–	–	A	–
Coffee	Fatty oils, acids. cellulose, water	A	–	–	A	A	A	–	A	–	A	A	A	–	–	A	–
Coke Oven Gas	H_2(53%),CH_4(26%)N_2(11%),CO(7%)&hydrocarbons (3%)	C	–	–	C	A	B	A	–	–	–	–	–	–	A	A	–
Copper Acetate	$Cu(C_2H_2O_2)_2 * CuO * 6H_20$	B	A	–	C	A	A	A	X	A/90%	B/10%	B	A	–	A	A	–
Copper Chloride	$CuCl_2 * 2H_2O$	A	A	A	A	A	A	A	X	X	X	B	A	–	A	A	–
Copper Cyanide	CuCN	A	A	–	A	A	A	A	X	A	A/10%	A	A	–	A	A	A
Copper Fluoroborate		B	–	–	A	–	A	A	X	X	X	B	–	–	–	A	–
Copper Nitrate Hexahydrate	$Cu(NO_3)2 * 6H_20$	A	A	–	A	A	A	A	X	X	A	B	A	A	A	A	A
Copper Sulfate (Blue Copperas)	$CuSO_4 * {}_5H_20$	A	A	A	A	A	A	A	X	X	A/10%	A	A	A	A	A	A
Copper Sulfide	CuS	A	–	–	–	A	–	A	–	–	–	–	–	–	–	A	–
Cream		A	–	–	C	A	A	A	–	X	A	–	A	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ^{0}F shown. Where not shown, temperature is 70^0 F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Creosote, Wood-Tar	Mixture of phenols	A	X	X	B	A	B	A	B	B	A	–	X	X	–	A	–
Cresylic Acid (cresol)	$C_8H_{10}O_2$	C	X	–	X	A	B	A	B	C	A	B	X	X	A/150°	A	–
Crotonaldehyde	$CH_3CHCHCHO$	X	–	–	A	A	–	A	A	A	A	A	–	–	–	A	–
Cumeme (Isopropylbenzene)	$C_6H_5CH(CH_3)_2$	X	X	–	X	A	–	A	B	B	B	B	–	–	–	A	–
Cyclohexane	C_6H_{12}	B	X	A	X	A	C	A	B	B	B	B	X	A	A	A	A
Cyclohexanol	$C_6H_{11}OH$	B	X	–	A	A	B	A	C	B	A	A	B	A	A/150°	A	A
Cyclohexanone	$C_6H_{10}0$	X	C	–	X	A	C	X	B	B	B	B	X	A	A	A	A
Cyclopentane	C_5H_{10}	B	X	–	A	A	–	A	B	B	B	B	–	–	–	A	–
Cymene (Isopropyltoluene)	$C_{10}H_{14}$	C	X	–	X	A	–	A	–	–	–	–	–	–	–	A	–
Decahdronaphthalene (Decalin)	$C_{10}H_{18}$	X	X	–	X	A	–	A	–	–	–	–	–	–	–	A	–
Decanal	CH3(CH2)8CHO	X	X	–	–	A	–	X	–	–	–	–	–	–	–	A	–
Decane	$CH_3(CH_2)_8CH_3$	B	C	–	X	A	C	A	–	–	–	–	A/70%	–	A	A	–
Detergent Solutions		A	A	B	A	A	A	A	B	–	A	–	A	A	–	A	A
Developing Fluids & Solutions		A	C	X	A	A	B	A	–	X	A	A	–	–	–	A	–
Dextrose	$C_6H1_2O_6$	B	A	B/140%	B	A	B	A	A	X	A	A	A	–	A	A	–
Dibenzyl Ether	$(C_6H_5CH_2)_2O$	X	C	–	X	A	C	C	B	B	B	B	–	–	C	A	–
Dibenzyl Sebecate	$C_{24}H_30^4$	X	C	A	X	A	C	B	–	–	–	–	–	–	–	A	–
Dibutyl Amine	$(C_4H_9)_2NH$	C	C	X	–	X	A	C	X	–	A	A	A	X	B/70%	A	–
Dibutyl Phthalate (DBP)	$C_6H_4(CO_2C_4H_9)_2$	X	A	A	A	X	A	A	B	A	A	A	B	X	–	X	A
Dibutyl Sebecate (DBS)	$C_{18}H_{34}O_4$	X	C	–	X	A	B	C	–	A	A	–	C	–	–	A	–
Dichloroacetic Acid	$CI_2CHCOOH$	X	–	–	X	A	B	X	–	–	–	–	–	–	–	A	–
o-Dichlorobenzene	$C_6H_4Cl_2$	X	X	X	X	A	X	A	X	B	B	A	B	–	A/150%	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Dichlorobutane	$C_4H_8Cl_2$	X	–	–	–	A	–	A	X	B	B	–	–	–	–	A	–
Dichchloroethyl Ether	$[ClCH_2CH_2]_2O$	X	–	–	–	A	–	–	B	–	–	–	–	–	–	A	–
Dichloro Isopropyl Ether	$C_6H_{12}OCl_2$	X	X	–	X	A	X	X	–	–	–	–	X	–	–	A	–
Dichclohexylamine	$(C6H_{11})_2NH$	X	X	–	X	A	B	B	–	–	–	A	–	–	–	A	–
Diethanol Amine	$(HOCH_2CH_2)_2NH$	B	–	–	A	A	–	–	–	A	A	A	A	–	–	A	–
Diethyl Amine	$(CH_3CH_2)_2NH$	C	C	–	C	A	–	X	B	B	A	A	A	–	A	A	–
Diethyl Benzene	$C_6H_4(C2H_5)_2$	X	X	–	X	A	C	A	–	–	–	–	–	–	–	A	–
Diethyl Carbonate	$(C_2H_5O)_2CO$	X	–	–	X	A	–	–	–	A	–	–	–	–	–	A	–
Diethyl Ether (Ether)	$(CH^3CH_2)_2O$	B	X	C	C	A	A	X	B	A	A	A	X	A	A	A	A
Diethyl Phthalate (DEP)	$C_6H_4(CO_2C_2H_5)_2$	X	–	–	–	–	–	C	A	A	A	A	–	–	–	–	–
Diethyl Sebecate	$C_{14}H_{26}0_4$	X	C	A	X	A	B	B	A	A	A	A	A/120⁰	–	A/120⁰	A	–
Diethylene Ether (Dioxane)	$C_4H_8O_2$	X	A	–	X	A	B	X	A	A	A	–	–	–	–	A	–
Diethylene Glycol (DEG)	$HOCH_2CH_2OCH_2$	A	A	A	A	A	A	A	A	A	A	A	A	–	–	A	–
Diethylene Triamine	$(NH_2C_2H_4)_2NH$	B	–	–	–	A	–	–	A	A	A	A	–	–	–	A	–
Dilsobutyl Ketone	$C_4H_9COC_4H_9$	X	B	–	X	A	–	X	A	A	A	A	–	–	–	A	–
Diisobutylene	$[HC=C(CH_2)_2]$	B	–	–	C	A	C	C	–	–	–	–	A	–	A	A	A
Diisodecyl Adipate (DIDA)	$C_{26}H_50O_4$	X	–	–	–	A	–	C	–	–	–	–	–	–	–	A	–
Diisodecyl Phthalate (DIDP)	$C_{28}H_{47}O_4$	X	A	–	X	A	–	C	–	–	–	–	–	–	–	A	–
Diisooctyl Adipate (DIOA)	$C_{22}H_{42}O_4$	X	–	–	–	A	–	C	A	A	A	A	–	–	–	A	–
Diisooctyl Phthalate (DIOP)	$C_{24}H_{39}O_4$	X	–	–	–	A	–	C	–	–	–	–	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Diisooctyl Sebecate (DIOS)	$C_{26}H_{46}O_4$	–	B	–	–	A	–	A	–	–	–	–	–	–	–	A	–
Diisopropyl Amine	$[(CH_3)_2CH]_2NH$	B	–	–	–	A	–	–	–	–	–	–	–	–	–	A	–
Diisopropyl Benzene	$C_6H_4 * [CH(CH_3)_2]_2$	X	X	–	X	A	C	A	–	–	–	–	–	–	–	A	–
Diisopropyl Ketone	$[(CH_3)_2CH]_2CO$	X	A	–	X	A	C	X	–	–	A	–	–	–	–	A	–
N, N-Dimethylaniline	$C_6H_5N(CH_3)_2$	X	C	–	X	A	B	X	B	B	–	–	X	–	A	A	A
Dimethyl Ether	CH_3OCH_3	A	–	–	B	A	–	A	B	B	B	B	–	–	–	A	–
N, N-Dimethyl Formamide (DMF)	$HCON(CH_3)_2$	C	B	C	X	A	A	X	A	–	A	A	A/120⁰	B	A/120⁰	A	A
Dimethyl Phthalate	$C_6H_4(CO_2CH_3)_2$	X	C	B	X	A	A	C	–	–	–	–	–	–	A/70⁰	A	A
Dimethyl Sulfate	$(CH_3)_2SO_4$	X	–	–	–	A	–	X	–	A	–	–	–	–	–	A	–
Dimethyl Sulfide	$(CH_3)_2S$	X	–	–	–	A	–	–	A	A	A	A	–	–	–	A	–
Dinitrotoluene (DNT)	$CH_3C_6H_3(NO_2)_2$	X	X	–	X	A	B	C	–	–	A	–	–	–	–	A	–
Dioctyl Phtahalate (DOP)	$C_{24}H_{38}O_4$	X	B	A	X	A	B	B	A	A	A	A	–	–	–	A	–
Dioctyl Sebecate	$C_{26}H_{50}O_4$	X	C	–	X	A	C	C	A	A	A	A	–	–	–	A	–
Dioxolanes (Dioxolans)	Glycol ethers	X	B	–	X	A	C	C	–	–	–	–	–	–	–	A	–
Dipentene (Limonene)	$C_{10}H_{16}$	C	X	–	X	A	C	A	A	A	A	A	–	–	–	A	–
Diphenyl Oxides (Phenyl Ether)	$C_6H_5OC_6H_5$	X	C	–	X	A	C	A	B	A	A	A	–	–	A	A	–
Dipropylamine	$(CH_3CH_2CH_2)_2NH$	B	–	–	–	A	–	–	–	–	–	–	–	–	–	A	–
Dipropylene Glycol	$(C_3H_6OH)_2O$	A	–	–	–	A	A	A	–	–	–	–	A	–	A	A	–
Dipropyl Ketone (Butyrone)	$(C_3H_7)_2CO$	X	–	–	–	A	–	–	–	–	–	–	–	–	–	A	–
Divinyl Benzene (DVB)	$C_6H_4(CH=CH_2)_2$	X	–	–	–	A	–	A	–	–	–	–	–	–	–	A	–
Dodecyl Benzene (Alkane)	$C_6H_5(CH_20_11CH3$	X	–	–	–	A	–	A	A	A	A	–	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Dow Corning (Silicones)	$[(CH_3)_2SiO]_2$	A	–	–	A	A	A	A	A	–	A	–	–	–	–	A	–
Dowtherm (Biphenyl & Phenyl Ether)	$(C_6H_5)_2$ AND $(C_6H_5)_2O$	X	X	–	X	A	X	A	A	B	A	A	–	–	–	A	–
Dry Cleaning Fluids	Chlorinated hydrocarbons	C	–	–	X	A	X	A	A	A	A	–	X	–	–	A	–
Dyes		–	–	–	C	–	B	A	B	–	A	–	–	–	–	A	–
Epichlorohydrin	C_3H_5ClO	X	B	X	X	A	B	X	A	A	A	A	A	A	X	A	A
Epsom Salts (Magnesium Sulfate)	$MgSO_4 * 7H_20$	A	A	–	A	A	A	A	A	–	A	B	A	–	A	A	–
Ethane	C_2H_6	A	X	–	C	A	C	A	A	A	A	A	C	A	–	A	–
Ethanolamine (Aminoethanol)	H_2NCH_2 CH_2OH	B	B	–	C	A	A	X	B	A	A	–	X	X	C	A	A
Ethyl Acetate	CH_3COOC H_2CH_3	X	B	C	X	A	A	X	A	A	A	A	C	A	A	A	–
Ethyl Acetoacetate (Acetoacetic Ester)	CH_3COCH_2 $COOCH_2CH_3$	X	C	–	X	A	C	X	A	A	A	A	–	–	A/70°	A	–
Ethyl Acrylate	CH_2CHCO CH_2CH_3	X	C	–	X	A	C	X	A	A	A	A	B	–	B/70°	A	–
Ethyl Aluminum Dichloride	$CH_3CH_2AlCl_2$	X	–	–	–	A	–	B	–	–	–	–	–	–	–	A	–
Ethyl Amine (Monoethylamine)	CH_3CH_2NH	X	A	–	C	A	–	X	B	B	A	–	–	–	–	A	–
Ethyl Benzene	$CH_3CH_2C_6H_5$	X	X	–	X	A	X	A	B	B	B	A	X	A	A	A	–
Ethyl Benzoate	$C_6H_5CO_2CH_2CH_3$	X	C	–	X	A	C	A	A	A	A	A	B	–	–	A	–
Ethyl Bromide (Bromoethane)	CH_3CH_2Br	X	B	–	B	A	X	–	X	A	A	–	–	–	–	A	–
Ethyl Butyl Acetate	$CH_3CO_2CH_2$ $CH(_2H_5)_2$	X	–	–	–	A	–	X	–	–	–	–	–	–	–	A	–
Ethyl Butyl Ketone	$CH_3CH_2COC_4H_9$	X	–	–	–	A	–	X	–	–	–	–	–	–	–	A	–
Ethyl Butyraldehyde	$C_6H_{12}O$	X	–	–	–	A	–	X	–	–	–	–	–	–	–	A	–
Ethyl Butyrate	$CH_3CH_2CH_2$ $CO_2C_2H_5$	X	X	–	X	A	–	C	B	A	A	A	B	–	–	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Ethyl Caprylate	$CH_3(CH_2)_5\ CO_2C_2H_5$	X	X	–	X	A	–	–	–	–	–	–	–	–	–	A	–
Ethyl Cellosolve	$C_2H_5O(CH_2)_2OH$	C	B	–	C	A	B	X	–	–	–	–	–	–	–	A	–
Ethyl Cellulose (Ethocel)		B	B	B	B	A	A	C	B	A	B	B	C	–	–	A	B
Ethyl Chloride (Chloroethane)	C_2H_5Cl	A	A	X	C	A	X	A	X	B	A	B	X	A	A	A	A
Ethyl Chlorocarbonate (Ethyl Chloroformate)	$ClCO_2C_2H_5$	–	–	–	C	A	A	A	–	–	–	–	–	–	–	A	–
Ethyl Cyanide (Propionitrile)	C_2H_5CN	X	A	–	B	A	–	X	–	–	–	–	–	–	–	A	–
Ethyl Formate	$HCOOCH_2\ CH_3$	X	C	–	B	A	B	A	B	A	B	B	–	–	–	A	–
Ethylexyl Acetate	$CH_3CO_2CH_2\ CH(C_2H_5)C_4H_9$	X	–	–	–	A	–	X	–	–	–	–	–	–	–	A	–
Ethylhexyl Alcohol (Ethylhexanol)	$C_8H_{17}OH$	A	–	–	–	A	–	B	A	A	A	A	–	–	–	A	–
Ethyl Iodide	CH_3CH_2I	–	–	–	–	–	–	–	–	–	–	–	–	–	–	A	–
Ethyl Isobutyrate	$(CH_3)_2$	X	X	–	X	A	–	–	–	–	–	–	–	–	–	A	–
Ethyl Mercaptan (Ethanethiol)	CH_3CH_2SH	X	X	–	C	A	C	B	B	A	B	B	–	–	–	A	–
Ethyl Oxalate	$C_2H_502C\ CO_2C_2H_5$	X	A	–	X	A	B	B	–	–	–	–	–	–	–	A	–
Ethyl Pentachlorobenzene	$C_2H_5C_6Cl_5$	X	–	–	X	A	X	A	X	–	–	–	X	–	–	A	–
Ethyl Propionate	$CH_3CH_2\ COOCH_2CH_3$	X	X	–	X	A	–	–	A	A	A	A	–	–	–	A	–
Ethyl Silicate	$Si(OCH_2CH_3)_4$	A	A	–	A	A	B	A	B	A	A	A	–	–	–	A	–
Ethyl Sulfate	$C_2H_5OSO_2OH$	A	–	–	–	A	B	A	–	–	X	–	–	–	–	A	–
Ethylene (Ethene)	C_2H_4	B	C	–	A	A	C	A	A	A	A	–	–	–	–	A	–
Ethylene Chlorohydrin	$ClCH_2CH_2OH$	X	A	X	B	A	C	B	–	B	A	A	X	–	A/70⁰	A	–
Ethylene Diamine	$(CH_2)_2(NH_2)_2$	B	A	–	A	A	A	X	C	A	A	A	A	A	B	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature
⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Ethylene Dibromide (Ethylene Bromide)	$Br(CH_2)Br$	X	C	–	X	A	–	B	X	X	B	B	X	–	A	A	–
Ethylene Glycol (Ethylene Alcohol (Glycol)	$CI(CH_2)2CI$	A	A	A	A	A	A	A/70⁰	A	A	A	A	A/120⁰	A	A	A	A
Ethylene Glycol Monobutyl Ether (Butyl Cellosolve)	$C_4H_9OCH_2CH_2OH$	B	B	–	X	A	–	C	A	A	A	A	–	–	–	A	–
Ethylene Glycol Monobutyl Ether Acetate (Cellosolve Acetate)	$C_2H_50(CH_2)_2\ O_2CCH_3$	C	B	–	X	A	–	C	A	A	A	A	–	A	–	A	–
Ethylene Glycol Monomethyl Ether (Methyl Cellosolve)	$CH_3O(CH_2)_2OH$	C	B	–	C	A	–	X	B	B	A	A	–	–	–	A	–
Ethylene Oxide	$(CH_2)_2O$	X	X	A	X	A	A	C	A	B	A	A	C	–	A	A	X
Ethylene Trichloride (Triclorothene)	$ClCHCCl_2$	X	A	–	X	A	X	A	X	A	A	A	X	–	–	A	–
Ethylidene Chloride	CH_3CHCl_2	X	X	–	X	A	–	–	X	B	A	B	–	–	–	A	–
Fatty Acids	$C_8H_20+1COOH$	B	X	B	C	A	B	A	A/90⁰	X	A	A	B	A	A	A	–
Ferric Chloride	$FeCl_3$	A	A	B	A	A	A	A	X	X	X	A	A	A	A	A	A
Ferric Hydroxide	$FeHO_2$	B	A	–	–	A	–	C	–	–	A	B	–	A	–	A	–
Ferric Nitrate	$Fe(NO_3)_3$	A	A	–	A	A	A	A	X	X	B	A	A	A	A	A	A
Ferric Sulfate	$Fe_2(SO_4)_3$	A	A	–	A	A	A	A	C	X	B	A	A	A	A	A	A
Ferrous Chloride	$FeCl_2$	A	A	X	A	A	A	A	X	X	B/20%	B	A	A	A	A	A
Ferrous Sulfate	$FeSO_4$	A	A	A	A	A	A	A	A/10%	C	B	A	A	A	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Fluoboric Acid (Flouroboric Acid)	HBF_4	A	A	X	B	A	A	C	X	X	A/30%	–	A	A	A	A	A
Fluorine (Liquid)	F_2	X	C	X	C	A	X	B	A	–	A	–	X	A	A/70⁰	A	–
Fluorobenzene	FC_6H_5	X	X	–	X	A	C	A	–	–	–	–	X	A	–	A	–
Fluosilicic Acid (Sand Acid)	H_2SiF_6	B	B	–	A	A	A	A	X	X	A/212⁰	B	A	A	A	A	A
Formaldehyde (Formalin)	HCHO	B	A	C/40⁰	C	A	A	A	A	C	A/90%	A	A	A	A/120⁰	A	A
Formamide	$HCONH_2$	A	A	–	A	A	–	X	A	B	B	B	–	A	–	A	–
Formic Acid	HCOOH	C	B	C	B	A	A	C	X	X	C	A	A/70%	A	A	A	A
Freon 11 (Trichlorofluoromethane)	CCl_3F	C	X	A	C	A	C	B	B	A	A	–	B	A	A	A	A
Freon 12 (Dichlorofluoromethane)	Cl_2CF_4	B	B	B	B	A	X	B	A	A	A	–	–	A	A	A	–
Freon 13 (Chlororfluoromethane)	$ClCF_3$	A	A	C	A	A	X	A	A	A	A	A	–	A	–	A	–
Freon 13B1 (Bromotrifloromethane)	$BrCF_3$	A	A	–	A	A	–	A	–	–	–	–	–	A	–	A	–
Freon 14 (Tetrafluoromethane)	CF_4	X	B	–	X	A	–	–	–	–	–	–	–	A	–	A	–
Freon 21 (Dichlorofluoromethane)	$FCHCl_2$	X	X	–	B	A	X	X	A	–	–	–	–	A	A	A	–
Freon 22 (Chlorofluoromethane)	$HCClF_2$	X	C	X	B	A	X	X	A	A	A	A	–	A	A	A	–
Freon 113 (Trichlorotetrafluoroethane)	$Cl3CCF_3$	B	X	A/130⁰	A	A	X	B	B	–	A	–	–	A	A	A	–
Freon 114 (Dichlorotetrafluoroethane)	$C2Cl2F_4$	A	C	A	A	A	X	A	B	–	A	–	–	A	A	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Freon 114B2 (Dibromotetrafluoroethane)	$C_2Br_2F_4$	B	X	–	A	A	X	B	–	–	–	–	–	A	–	A	–
Freon 115 (Chloropentafluoroethane)	C_2ClF_5	A	A	–	A	A	X	B	A	–	–	–	–	A	–	A	–
Fruit Juices	Water, sucrose	A	A	B	A	A	A	A	A/10%	X	A	A	A	A	A	A	A
Fumaric Acid (Boletic Acid)	Hydrocarbons	C	–	–	B	A	A	A	–	–	–	–	–	A	–	A	–
Furan (Furfuran)	C_4H_40	X	X	X	X	A	B	C	–	–	–	–	C	A	X	A	A
Furfuryl Alcohol	$C_5H_60_2$	X	B	B	–	A	A	X	A	A	A	A	–	A	B/100°	A	–
Gallic Acid	$C6H_2(OH)_3$ COOH	B	B	X	C	A	B	A	A/20%	X	B	B	A/70°	A	A/70%	A	A
Gasoline - unleaded	C_4 to C_{12} hydrocarbons	X	X	–	X	A	X	A	A	A	A	A	C	A	A	A	A
Gasoline - Petrol	Hydrocarbons	A	X	A	C	A	X	A	A	A	A	A	C	A	A	A	A
Gelatin	Water solube proteins	A	A	B	A	A	A	B	A	A	A	–	A	B	A	A	–
Glauber's Salt (Sodium Sulfate Decahydrate)	Na_2so_4 * $10H_20$	A	B	B	A	A	–	A	–	–	–	–	–	–	–	A	–
Gluconic Acid	$C_6H_{12}O_7$	C	–	–	–	A	–	A	B	C	A/50%	A	–	–	–	A	–
Glucose (Corn Syrup)	$C_6H_{12}O_6$	A	A	B	A	A	A	A	A	A	A	–	A	A	A	A	–
Glue		A	B	B	A	A	A	A	A	A	B	A	A	B	–	A	–
Glycerol (Glycerine)	$C_3H_8O_3$	A	A	A	A	A	A	A	A	B	A	A	A	A	A	A	A
Glycolic Acid	$HOCH_2COOH$	A	A	–	A	–	A	A	–	–	–	A	A	–	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Glycols		A	A	A	A	A	A	A	A	B	A	B	A	A	A	A	A
Gold Monocyanide	AuCN	A	–	–	A	–	A	A	–	–	X	X	–	–	–	A	–
Grape Juice	Water, sucrose	C	–	–	X	A	A	A	–	X	A	–	A	–	A	A	–
Grease		A	–	A	X	A	B	A	A	–	A	–	–	–	–	A	–
Green Sulfate Liquor		B	A	X	B	A	A	A	B	C	A	B	A	–	–	A	–
Halowax	Chlorinated naphthalenes	X	X	X	–	–	X	A	X	–	–	–	–	–	–	–	–
Heptanal	$CH_3(CH_2)_5CHO$	A	–	–	–	–	–	A	A	A	A	A	A	C	–	A	A
Heptane	C_7H_{16}	A	X	–	C	A	X	A	A	A	A	A	C/140⁰	A	A	A	A
Hexanal	$CH_3(CH_2)_4CHO$	B	B	–	B	A	–	C	A	B	A	B	–	–	–	A	–
Hexalin (Cyclohexanol)	$C_6H_{11}OH$	B	C	–	A	A	–	A	–	–	–	–	–	–	–	A	–
n-Hexane	C_6H_{14}	A	X	A	B	A	B	A	A	A	A	A	C/140⁰	C	A	A	A
n-Hexane 1 (Hexylene)	$H_2CCH(CH_2)_2CH_3$	A	X	–	B	A	X	A	–	–	–	–	–	–	–	A	–
Hexylene Glycol (Brake fluid)	$C_6H_{12}(OH)_2$	A	C	–	A	A	–	A	A	A	A	A	–	–	–	A	–
Honey		–	–	–	A	A	A	–	A	A	A	–	A	–	–	A	–
Hydrazine (Diamine)	H_2NNH_2	C	A	X	C	A	A	X	A	X	A	A	X	B	X	A	–
Hydrobromic Acid	HBr	X	A	–	C	A	A	A	X	X	X	–	B	X	A	A	A
Hydrochloric Acid																	
10%	HCl	B	A	–	B	A	A	A	X	C	X	B	A	X	A	A	A
20%	HCl	C	A	X	B	A	A	A	X	C	X	A	A	X	A	A	A
37% (Conc.)	HCl	C	A	X	C	A	A	B	X	X	X	A	B	X	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Hydrocyanic Acid (Formonitrile)	HCN	B	A	X	C	A	A	A	A/10%	X	A	B	A	X	A	A	–
Hydrofluoric Acid (Conc.) Cold	HF	–	C	X	C	A	X	B	C	X	X	B	X	X	A	A	A
Hydrogen Fluoride (Anhydrous)	HF	X	C	–	C	A	–	A	X	–	X	A	A	–	A	A	–
Hydrogen Peroxide																	
3%	H_2O_2	B	B	X	B	A	A	A	A	–	–	–	A	–	A/120°	A	X
10%	H_2O_2	C	B	X	C	A	A	A	A	B	A	A	A	–	A/120°	A	X
30%	H_2O_2	C	B	X	X	A	A	A	A	X	B	A	A	–	A/120°	A	X
90%	H_2O_2	X	C	X	B	A	X	A	A	X	A	–	–	–	A/120°	A	X
Hydrogen Sulfide (Wet)	H_2S	X	A	A	C	A	A	X	A/90%	X	A/167°	A	A	C	A	A	A
Hydroquinone	$C_6H_4(OH)_2$	C	–	–	X	A	A	C	A/90%	B	A/10%	B	–	–	A	A	–
Hydroxyacetic Acid - 10%	$HOCH_2COOH$	X	–	–	X	A	A	–	B	–	B	–	–	–	–	A	–
Hypochlorous Acid	HClO	X	B	–	X	A	A	A	X	X	X	A	A	–	A	A	–
Ink		A	–	–	A	A	A	A	C	X	A	A	–	–	–	A	–
Iodine	I_2	B	B	B	B	A	A	A	A	X	X	A	A	–	A/150%	A	X
Idoform	CHI_3	–	A	–	–	A	B	–	A	A	A	A	–	–	A	A	–
Isoamyl Acetate	$CH_3CO_2CH_2CH_2CH\ (CH_3)^2$	X	B	–	X	A	–	X	A	A	A	A	–	–	–	A	–
Isoamyl Butyrate	$C_9H_{18}O_2$	X	–	–	–	A	–	X	A	A	A	A	–	–	–	A	–
Isoamyl Chloride	$(CH_3)_2\ CHCH_2CH_2Cl$	X	X	–	X	A	–	A	X	–	–	–	–	–	–	A	–
Isobutyl Acetate	$CH_3CO_2CH_2\ CH(CH)$	X	C	–	X	A	–	X	A	A	A	A	–	–	–	A	–
Isobutyl Amine	$(CH_3)_2\ CHCOOH$	X	–	–	–	A	–	X	–	–	–	–	–	–	–	A	–
Isobutyl Chloride	$(CH_3)_2\ CHCH_2Cl$	X	–	–	–	A	–	B	X	B	B	B	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Isobutyric Acid	$(CH_3)_2$ CHCOOH	X	A	–	B	A	–	–	A	–	–	A	–	–	–	A	–
Isododecane	$(CH_3)_2$ $CH(CH_2)_8CH_3$	B	X	–	A	A	–	A	B	B	B	–	–	–	–	A	–
Isooctane (Trimethylpentane)	C_8H_{18}	A	X	A	B	A	C	A	A	A	A	A	A	–	A	A	A
Isopentane	$(CH_3)_2$ $CHCH_2CH_3$	A	–	–	–	A	–	A	–	–	–	A	–	–	–	A	–
Isophorone	$C_9H_{14}0$	X	C	–	X	A	B	X	A	A	A	–	–	–	–	A	–
Isopropyl Acetate	CH_3COOCH $(CH_3)_2$	X	B	–	X	A	B	X	A	A	A	A	B	–	–	A	–
Isopropyl Amine	$C_3H_7NH_2$	X	–	–	–	A	–	X	–	A	A	–	–	–	–	A	–
Isopropyl Chloride	$(CH_3)_2CHCl$	X	X	–	X	A	C	B	X	A	A	A	X	–	–	A	–
Isopropyl Ether	$(CH_3)_2CHOCH$	C	X	–	C	A	B	C	B	–	A	–	X	–	A/70%	A	–
Jet Fuels (JP1 to JP6) (ASTM-A, A1 & B)		A	X	X	C	A	X	A	A	A	A	A	X	A	A	A	A
Kerosine (Kerosene)	Hydrocarbons	A	X	A	C	A	X	A	A	A	A	A	X	A	A	A	A
Lacquers		X	X	X	X	A	C	X	A	B	A	A	–	B	–	A	–
Lacquer Solvents		X	X	C	X	A	C	X	A	B	A	A	C	B	X	A	–
Lactic Acid	CH_3CHOH COOH	B	A	X	B	A	A	A	A	X	A/70%	A	A	C	A	A	A
Lactol (Aliphatic Naptha Solvent)	CH_3CHOH CO_3C10H_7	C	–	–	X	A	–	A	A	A	A	A	–	–	–	A	–
Latex	Rubber emulsion	A	A	A	A	A	A	A	A	–	A	–	A	B	–	A	–
Lead Acetate (Sugar of Lead)	$Pb(CH_3CO_2)_2$	B	A	–	A	A	A	X	X	–	B	B	A	–	A	A	A
Lead Chloride	$PbCl_2$	–	–	–	B	A	–	–	X	–	B	B	A	–	A	A	–
Lead Nitrate	$Pb(NO_3)_2$	B	A	–	A	A	–	A	X	B	B	A	A	A	A	A	–
Lead Sulfamate		B	–	–	A	A	A	A	–	–	–	B	A	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ^{0}F shown. Where not shown, temperature is 70^0 F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Ligroin (Ligroine (Benzene)	Petroleum fraction	A	X	–	B	A	B	A	–	A	A	–	X	–	–	A	–
Lignin Liquor	Blend of natural aromatic oils	A	–	–	A	A	–	A	–	–	A	–	–	–	–	A	–
Lime Bleach		A	A	–	C	A	A	A	X	–	–	–	B	–	A	A	–
Lime Slurries		B	–	C	A	A	B	B	B	–	B	A	–	A	A	A	–
Lime, Soda (Slaked lime & soda ash)	CaO	B	A	–	B	A	A	B	–	–	–	–	–	–	–	A	–
Lime Sulfur	$CaS + CaSO_4$	A	A	–	A	A	B	A	X	–	A	–	A	–	–	A	–
Limonene	$C_{10}H_{16}$	C	X	–	X	A	–	A	–	–	–	–	–	–	–	A	–
Linoleic Acid	$C_{18}H_{32}0_2$	B	X	–	X	A	B	B	A	–	A	A	A	–	A	A	–
Lindol (Tritolyl Phosphate)	$C_{21}H_{21}O_4P_4$	X	–	–	C	A	A	B	–	–	–	–	–	–	–	A	–
Lithum Bromide	$LiBrH_20$	A	–	–	X	A	–	A	–	A	–		–	A	A	A	A
Lye (Potassium Hydroxide)	KOH	C	A	X	B	A	A	B	–	–	A	–	A	X	A/150°	A	A
Magnesium Carbonate	$MgCO_3$	A	C	A	A	A	A	A	A	B	B	B	A	A	A	A	–
Magnesium Chloride	$MgCO_2O$	A	A	A	A	A	A	A	A/20%	B/30%	B/40%	A	A	B	A	A	A
Magnesium Hydroxide (Milk of Magnesia)	$Mg(OH)_2$	B	A	C	B	A	A	A	A/10%	A	A	A	A	A	A	A	A
Magnesium Nitrate	$Mg(NO_3)_2 * 6H_20$	A	A	–	A	A	A	A	B/50%	B	A	B	A	–	A	A	A
Magnesium Oxide	MgO	A	–	–	A	A	A	B	A/10%	A	A	A	–	–	–	A	–
Magnesium Sulfate (Epsom Salts)	$MgSO_4 * 7H_2O$	A	A	B	A	A	A	A	A/70%	A	A/40%	A	A	A	A	A	A
Maleic Acid	$(CHCOOH)_2$	X	X	–	A	A	A	A	A/20%	B/60%	B	A	A	–	A	A	–
Maleix Anydride	$C_4H_2O_3$	–	X	–	–	A	–	A	A/20%	B	A	A	–	–	–	A	–
Malic Acid (Apple acid)	C_4H6O_5	B	X	–	C	A	A	A	B	–	A	B	–	–	–	A	–
Maple Sugar Liquors (Sucrose)	Water, sucrose	A	A	–	A	A	B	A	–	–	A	–	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Mayonnaise	Water, fats, oils	A	–	–	A	A	A	–	X	X	A	A	A	–	–	A	–
Mercuric Chloride	$HgCl_2$	A	A	–	B	A	A	A	X	X	X	B	A	B	A	A	–
Mercuric Cyanide	$Hg(CN)_2$	B	A	–	B	A	A	A	X	B	B	B	A	–	A	A	–
Mercurous Nitrate	$Hg_2(NO_3)_2 * 2H_2O$	B	A	–	B	A	–	A	X	B	B/212⁰	B	A	–	A	A	–
Mercury	Hg	A	A	A	A	A	A	A	X	A	A	A	A	C	A	A	–
Mesityl Oxide	$(CH_3)_2c = CHCOCH_3$	X	B	–	X	A	C	X	A	A	A	A	–	–	–	A	–
Methane	CH_4	A	X	B	B	A	X	A	A	A	A	A	B	A	A	A	–
Methyl Acetate		X	C	C	C	A	B	X	A	A	A	A	C	B	–	A	–
Methyl Acetoacetate	$CH_3COCH_2\ COOCH_3$	X	–	–	–	A	–	X	–	A	A	A	–	–	–	A	–
Methyl Acrylate	$CH_2CHCO_2CH_3$	–	C	–	C	A	B	X	–	A	A	–	–	–	A/70⁰	A	–
Methyl Acrylic Acid (Crotonic Acid)	$CH_3(CH)_2COOH$	–	C	–	C	A	–	X	–	–	–	–	–		–	A	–
Methyl Amine (Monomethylamine)	CH_3NH_2	B	A	–	A	A	B	A/90%	B	B	A	B	X	–	C	A	–
Methyl Amyl Acetate	$C_8H_{16}O_2$	A	–	–	–	A	–	X	A	A	A	A	–	–	–	A	–
Methyl Aniline	$C_6H_5NH(CH_3)$	A	A	–	A	A	–	–	–	–	–	–	–	–	–	A	–
Methyl Bromide (Bromo Methane)	CH_3Br	C	A	X	X	A	X	A	X	A	A	B	X	–	A	A	–
Methyl Butyl Ketone (2-hexanone)	$CH_3COC_4H_9$	X	B	–	X	A	C	X	–	–	A	–	X	–	–	A	–
Methyl Butyrate	$CH_3(CH_2)_2\ CO_2CH_3$	X	X	–	X	A	–	–	A	A	A	A	–	–	–	A	–
Methyl Cellosolve	$CH_3OCH_2\ CH_2O$	X	–	–	X	A	A/70⁰	X	A	–	–	–	A	–	A	A	–
Methyl Chloride	CH_3Cl	X	C	X	X	A	X	B	X	A	A	A	X	B	A	A	A
Methyl Cyclopentane	C_6H1_2	B	X	–	X	A	C	A	–	–	A	–	–	–	–	A	–
Methyl Dichloride	CH_2Cl_2	X	–	–	X	–	X	A	X	–	–	–	X	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Methyl Ethyl Ketone (Butanone)	$CH_3C0 * CH_2CH_3$	X	A	C	X	A	A	X	A	A	A	A	X	B	X	A	A
Methyl Formate	$HCOOCH_3$	X	C	–	B	A	B	X	A	A	A	–	–	–	–	A	–
Methyl Hexane	C_7H_{16}	A	X	–	A	A	–	A	–	–	–	–	–	–	–	A	–
Methyl Iodide	CH_3I	X	A	–	X	A	A/70%	–	X	A	A	A	–	–	–	A	–
Methyl Isobutyl Ketone (Hexone)	$CH_3COCH_2CH\ (CH3)_2$	X	B	X	X	A	C	X	A	B	B	A	C/70%	A	A/70%	A	A
Methyl Isopropyl Ketone	$CH_3COCH(CH_3)_2$	X	C	X	X	A	C	X	–	–	A	–	C	–	A/70%	A	–
Methyl Methacrylate	$CH_2C(CH_3)\ CO_2CH_3$	X	X	–	X	A	B	C	B	–	A	–	A	–	A/70%	A	–
Methyl Oleate	C19H36O2	X	C	–	X	A	C	B	–	–	–	–	–	–	–	A	–
Methyl Propyl Ketone	$CH_3CH_2\ CH_2COCH_3$	X	B	–	X	A	–	X	–	–	–	–	–	–	–	A	–
Methyacrylic Acid	$CH_3CHCHCO_2H$	–	–	–	B	A	A	B	–	–	–	–	–	–	–	A	–
Methylamine	CH_3NH_2	B	A	–	A	A	A	A/90%	B	B	A	B	A	–	–	A	–
Methyl Bromide	CH_2Br_2	X	–	–	X	A	–	B	X	A	A	A	–	–	A	A	–
Methylene Chloride	CH_2Cl_2	X	X	X	X	A	X	B	X	B	A/90%	A	X	–	B/100°	A	A
Milk		B	A	B	A	A	A	A	A	X	A	A	A	A	A	A	–
Mine Water		A	–	–	–	A	B	–	B	–	B	A	–	–	–	A	–
Mixed Acids (Sulfuric & Nitric)	H_2SO_4, HNO_3	X	B	–	X	A	–	A	X	X	B	B	X	A	A	A	–
Molasses		A	A	B	A	A	A	A	A	A	A	A	A	–	A	A	A
Monochlorobenzene	C_6H_5Cl	X	–	C	X	A	X	A	X	A	A	–	X	B	A/100%	A	A
N-Methyl Aniline	$C_6H_5NHCH_3$	X	–	–	X	A	–	C	–	–	–	–	C	A	–	A	–
Monoethanolamine	$NH_2C_2H_4OH$	B	–	–	C	A	A	C	B	A	A	–	X	–	X	A	A
Monomethylether		A	–	–	B	A	–	A	–	–	–	A	–	X	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Monovinyl Acetylene		A	–	–	B	A	–	A	–	–	–		–	–	–	A	–
Mustard		C	–	B	A	A	A	X	B	X	A	A	A	A	–	A	–
Naptha (Petroleum spirits) (Thinner)	Petroleum fractions	A	X	A	X	A	X	A	A	B	A	A	X	A	A	A	A
Naphtha Coal Tar (Benzol)	Hydrocarbons	X	X	–	X	A	–	A	A	B	A	A	–	–	–	A	–
Naphthalene (Tar Camphor)	$C_{10}H_8$	X	X	C	X	A	C	A	B	A	A	A	A	A	A	A	A
Naphthoic Acid	$C_{11}H_8O_2$	B	X	–	–	A	–	A	B	B	A	B	–	–	–	A	–
Neohexane (2, 2-dimethylbuane)	C_6H_{14}	A	–	–	–	A	–	A	–	–	–	–	–	–	–	A	–
Neosol		A	B	–	A	A	–	C	B	B	A	A	–	–	–	A	–
Neville Acid		C	C	–	C	A	A	B	–	–	–	–	–	–	–	A	–
Nickel Acetate	$Ni(CH_3CO_2)_2$	B	A	–	B	A	A	X	B/10%	–	A	–	A	–	A	A	–
Nickel Chloride	$NiCl_2$	A	A	X	A	A	A	A	X	X	B	A	A	B	A	A	A
Nickel Nitrate	$Ni(NO_3)_2 * 6H_20$	A	A	–	A	A	–	A	X	–	A	B	A	–	A	A	A
Nickel Sulfate	$NiSO_4$	A	A	–	A	A	A	A	X	X	A/40%	B	A	A	A	A	A
Nitrana (Ammonia Fertilizer)		B	–	–	B	A	–	C	–	–	A	–	–	–	–	A	–
Nitric Acid																	
10%	HNO_3	X	B	C	B	A	A	A	A	X	A	A	A	–	A	A	X
25%	HNO_3	X	B	X	C	A	B	A	X	X	A	A	A	–	A	A	X
35%	HNO_3	X	C	X	X	A	B	A	X	X	A	A	B	–	A	A	X
50%	HNO_3	X	X	X	X	A	X	A	X	X	A	X	C	–	A	A	X
70%	HNO_3	X	X	X	X	A	X	A	–	X	A	X	X	–	A	A	X
Concentrated	HNO_3	X	X	X	X	A	X	B	A	X	A	A	X	–	A/120°	A	X
Red Fuming		X	X	X	X	A	X	B	A	X	A	B	X	–	C	A	–
Nitrobenzene	$C_6H_5NO_2$	X	X	X	X	A	A	B	A	A	A	B	B	B	A/70°	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Nitroethane	$C_2H_5NO_2$	X	C	–	C	A	A	X	A	A	A	A	C	–	A/70%	A	–
Nitrogen Tetroxide	N_2O_4	X	X	B/50%	X	A	–	C	A	B	A	A	X	–	C	A	–
Nitromethane	CH_3N0_2	X	C	X	C	A	A	X	A	A	A	A	C	–	A/120°	A	A
1-Nitropropane	$CH_3(CJ_2)_2NO_2$	X	A	–	C	A	–	X	A	A	A	A	–	–	–	A	–
Octadecane	$CH_3(CH_2)_{16}CH_3$	A	X	–	B	A	B	A	–	–	–	–	–	–	–	A	–
n-Octane	C_8H_{18}	A	X	–	–	A	B/70%	A	–	–	–	–	X	–	A	A	–
Octyl Acetate	$CH_3COO\ (CH_2)^7CH_3$	X	–	–	–	A	–	X	A	–	A	–	–	–	–	A	–
Octachlorotoulene	C_7Cl_8	X	–	–	X	A	–	A	X	–	–	A	X	–	–	A	–
Oils: A through D																	
Almond Oil (artificial)		X	B	–	X	A	–	X	–	–	–	–	–	–	–	A	–
Amyl Acetate (Banana Oil)		X	A	C	X	A	B	X	A	B	A	B	B	X	A/120°	A	A
Animal Fats & Oil		A	B	B	C	A	–	A	A	X	A	A	–	–	A	A	–
Bunker Oil (fuel #5, #6, #7		A	X	–	B	A	B	A	A	A	A	A	–	–	–	A	–
Castor Oil		A	B	B	A	A	B	A	A	B	A	A	–	–	–	A	–
Cinnamon Oil		–	–	–	C	A	C	–	–	X	A	–	–	–	–	A	–
Citric Oils		C	B	–	X	A	C	A	–	X	A	–	A	–	–	A	–
Clove Oil (eugenol)		–	–	–	C	A	C	–	–	X	A	–	–	–	–	A	–
Coconut Oil (Coconut Butter)		B	A	–	B	A	B	A	B	A	A	–	–	–	–	A	–
Cod Liver Oil (Fish Oil)		B	A	–	B	A	B	A	A	X	A	–	–	–	–	A	–
Corn Oil (Maize Oil)		A	C	A	C	A	C	A	B	C	B	–	A	–	A	A	–
Cotton Seed Oil		A	A	A	C	A	B	A	A	C	A	–	A	B	A	A	A
Creosote, Coal-Tar (Tar Oil)		A	X	X	C	A	B	A	B	B	B	B	X	X	–	A	–
Cutting Oil (water soluble)		C	–	–	X	A	–	A	A	A	A	A	–	–	–	A	–
Cutting Oil (Sulfur Base)		A	–	–	C	A	–	–	A	A	A	A	–	–	–	A	–
Diesel Oil (Fuel ASTM #2)		A	X	A	C	A	C	A	A	A	A	A	B	–	A	A	–
Diester Synthetic Oils		B	X	–	X	A	–	A	A	A	A	A	–	–	–	A	–
Dispersing Oil #10		X	X	–	X	A	–	C	A	A	A	A	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL / FORMULA	Elastomers							Metal				Plastic				
	BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Oils: E through H																
Ethylene Dichloride (Dutch Oil)	X	X	X	X	A	X	B	X	B	B	B	X	B	A	A	A
Fish Oil	A	–	–	–	A	B	A	–	–	–	A	–	B	–	A	A
Fluorolube (Flourocarbon Oils)	C	A	–	A	A	X	B	A	A	A	A	X	–	–	A	–
Fuel Oils (ASTM #1 thru #9)	A	X	B	C	A	C	A	A	A	A	A	C	C	A	A	A
Furfual (Ant Oil)	X	B	–	B	A	C	C	A	B	A/20%	B	X	B	B/120°	A	A
Fusel Oil (Grain Oil)	A	A	–	A	A	–	A	–	–	–	–	–	–	–	A	–
Ginger Oil	–	–	–	A	A	C	A	–	X	A	–	–	–	–	A	–
Grapefruit Oil	X	–	–	X	A	–	–	–	X	A	–	–	–	–	A	–
Halowax Oil	X	X	–	X	A	X	A	X	–	–	–	–	–	–	A	–
Hydraulic Oil (Petroleum Base)	A	X	X	B	A	X	A	A	A	A	A	X	C	–	A	–
Oils: L through N																
Lard (lard Oil)	A	X	B	C	A	B	A	A	A	B	A	A	B	A	A	A
Lavender Oil	B	X	–	X	A	B	B	–	–	–	–	–	–	–	A	–
Lemon Oil (Cedro Oil)	–	–	–	C	A	C	A	A	–	A	–	–	–	–	A	–
Linseed Oil (Flaxseed Oil)	A	C	B	A	A	B	A	A	A	A	A	A	A	A	A	A
Lubricating Oils (petroleum)	A	X	A	B/150°	A	–	A	A	A	A	A	A	A	A	A	A
Methyl Salicylate (Betula Oil)	X	C	–	X	A	B	B	A	A	–	–	–	–	–	A	–
Mineral Oil (petroleum)	A	X	A	B	A	C	A	A	A	A	A	B	A	A	A	A
Neatsfoot Oil	A	C	–	–	A	B	A	–	–	A	–	–	–	–	A	–
Oils: O through Q																
Oleic Acid (Red Oil)	C	C	A	X	A	–	B	A	C	B	A	B	B	A	A	A
Olive Oil	A	C	–	C	A	B	A	A	A	A	A	A	A	A	A	A
Palm Oil	A	–	–	C	A	B	A	–	A	A	A	–	–	–	A	–
Peanut Oil	A	X	–	B	A	B	A	–	A	A	A	A/70°	–	A	A	–
Peppermint Oil	X	–	–	X	A	C	A	–	–	A	–	–	–	–	A	–
Petroleum (Crude Oil) (Sour)	B	X	C	C	A	X	A	B	B	A	A	X	A	A	A	–
Oils: R through S																
Rape-Seed Oil (Colza Oil)	B	A	–	C	A	B	A	–	A	A	A	–	–	–	A	–
Rose Oil	–	–	–	C	A	A	A	–	–	A	–	–	–	–	A	–
Rosin Oil (Rosinol)	A	–	–	A	A	–	A	–	–	–	–	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Oils: R through S																	
Sesame Seed Oil		A	–	–	C	A	B	A	–	A	A	–	–	–	–	A	–
Silicone Oils (Versilube, etc.)		A	A	A	C	A	C	A	B	B	A	A	A	–	A	A	A
Soybean Oil		A	C	A	A	A	B	A	A	A	A	A	B	B	–	A	A
Sperm Oil (Whale Oil)		A	–	–	X	A	B	A	–	A	A	A	–	–	–	A	–
Oils: T through Z																	
Transformer Oil (Petroleum)		B	X	–	C	A	X	A	A	A	A	A	B	C	–	A	–
Tung Oil (Wood Oil)		A	X	B	C	A	B	A	A	–	A	A	A	–	–	A	–
Vegetable Oils		B	A	A	C	A	A	A	A	B	A	A	X	–	–	A	A
Walnut Oil		A	–	–	B	A	–	A	–	–	–	–	–	–	–	A	–
White Oil (Mineral) (Petroleum)		A	X	–	C	A	C	A	–	–	A	A	–	–	–	A	–
Oleum (Fuming sulfuric acid)	H_2SO_4/SO_3	C	–	X	X	A	X	A	X	X	A	–	X	–	X	A	–
Olein (Triolene)	$C_{57}H10_4O_6$	B	–	–	C	A	X	–	–	–	–	–	–	–	–	A	–
0-Dicholobenzene	$C_6H_4Cl_2$	X	–	–	X	A	X	A	X	A	A	–	X	–	–	A	–
Oxalic Acid	$(COOH)_2$	C	A	X	B	A	A	C	B	X	B/90%	B	A	B	A/120°	A	A
Ozone	O_3	X	A	C	B	A	X	A	A/10%	A/10%	A	A	X	A	A	A	–
Paints & Solvents		X	–	–	X	A	–	–	A	–	A	A	–	A	–	A	–
Paint Thinner, DUCO	Hydrocarbons	A	X	–	C	A	C	B	A	–	A	A	X	A	–	A	–
Palmitic Acid	$CH_3(CH_2)_4$ COOH	B	B	A	C	A	A	B	B	B	A	–	A	–	A	A	–
Paraffins (Paraffin Oil)	Hydrocarbons	A	–	–	–	A	A	–	A	–	A	A	A	A	–	A	–
Paraformaldehyde	$(CH_20)_8$	B	–	–	B	A	–	C	A/10%	A	A	A	–	A	–	A	–
Paraldehyde	$C_6H_{12}O_3$	C	A	–	B	A	–	X	A	A	A	A	–	A	–	A	–
Pentachlorethane (Pentalin)	Cl_2 $CHCCl_3$	X	–	–	X	A	–	A	X	A	A	A	–	A	–	A	–
Pentachlorophenol (PCP)	C_6Cl_5OH	X	X	–	X	A	–	A	A	A	A	A	–	A	–	A	–
Pentane (Amyl Hydride)	C_5H1_2	A	X	B	B	A	B	A	A	B	B	A	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Perchloric Acid	$HClO_4$	X	B	X	B	A/70%	X	A	X	X	B	–	–	C	A	A	A
Perchloroethylene (Tetrachloroethylene)	C_2Cl_4	X	X	X	X	A	X	A	X	B	A/90%	B	X	A	A	A	A
Phenethyl Alcohol (Benzyl Carbinol)	$C_6H_5(CH_2)OH$	X	B	–	X	A	–	X	A	A	A	A	–	–	–	A	–
Phenol (Carbolic Acid)	C_6H_5OH	X	C	X	C	A	C	A	B	A	B	A	C	X	A/100%	A	A
Phenol Sulfonic Acid	$C_6H_4(OH)SO_3H$	X	–	–	–	A	–	X	B	B	B	–	–	–	–	A	–
Phenyl Acetate	$CH_3COOC_6H_5$	X	B	–	X	A	–	X	–	–	–	–	–	–	–	A	–
Phenylbenzene	C_6H_5	X	–	–	X	A	C	A	–	–	–	–	–	–	–	A	–
Phenyl Ethyl Ether (Phenetole)	$C_6H_5OC_2H_5$	X	X	–	X	A	C	C	–	–	–	–	–	–	–	A	–
Phenyl Hydrazine	$C_6H_5NHNH_2$	X	X	–	X	A	B	A	A	X	–	–	X	–	A/120°	A	–
Phorone (Diisopropylidene Acetone)	$C_9H_{14}O$	X	C	–	X	A	B	A	–	–	–	–	–	–	–	A	–
Phosphoric Acid																	
10%	H_3PO_4	A	A	–	B	A	A	A	X	X	A	–	A/120°	–	A	A	A
20%	H_3PO_4	C	A	–	B	A	A	A	X	X	A/212°	A	A/120°	–	A	A	A
50%	H_3PO_4	X	A	–	B	A	A	A	X	X	A	C	A/120°	–	A	A	A
Concentrated	H_3PO_4	X	B	X	B	A	C	A	X	X	A/212°	–	A/120°	–	A	A	A
Phosphorus Oxychloride	$POCl_3$	–	–	–	X	A	–	–	B	B	B	B	–	–	–	A	–
Phosphorus Trichloride	PCl_3	X	A	–	X	A	A	A	C	B	A	A	X	–	A	A	A
Photographic Developer		A	–	X	A	–	A	A	C	X	A	A	A	C	A	A	A
Pickling Solution		–	X	X	X	A	A	B	–	–	–	A	–	–	–	A	–
Picric Acid (Carbazotic Acid)	$(NO_2)_3\ C_6H_2OH$	B	B	X	B	A	X	A	A	C	A	B	B	–	A	A	–
Pinene	$C_{10}H_{16}$	B	X	–	X	A	C	A	–	–	–	–	–	–	–	A	–
Piperidine	$C_5H_{11}N$	X	X	–	X	A	B	X	–	–	–	–	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Plating Solution																	
Cadmium		B	–	–	B	A	A	–	–	–	A	–	X	–	B	A	–
Chrome		X	C	–	X	A	A	A	–	–	–	–	X	X	B	A	X
Lead		B	–	–	B	A	A	–	–	–	–	–	A	A	B	A	X
Others		A	A	–	C	A	A	B	–	–	A	–	–	–	–	A	–
Polyvinyl Acetate Emulsion	$PVac = H_20$	–	A	–	C	A	A	–	–	B	B	–	A	–	A	A	–
Potassium Acetate	CH_3CO_2K	B	A	–	B	A	A	X	B/10%	A	B	–	A	–	A	A	–
Potassium Bicarbonate	$KHCO_3$	A	–	–	A	A	A	A	B	B/40%	A/30%	B	A	–	A	A	A
Potassium Bisulfate	$KHSO_4$	A	–	–	A	A	–	A	A/10%	X	A/10%	B	A	–	A	A	–
Potassium Bisulfite	$KHSO_3$	A	–	–	A	A	–	A	B/10%	–	B/10%	–	–	–	–	A	–
Potassium Bromide	KBr	A	A	–	A	A	A	A	A	B/80% 212°	B/90% 212°	A	A	–	A	A	A
Potassium Carbonate (Potash)	K2CO3	A	A	–	A	A	A	A	X	B	B	A	A	B	A	A	A
Potassium Chlorate	$KClO_3$	A	A	–	A	A	A	A	X	B	A/60%	A	A	B	A	A	A
Potassium Chloride	KCl	A	A	–	A	A	A	A	X	B	A	A	A	B	A	A	A
Potassium Chromate	K_2CrO_4	A	–	–	A	A/40%	A	A	A	A	A	–	A	–	A	A	–
Potassium Copper Cyanide	$K_3[Cu(CN)_4]$	A	A	–	A	A	–	A	–	–	–	–	A	–	–	A	–
Potassium Cyanide	KCN	A	A	–	A	A	A	A	C	B	B/90% 212°	B	A	C	A	A	A
Potassium Dichromate	K_2Cr_2O	A	A	–	A	A	A	A	A	A	A	B	A	C	A	A	A
Potassium Hydroxide (Caustic Potash) (Lye)	KOH	B	A	X	B	A	A	B	X	B	A	B	A	C	A/150°	A	A
Potassium Iodide	KI	A	A	–	A	A	A	A	B/10%	–	B	B	A	–	A	A	–
Potassium Nitrate (Saltpeter)	KNO_3	A	A	–	A	A	A	A	A/80%	B	B/80% 212°	B	A	B	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Potassium Nitrite	KNO_2	A	A	B	A	A	A	A	B	B	B	B	A/70°	–	–	A	–
Potassium Permanganate (Purple Salt)	$KMnO_4$	C	A	X	C	A	A	B	A/10%	B	B/30% 212°	A	B	A	A	A	A
Potassium Phosphate	KH_2PO_4	A	A	–	A	A	–	A	X	X	B/30%	B	–	–	–	A	–
Potassium Silicate	K_2Sii2O_5	A	A	–	A	A	–	A	B	B	B	B	–	–	–	A	–
Potassium Sulfate	K_2SO_4	A	A	B	A	A	A	A	B	B	A	A	A	B	A	A	A
Potassium Sulfide	K_2S	A	A	–	A	A	–	A	X	B	B	B	A	–	A	A	A
Potassium Sulfite	$K_2SO_{32}H_2O$	A	A	–	A	A	–	A	A	X	B/50%	–	A	–	A	A	–
Propane (LPG)	C_3H_8	A	X	B	B	A	X	A	A	A	A	A	X	A	A	A	–
Propionaldehyde (Propanal)	C_2H_5CHO	X	–	–	–	A	–	X	A	A	A	A	–	–	–	A	–
Propionic Acid (Methylacetic Acid)	$CH_3CH_2CO_2H$	X	A	–	X	A	A	X	A	X	B	A	B	–	–	A	–
n-Proply Acetate	$CH_3COO\ (CH_2)_2CH_3$	X	A	–	X	A	B	X	A	–	A	A	C	–	A	A	–
Propyl Alcohol (1-Propanol)	$CH_3CH_2CH_2OH$	B	A	–	B	A	A	A	A	A	A	A	A	A	A	A	A
n-Propyl Nitrate (NPN)	$CH_3(CH_2)2NO_3$	A	B	–	–	A	B	C	A	X	–	–	–	–	–	A	–
Propylene	C_3H_6	X	X	–	X	A	B	A	A	A	A	A	–	–	–	A	–
Propylene Dichloride	$CH_3CH(Cl)CH_2Cl$	X	X	–	X	A	–	B	X	A	A	B	–	–	–	A	–
Propylene Glycol (Methyl Glycol)	$C_3H_6(OH)_2$	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A	A
Propylene Oxide	C_3H_6O	–	C	–	X	A	A	X	B	B	A	–	X	–	X	A	–
Pydraul (Phosphate Ester Base Fluid)		X	B	A	X	A	B	A	–	A	A	A	–	–	–	A	–
Pyranol		A	–	–	X	A	–	A	–	–	–	–	–	–	–	A	–
Pyridine	$N(CH)_4CH$	X	C	X	X	A	A	X	A	B	A	A	C	X	X	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Pyroligneous Acid (Wood Vinegar)		C	C	–	C	A	–	A	B	X	A/10%	–	A	–	A	A	–
Pyrrole (Azole)		X	X	–	X	A	C	C	–	–	–	–	–	–	–	A	–
Quaternary Ammonium Salts		A	–	–	A	A	–	A	–	X	A	–	–	–	–	A	–
Rosin	$C_{20}H30_2$	A	–	–	C	A	A	–	A	–	A	A	A	–	–	A	–
Rotenone	$C_{23}H_{22}0$	A	A	–	A	A	–	A	–	–	–	–	–	–	–	A	–
Rubber Latex Emulsions	$(C_5H_8)n/H_20$	–	–	–	–	A	–	A	A	–	A	A	–	–	–	A	–
Rubber Solvents (Petroleum Distillate)	Hydrocarbons	X	–	–	C	A	–	X	A	–	A	A	–	–	–	A	–
Rum	Alcoholic liquor from molasses	A	A	–	A	A	A	B	–	–	A	A	–	–	–	A	–
Rust Inhibitors		A	–	–	C	–	B	A	–	–	A	–	A	–	–	A	–
Salad Dressing	Fats, oils, water	A	–	–	–	–	A	A	B	X	A	–	A	–	–	A	–
Sal Ammonian (Ammonium Chloride)	NH_4CI	A	–	A	A	A	A	A	X	X	A	A	–	X	–	A	A
Sal Soda (Sodium Carbonate)	$NaCO_3$	A	A	–	A	A	B	A	X	A	A	A	–	–	–	A	–
Salicyclic Acid	$HOC_6\ H_4COOH$	B	A	–	B	A	–	B	A	X	B	A	A	–	A	A	–
Salt Water (Brine)	$NaCI/H_20$	A	A	A	B	A	A	A	B	X	A	A	A	–	A	A	–
Sea Water	(Brine)	A	A	A	B	A	A	A	A	C	A	A	A	A	A	A	A
Sewage		A	C	B	B	A	A	A	B	B	A	A	A	–	A	A	–
Silicate Esters	$Si(OR)_4$	B	X	C	A	A	B	A	–	–	–	–	–	–	–	A	–
Silver Cyanide	AgCN	–	–	–	A	A	–	–	X	A	A	A	A	–	A	A	–
Silver Nitrate	$AgNO_3$	B	A	–	A	A	A	A	X	X	A/60%	A	A	A	A	A	A
Skydrol Hydraulic Fluid (Phosphate Ester Base)		X	A	A	X	A	A	C	A	A	A	A	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ^{0}F shown. Where not shown, temperature is 70^0 F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Soap Solutions	Salt of fatty acid in H_2O	A	A	A	B	A	A	A	C	X	A	A	A	A	A	A	A
Soda Ash (Sodium Carbonate)	Na_2CO_3	A	A	B	A	A	A	A	X	A	A	A	–	–	–	A	–
Sodium Acetate	CH_3COONa	C	A	–	C	A	A	X	A	A	A	A	A	A	A	A	A
Sodium Aluminate	$Na_2AL_2O_4$	A	–	–	A	A	A	A	–	A/40%	A/40%	B	A	–	A	A	–
Sodium Bicarbonate (Baking Soda)	$NaHCO_3$	A	A	B	A	A	A	A	B	C	A/20%	A	A	X	A	A	A
Sodium Bisulfite (Niter Cake)	$NaHSO_4$	A	A	B	A	A	A	A	B/50%	C	B/50%	B	A	C	A	A	A
Sodium Bisulfate	NaHSO3	C	A	B	A	A	A	A	B	B/20%	A/50%	B	A	X	A	A	–
Sodium Borate	$Na_2B_4O_7$	A	A	B	A	A	A	A	B	–	A	A	A/140%	C	A	A	A
Sodium Bromide	NaBr	–	–	–	–	A	–	–	C	C	B/30%	B	A	–	A	A	–
Sodium Chlorate	$NaClO_3$	A	A	–	B	A	A	A	B/70% 212⁰	B	B	B	A	B	A	A	A
Sodium Chloride (Table Salt)	NaCl	A	A	A	A	A	A	A	B	B/30%	A	A	A	A	A	A	A
Sodium Chromate	Na_2CrO_4	A	–	A	A	A	A	A	A/80% 212⁰	A/60%	A/60%	A	A	–	A	A	–
Sodium Cyanide	NaCN	A	A	A	A	A	A	A	X	A	A	–	A	C	A	A	A
Sodium Dichromate (Sodium Bichromate)	$Na_2Cr_2O_7 * 2H_2O$	–	A	X	B	A	–	A	–	–	–	–	A	–	A	A	A
Sodium Fluoride	NaF	A	A	–	A	A	–	A	B/30%	–	B/10%	B	A	–	A	A	–
Sodium Hexametaphosphate (Calgon)	$(NaPO_3)$	B	B	–	B	A	–	A	C	B	B	A	A	–	A	A	–
Sodium Hydroxide (Caustic Soda) (Lye)	NaOH	B	A	X	B	A	A	X	X	B/50%	A/50%	B	A	X	A	A	X
Sodium Hypochlorite	NaClO	X	B	X	B	A	A	B	X	X	X	B	X	X	A	A	X

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ^{0}F shown. Where not shown, temperature is 70^0 F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Sodium Metaphosphate (Kurrol's Salt)	$Na(PO_3)H$	B	A	–	C	A	A	A	X	–	B	A	A/70%	B	–	A	–
Sodium Metasilicate	Na_2SiO_3	A	A	–	A	–	A	A	B	–	A	A	A	B	A	A	–
Sodium Nitrate (Chile Saltpeter)	$NaNO_3$	C	A	B	B	A	A	A	A/90%	A/90%	A/90%	A	A	A	A	A	A
Sodium Nitrite	$NaN0_2$	A	–	–	X	A	–	A	A	A	A	A	A	–	A	A	–
Sodium Perborate	$NaBO_3$	C	A	B	B	A	A	A	X	B/10%	A	B	A	B	A	A	–
Sodium Peroxide (Sodium Dioxide)	Na_2O_2	B	B	B	B	A	B	A	B/10%	A/90%	B/10%	B	B	X	A	A	–
Sodium Phosphate (Tribasic (TSP)	Na_3PO_4	B	A	B	B	A	A	A	X	B/167%	B	A	A	–	A	A	–
Sodium Silicates (Water Glass)	$Na_2O * SiO_2$	A	A	A	A	A	A	A	A	A	A	B	A	–	A	A	A
Sodium Sulfate (Salt Cake) (Thenardite)	Na_3SO_4	A	A	A	B	A	A	A	B/30%	B	A	A	A	–	A	A	A
Sodium Sulfide (Pentahydrate)	$Na_2S * {}_5H_2O$	A	A	A	A	A	A	A	A/30% 212°	B	A/30% 167°	B	A	A	A	A	A
Sodium Sulfite	Na_2SO_3	A	A	A	A	A	–	A	A/30%	X	A/30%	B	A	A	A	A	A
Sodium Tetraborate	$Na_2B_4O_7\ {}_{10}H_2O$	A	–	B	–	A	A	A	–	–	A	–	C	–	A	A	A
Sodium Thiosulfate (Antichlor)	$Na_2s_2O_3$	A	A	–	A	A	–	A	A	C	A/122°	B	A	B	A	A	A
Sorgum		A	–	–	A	A	A	–	–	A	A	A	–	–	–	A	–
Soy Sauce	Fermented soya bean/wheat	A	–	–	A	A	A	–	–	X	A	–	–	–	–	A	–
Stannic Chloride (Tin Chloride)	$SnCl_4$	A	B	B	B	A	A	A	X	C	A/10%	A	A	–	A	A	–
Stannous Chloride (Tin Salt)	SnCl4	A	B	B/15%	A	A	–	A	X	B	A/10%	B	A	–	A	A	A
Starch	$C_6H_{10}O_5$	A	B	B	A	A	A	C	A	C	A	A	A	B	–	A	A
Stearic Acid	$CH_3(CH_2)_{16}\ CO_2H$	B	B	B	B/158°	A	A	A	C	C	A	B	A	C	A	A	–
Stoddard Solvent	Petroleum distillate	A	X	A	C	A	X	–	A	A	A	X	A	A	X	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Styrene (Vinylbenzene)	$C_6H_5CHCH_2$	X	X	X	X	A	C	A	A	A	A	A	–	–	A	A	–
Sucrose Solution (Sugar)	$C_{12}H_{22}O_{11}/H_20$	A	A	A	A	A	A	A	A	A	A	A	–	–	–	A	–
Sulfamic Acid	H_2NSO_3H	B	–	A	A	A	–	–	A/10%	X	X	–	X	–	X	A	–
Sulfite Liquors		A	C	B	B	A	A	A	–	–	–	A	–	–	–	A	–
Sulfur	S	X	A	A	B	A	A	A	A	A	A	B	A	A	A	A	A
Sulfur Chloride	S_2Cl_2	C	X	C	X	A	X	A	B	X	B	A	X	–	A	A	–
Sulfur Dioxide	SO_2	X	B	X	A	A	A	A	A	B	A/10%	A	A	B	A	A	A
Sulfur Hexafluoride	SF_6	B	A	A	A	A	B	A	–	–	–	–	–	–	–	A	–
Sulfur Trioxide	SO_3	C	C	X	C	A	C	A	B	B	B	B	X	–	X	A	–
Sulfuric Acid																	
10%	H_2SO_4	B	A	X	A	A	A	A	X	X	A	A	A	–	A	A	–
25%	H_2SO_4	C	B	X	B	A	A	A	X	X	B	A	A	–	A/150°	A	X
50%	H_2SO_4	C	B	X	B	A	A	A	X	X	X	A	A	–	A/150°	A	X
60%	H_2SO_4	X	B	X	C	A	A	A	X	X	X	A	A	–	A/150°	A	X
75%	H_2SO_4	X	C	X	X	A	A	A	X	C	C	A	A	–	A/150°	A	X
95%	H_2SO_4	X	C	X	X	A	A	A	X	B	A	A	X	–	A/120°	A	X
Concentrated	H_2SO_4	X	C	X	X	A	B	A	X	B	B	A	X	–	A/120°	A	–
Fuming	H_2SO_2	X	X	X	X	A	–	B	C	X	B	B	–	–	–	A	–
Sulfurous Acid	H_2SO_3	B	A	C	X	A	A	A	B	X	B	B	A	X	A	A	A
Tall Oil (Liquid Rosin)	Rosin acids	A	X	–	B	A	A	A	X	B/212°	B	A	A	–	A	A	–
Tallow	Fat from cattle, sheep	A	–	–	–	A	B	A	A	–	A	–	B	C	–	A	–
Tannic Acid	$C_{76}H_{52}O_{46}$	C	C	A/10%	B	A	A	A	A	A	A	B	A	X	A	A	A
Tanning Liquors	Tannic acid	A	–	–	B	A	A	–	A	–	A	A	A	X	–	A	–
Tar, Bituminous (Coal Tar) (Pitch)	Mixture of aromatic & phenolic hydrocarbons	B	X	B	C	A	B	A	A	–	A	A	A	A	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Tartaric Acid	$C_4H_6O_6$	B	B	B	A	A	A	A	A/20%	X	A	A	A	X	A	A	A
Terpenes	C_{10} hydrocarbons	C	X	–	X	A	–	A	A	X	–	–	–	–	–	A	–
Terpineol (Terpilenol)	$C_{10}H_{18}O$	C	C	–	X	A	B	A	A	A	A	A	X	–	B/120°	A	–
Teritary Butyl Alcohol	$(CH_3)_3COH$	A	–	–	A	A	B	B	–	–	–	–	B	–	–	A	–
Teritary Butyl Catechol	$C_9H_{14}O_2$	X	–	–	B	A	B	A	C	B	B	–	–	–	–	A	–
Teritary Butyl Mercaptan	$C_4H_{10}S$	X	–	–	X	A	B	A	B	–	–	–	–	–	–	A	–
Tetra Bromomethane	CBr_4	X	–	–	X	A	X	A	X	–	–	–	X	–	–	A	–
Tetrabutyl Titanate	$Ti(C_4H_9)$	B	B	–	A	A	B	A	–	–	–	–	–	–	–	A	–
Tetrachloroethylene	$Cl_2C = CCl_2$	–	–	–	–	A	X	A	B	–	A	A	X	–	A	A	–
Tetrachlorodifluoroethane	$(Cl_2FC)_2$	X	–	–	X	A	–	–	–	–	–	–	–	–	–	A	–
Tetrachloroethane (Acetylene Tetrachloride)	$(Cl_2HC)_2$	X	X	–	X	A	X	A	X	A	C	A	X	A	A	A	–
Tetraethyl Lead	$Pb(C_2H_5)_4$	B	X	–	X	A	C	B	B	A	A	–	A	–	A	A	–
Tetraethylene Glycol (TEG)	$HOCH_2(CH_2OCH_2)_3CH_2OH$	A	–	–	–	A	–	A	–	–	–	–	–	–	–	A	–
Tetrahdrofuran (THF)	C_4H_8O	X	C	C	X	A	X	X	–	–	A	–	C/100°	A	B/70°	A	A
Tetrahydronaphthalene (Tetralin)	$C_{10}H_{12}$	X	X	–	X	A	–	A	A	A	A	A	C	–	–	A	A
Thionyl Chloride	$SOCl_2$	X	X	–	X	A	B	B	X	X	X	A	B	B	X	A	–
Thiopene	C_4H_4S	X	X	–	X	A	–	C	–	–	–	–	–	–	–	A	–
Titanium Tetrachloride	$TiCl_4$	C	X	–	X	A	X	A	X	A	B	B	B	–	B	A	–
Toluene (Toluol)	C_7H_8	C	X	C	X	A	X	B	A	A	A	A	X	B	A	A	A
Toluene Diisocyanate	$CH_3C6H_3(NCO)_2$	–	A	B	X	A	B	A	A	–	–	–	–	–	–	A	–
Toluidine	$CH_3C_6H_4NH_2$	X	–	–	–	A	–	B	A	A	A	A	–	–	–	A	–
Tomato Pulp & Juice		A	–	–	–	A	A	–	B	–	A	A	A	–	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature °F shown. Where not shown, temperature is 70° F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Toothpaste		A	A	–	C	A	–	A	–	X	A	A	A	–	–	A	–
Transmission Fluid (Type A)		A	X	B	C	A	C	A	A	A	A	A	–	–	–	A	–
Triacetin	C_3H_5 $(OCOCH_3)_3$	A	A	–	B	A	A	X	B	–	–	–	–	–	–	A	–
Triallyl Phosphate	$P(OC_3H5)_3$	X	A	–	C	A	–	A	–	–	–	–	B	–	A	A	–
Triaryl Phosphate	$(C_6H_50)_3PO$	X	–	–	C	A	–	A	–	–	–	–	–	–	–	A	–
Tributoxyl Ethyl Phosphate	$(C_4H_9O)_3P(C_2H_5)$	X	A	–	X	A	B	B	–	–	–	–	–	–	–	A	–
Tributyl Phosphate (TBP)	$(C_4H_9)_3PO_4$	X	C	C	X	A	B	X	A	A	A	–	B/100⁰	–	A/100⁰	A	–
Tributyl Mercaptan	$(C_4H_9)_2S$	X	–	–	X	A	–	A	–	–	–	–	–	–	–	A	–
Trichloracetic Acid (TCA)	CCl_3COOH	C	C	X	B	A	B	B	X	X	X	B	B	–	B	A	A
Trichlorobenzences	$C_6H_3Cl_3$	X	–	–	X	A	–	B	X	A	A	B	–	–	–	A	–
Tricloroethane	$C_2H_3Cl_3$	X	X	–	X	A	X	B	X	A	A	A	X	–	A	A	A
Trichloroethylene (Ex-Tri) (Hi-Tri)	C_2HCl_3	X	X	X	X	A	X	C	X	B	A/90% 167⁰	A	X	B	A	A	A
Trichloropropane	CH_2ClCH $ClCH_2Cl$	X	–	–	X	A	X	B	X	X	A	A	X	–	–	A	–
Tricesyl Phosphate (Lindol) (TCP)	$(CH_3C_6H_4O)_3$ PO	X	A	C	C	A	B	C	–	A	B	A	B	–	X	A	–
Triethanol Amine (TEA)	$C_{12}H_{25}$ CH_2OH	X	B	X	A	A	A	C	A	A	A	A	A	B	X	A	A
Trethyl Aluminum (ATE)	$N(C_2H_4OH)_3$	X	–	–	X	A	B	B	–	–	–	–	–	–	–	A	–
Triethyl Amine	$(CH_3CH_2)_3N$	A	–	–	B	A	–	–	–	A	A	A	C	–	A/120⁰	A	–
Triethyl Borane	$(C_2h_5)_3B$	X	–	–	X	A	B	A	–	–	–	–	–	–	–	A	–
Triethylene Glycol (TEG)	$(CH_2OCH_2CHOH)_2$	A	–	–	–	A	–	A	A	–	A	–	A	–	–	A	–
Trimethylene Glycol	$HO(CH_2)_3OH$	A	A	–	–	A	–	A	A	–	A	A	–	–	–	A	–
Trinitrotoluene (TNT)	$CH_3C_6H_2(NO_2)_3$	X	X	–	B	A	A	B	–	–	–	–	–	–	–	A	–

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ⁰F shown. Where not shown, temperature is 70⁰ F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Trioctyl Phosphate	$(C_8H_{17}0)_3PO$	X	A	–	X	A	B	B	–	–	–	–	–	–	–	A	–
Turpentine	$C_{10}H_{16}$	A	X	B	X	A	X	A	A	A	A	A	X	A	A	A	A
Unsymmetrical Dimethyl Hydrazine (UDMH)	$H_2NN(CH_3)_2$	C	A	–	C	A	B	X	–	–	–	–	–	A	A	A	–
Urea (Carbamide)	$CO(NH_2)_2$	B	A	B	B	A	A	A	B	–	B/50%	–	A	–	A	A	A
Urine		A	–	–	X	A	A	A	A	A	A	A	A	A	A	A	–
Valeric Acid	$CH_3(CH_2)COOH$	X	A	–	X	A	–	–	A	–	–	–	–	–	–	A	–
Vanilla Extract (Vanillin)	$C_6H_3(CH0)\ (OCH_3)(OH)$	A	–	–	X	A	–	X	–	–	A	–	–	–	–	A	–
Varnish	Oil,gum resins, oil of turpentine	B	X	–	C	A	–	A	A	–	A	A	A	A	A	A	–
Vegetable Juices		A	–	–	C	A	A	–	C	–	A	–	A	–	–	A	–
Vinegar	Dilute acetic acid	C	A	C	B	A	A	A	C	X	A	A	A	A	A	A	A
Vinyl Acetate	$CH_2C00C\ HCH_2$	X	A	–	B	A	–	X	B	A	A	A	B	–	A	A	–
Vinyl Chloride (Chlorethylene)	CH_2CHCI	X	C	–	X	A	X	A	X	A	A	A	X	–	B	A	–
Water																	
Distilled	H_2O	A	A	A	B	A	A	A	A	C	A	A	A	A	A	A	A
Fresh	H_2O	A	A	A	B	A	A	A	A	A	A	A	A	A	A	A	A
Waxes	Hydrocarbons	A	X	–	A	A	–	–	A	–	A	A	–	A	–	A	–
Weed Killers		B	–	–	C	–	B	A	X	–	A	–	–	–	–	A	–
Whiskey	Ethanol, esters, acids	B	A	B	A	A	A	A	A	X	A	A	A	B	A	A	–
White Sulfate Liquor		B	A	–	A	A	–	B	B	C	A	B	A	–	A	A	–
Wines		A	A	A	A	A	A	B	C	X	A	A	A	–	A	A	–
Wort, Distillery	Sugar solution from malt	–	–	–	A	A	–	A	A	A	B	A	A	B	–	A	–
Xylene (Xylol)	$C_6H_4(CH_3)_2$	X	X	C	X	A	X	A	A	B	B	A	X	–	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ^{0}F shown. Where not shown, temperature is 70^0 F ambient.

CHEMICAL INDEX

A B C D E F G H I J K L
M N O P Q R S T U V W-X-Z

CHEMICAL	FORMULA	Elastomers							Metal				Plastic				
		BUNA N - NBR	NORDEL - EPDM	HYTREL - TPE	NEOPRENE - CR	PTFE	SANTOPRENE	VITON - FPM	ALUMINUM - T356	CAST IRON - FC	STAINLESS STEEL - 316 SS	HASTELLOY	POLYPROPYLENE - PPG	DELRIN (ACETAL)	KYNAR - PVDF	PTFE	RYTON
Xylidines (Xylidin)	$(CH_3)_2C_6H_3NH_2$	–	X	–	X	A	C	X	B	B	–	–	–	–	–	A	–
Zeolite	Hydrated alkali aluminum silciates	C	A	–	C	A	A	A	–	–	A	A	–	–	–	A	–
Zinc Acetate	$Zn(C_2H_3O)_2$	C	A	–	B	A	A	X	C	–	–	–	A	–	A	A	–
Zinc Carbonate	$ZnCO_3$	A	–	–	–	A	–	A	B	B	B	B	–	–	–	A	–
Zinc Chloride	$ZnCl_2$	B	A	A	B	A	A	A	A/10%	B	A/10%	A	A	B	A	A	A
Zinc Hydrosulfite	ZnHSO3	A	–	–	A	A	A	A	X	–	A	–	–	–	–	A	–
Zinc Sulfate	ZnSO4	A	A	X	A	A	A	B	B/20%	X	B	B	A	B	A	A	A

Rating Key: (A) Excellent (B) Good (C) Fair to Poor
(X) Not Recommended (-) No Data Available

Data limited to % concentration and/or temperature ^{0}F shown. Where not shown, temperature is 70^0 F ambient.

CHEMICAL SYNONYMS / ALTERNATE LISTINGS

SYNONYM	LISTED AS: / ALSO SEE:
Acetic Acid Amide	Acetamide
Acetic Acid Ethenyl Ester	Vinyl Acetate
Acetic Acid Ethyl Ester	Ethyl Acetate
Acetic Acid + Methanol	Pyroligineous Acid
Acetic Acid Methyl Ester	Methyl Acetate
Acetic Acid Nitrile	Acetonitrile
Acetic Aldehyde	Acetaldehyde
Acetic Ester	Ethyl Acetate
Acetol	Alcohol Diacetone
Acetyl Benzene	Acetophenone
Acetylene Tetrachloride	Tetrachloroethane
Acryimide	Acetamide
Acrylic Acid	Propionic Acid
Alcohol, 2 Aminoethanol	Ethanolamine
Alum Potash	Potassium Hydroxide
Aluminum Hydrate	Aluminum Hydroxide
Amber Acid	Maleic Acid
Amino Benzene	Aniline
Aminoethane	Ethyl Amine
2-Amino Ethanol	Ethanolamine
Aminomethane	Methyl Amine
2-Amino 2-Methyl Propanol	Butyl Amine
Ammonia Liquors	Ammonium Hydroxide Water
Amyl Hydride	Pentane
Amylurn	Starch
Animal Fat	Butter
Animal Fat	Tallow
Ant Oil	Furan
Apple Acid	Malic Acid
Aragonite	Calcium Carbonate
ASTM Reference Fuel A	Isooctane 100%
ASTM Reference Fuel B	70% Isooctane + 30% Toluene
ASTM Reference Fuel C	50% Isooctane + 50% Toluene
Azine	Pyridine
Azotic Acid	Nitric Acid
Baking Soda	Sodium Bicarbonate
Benzene	Benzol
Benzene Carbonal	Benzaldehyde
Benzene Carboxylic Acid	Benzoic Acid
Benzine	Ligroin
Benzoic Acid Chloride	Benzoyl Chloride
Benzol	Benzene
Benzyl Ether	Dibenzyl Ether
Biscofite	Magnesium Chloride
Bitumen	Asphalt
Bituminous/Coal Tar	Creosote
Blank Fixe	Barium Sulfate
Bleaching Powder Solutions	Calcium Hypochlorite
Blue Copperas	Copper Sulfate
Blue Verdigris	Copper Acetate
Blue Vitriol	Copper Sulfate
Boletic Acid	Fumaric Acid
Boehmite	Aluminum Hydroxide
Boracid Acid	Boric Acid
Bromomethane	Methyl Bromide
Brucite	Magnesium Hydroxide

SYNONYM	LISTED AS: / ALSO SEE:
Butanoic Acid	Butyric Acid
Butanol	Butyl Alcohol
2-Butanone	Methyl Ethyl Ketone
Butenal	Butyraldehyde
1 -Butene	Butylene
2-Butene	Butylene
cis-Butenedioic Acid	Maleic Acid
Buthylene	n-Butane
2-Butoxyethanol	Butyl Cellosolve
Butyl Citrate	n-Hexane-1
Butyl Phthalate	Dibutyl Phthalate
Butylene Glycol	1,3 Butanediol
Caliche Liquors	Potassium Nitrate
Carbamide	Urea
Carbinol	Methanol
Carbolic Acid	Phenol
Carbon Bisulfide	Carbon Disulfide
Carbonyl Diamide	Urea
Caustic Baryta	Barium Hydroxide
Caustic Lime	Calcium Hydroxide
Caustic Potash	Potassium Hydroxide
Caustic Soda	Sodium Hydroxide
Cellosolve Acetate	Ethylene Glocol Monoethyl Ether Acetate
Cellosolve Butyl	Ethylene Glycol Monobutyl Ether
Chile Nitrate	Sodium Nitrate
Chile Saltpeter	Sodium Nitrate
Chinawood Oil	Tung Oil
Chlorinated Lime	Calcium Hypochlorite
2 Chloro-1, 3 Epoxypropane	Epichlorohydrin
2 Chloro-1, 3-Butadiene	Allyl Chloride
Chloroazotic Acid	Aqua Regia
Chlorobenzol	Chlorobenzene
Chlorobutane	Butyl Chloride
Chlorodifluoromethane	Freon 22
Chloroethane	Ethyl Chloride
Chloroethanoic Acid	Chloroacetic Acid
2-Chloroethanol	Chloroethyl Alcohol
Chloroethene	Vinyl Chloride, Monomer
Chloroethylene	Vinyl Chloride
Chloromethane	Methyl Chloride
Chloronitric Acid	Aqua Regia
Chloropentafluoroethane	R1 15 (see Freons Misc.)
Chloropentane	Amyl Chloride
3-Chloropropene	Allyl Chloride
Chlorotoluene	Benzyl Chloride
Chlorotrifluoromethane	Freon 13
Coal Tar	Creosote
Copperas	Ferrous Sulfate
DBT	Dibutyl Phthalate (DBP)
DEA	Diethanolamine
Denatured Alcohol	(Ethyl Alcohol) Ethanol
1,2 Diaminoethane	1,2-Ethylene Diamine
Dibenzofuran	Diphenyl Oxide
1,2 Dibromoethane	Ethylene Dibromide
Dibromotetrafluoroethane	R 114132 (see Freons Misc.)
Dibutyl Ether	Butyl Ether

CHEMICAL SYNONYMS / ALTERNATE LISTINGS

SYNONYM	LISTED AS: / ALSO SEE:
Dichlorodifluoro Methane	Freon 12
Dichloromethane	Methylene Chloride
Dichloro Monofluoromethane	Freon 21
Dichloropropane	Propylene Dichloride
Dichlorotetrafluoroethane	Freon 114
Diethyl-2, 2-Dihydroxyamine	Diethanolamine
Di-2-Ethylhexylphthalate	D ioctyl phtha late
Diethyl Sulfate	Ethyl Sulfate
Diethylene Glycol Mono Ethyl Ether	Carbitol
Diethylene Glycol Monobutyl Ether	Butyl Carbitol
m Digallic Acid	Tannic Acid
Dihydrogen Dioxide	Hydrogen Peroxide
Dihydroxyamine	Diethanolamine
Dihydorxybenzene	Hydroquinone
Dihydroxybutanedioic Acid	Tartaric Acid
Dihydroxydiethyl Ether	Diethylene Glycol
Dihydroxyethane	Ethylene Glycol
Diisopropyl Ether	Isopropyl Ether
Dimethylbenzene	Xylene
2.6- Dimethyl 4 Heptane	Diisobutyl Ketone
Dimethyl Ketone	Acetone
Dimethyl Methane	Propane
Dimethyle	Ethane
Dioxysuccinic Acid	Tartaric Acid
Diphenyl Ether	Diphenyl Oxide
Dipropyl	Hexane
DMF	Dimethyl Formamide
DMP	Dimethyl Phthalate
DOP	Dioctyl Phthalate
EMK	Methyl Ethyl Ketone
1,2- Epoxyethane	Ethylene Oxide
Epoxypropane	Propylene Oxide
Ethanal	Acetaldehyde
Ethanediamine	Ethylene Diamine
1,2- Ethanediol	Ethylene Glycol
Ethaneodionic Acid	Oxalic Acid
Ethanoic Acid	Acetic Acid
Ethanoic Anhydride	Acetic Anhydride
Ethanol	Alcohol, Ethyl
Ethanolamine	Monoethanolamine
Ethanonitrile	Acetonitrile
Ethanoyl Chloride	Acetyl Chloride
Ethene	Ethylene
Ethenyl Benzene	Styrene
Ether	Diethyl Ether
2- Ethoxy Ethanol	Cellosolve
2- Ethoxy Ethanol	Ethyl Cellosolve
2,2- Ethoxy Ethoxy Ethanol	Carbitol
Ethoxy Ethyl Ester Acetic Acid	Cellosolve Acetate
Ethoxyethyl Acetate	Cellosolve Acetate
Ethyl Butanoate	Ethyl Butyrate
Ethyl Chloroacetate	Chloroacetic Acid
Ethyl Ethanoate	Ethyl Acetate
1- Ethyl-4 Ethyl Benzene	Ethyl Benzene
Ethyl Ethylene	n- Butane
Ethyl Methyl Ketone	Methyl Ethyl Ketone
Ethyl Perchlorate	Perchloric Acid
Ethyle	Acetylene
Ethylene	Ethane

SYNONYM	LISTED AS: / ALSO SEE:
Ethylene Bromide	Ethylene Dibromide
Ethylene Glycol Monobutyl Ether	Butyl Cellosolve
Ethylene Glycol Monoethyl Ether	Methyl Cellosolve
Ethylene Glocol Monoethyl Ether Acetate	Cellosolve Acetate
Ethylene Trichloride	Trichloroethylene
Ethylic Acid	Acetic Acid
Ethyrene	Butadiene
ETO	Ethylene Oxide
Flaxseed Oil	Oil, Linseed
Formylamine	Formamide
Formylic Acid	Formic Acid
Fructose	Sucrose
Furfuran	Furan
2- Furyl Methanol	Furfural Alcohol
Galotannic Acid	Tannic Acid
Glaubers Salt	Sodium Sulfate
Glycerin	Glycerol
Glycol	Ethylene Glycol
Glycol Ethylene	Ethylene Glycol
Glycol Mono Ethyl Ether	Ethyl Cellosolve
Glycolic Acid	Hydroxyacetic Acid
Glycolic Methyl Chlorophenoxy Acetic Acid	Hydroxyacetic Acid
Gypsum	Calcium Sulfate
HCL	Hydrochloric Acid
Heptanone	Di isobutyl ketone
Hexadecanoic Acid	Palmetic Acid
Hexadiene	Diisobutylene
Hexahydrobenzene	Cyclohexane
Hexamethylene	Cyclohexane
Hexanedioic Acid	Adipic Acid
Hexanol	Alcohol Hexyl
2- Hexanone	Methyl Butyl Ketone
Hexone	Methyl Isobutyl Ketone
Hi-Tri	Trichloroethylene
Hydrated Lime	Calcium Hydroxide
Hydrocyanic Acid	Prussic Acid
Hydrogluosilicic Acid	Fluosilicic Acid
Hydrogen Chloride	Hydrochloric Acid
Hydrogen Cyanide	Hydrocyanic Acid
Hydrogen Dioxide	Hydrogen Peroxide
Hydrogen Fluoride	Hydrofluoric Acid
Hydrogen Oxide	Water
Hydroxyacetic Acid	Glycolic Acid
2-Hydroxy-Benzene Sulfonic Acid	Phenol Sulfonic Acid
2-Hydroxybenzoic Acid	Salicylic Acid
4-Hydroxy-Methyl-2 Pentone	Diacetone Alcohol
2-Hydroxy-1,2,3-Propane Tricarboxylic Acid	Citric Acid
Hydroxy Propanoic Acid	Lactic Acid
Hydroxysuccinic Acid	Malic Acid
Hydroxy Toluene	Alcohol Benzyl
Hypo Photographic Solution	Sodium Thiosulfate
Iodine	Iodum
IPA	Alcohol, Isopropyl
Isobutanol	Alcohol, Iso Butyl
Isooctane	ASTM Reference Fuel A
Isopropanol	Alcohol Isopropyl
Isopropyl Benzene	Cumene
Isovalerone	Diisobutyl ketone

CHEMICAL SYNONYMS / ALTERNATE LISTINGS

SYNONYM	LISTED AS: / ALSO SEE:
Ketchup	Catsup
Ketohexamethylene	Cyclohexanone
Ketone	Isophorone
Lard	Butter
Lard Oil	Animal Gelatin
Levulose	Sucrose
Lime	Calcium Oxide
Lime Sulfur	Calcium Sulfide
Limewater	Calcium Carbonate
Lineoleic Acid	Stearic Acid
LPG	Propane
Lye	Sodium Hydroxide
Lye	Calcium Hydroxide
Lye	Potassium Hydroxide
Magnesium Sulfate	Epsom Salts
Marsh Gas	Methane
Mazola	Oil, Corn
MEA	Monoethanolamine
MEK	Methyl Ethyl Ketone
Methanal	Formaldehyde
Methanoic Acid	Formic Acid
Methanol	Alcohol Methyl
Methyl Benzene	Toluene
Methyl Benzoic Acid	Cresylic Acid
Methyl Butanol	Alcohol Amyl
Methyl Chloroform	Trichloroethane
Methyl Cyanide	Acetonitrile
Methyl Ether	Dimethyl Ether
Methyl Isobutyl Carbinol	Alcohol Methyl Amyl
4-Methyl-2 Pentanone	Methyl Isobutyl Ketone
m Methyl Phenyl Ketone	Acetophenone
2-Methyl Propenoic Acid Methyl Ester	Methyl Methacrylate
Methyl Polysiloxanes	Oil Silicone
2- Methyl Propanol	Alcohol t- Butyl
MIBK	Methyl Isobutyl Ketone
MIL-S-313613 type I	ASTM Fuel A, Isooctane
MIL-S-313613 type III	ASTM Fuel B
MIL-H-5606	Red Oil & FHA & J43
MIL-J-5624	Jet Fuel JP3, JP4 & JP5
Milk Acid	Lactic Acid
Milk of Lime	Calcium Carbonate (Lime Water)
Milk of Magnesia	Magnesium Hydroxide
Monobrometrifluoromethane	Freon 13B1 (see Freons Misc.)
Monochlorobenzene	Chlorobenzene
Monochlorodifluoromethane	Freon 22
Monochlorotrifluoromethane	Freon 13
Monochloropentafluoroethane	Freon 115 (see Freons Misc.)
Monoethylamine	Ethylamine
Monofluorotrichloromethane	Freon 11
Muriatic Acid	Hydrochloric Acid
Natural Gas	75–99% Methane, 0.3–18% Nitrogen, 0.2–14% Ethane, 0–26% Carbon Dioxide, 0.1–12% Higher Hydrocarbons
Neu-Tri	Trichloroethylene

SYNONYM	LISTED AS: / ALSO SEE:
Niter	Potassium Nitrate
Niter	Sodium Nitrate
Niter Cake	Sodium Bisulfate
Nitrobenzine	Ligroin
Nitrobenzol	Nitrobenzene
Nitrochloric Acid	Aqua Regia
Nitrohydrochloric Acid	Aqua Regia
Octadecanoic Acid	Stearic Acid
Octanoic Acid	Caprylic Acid
1- Octanol	Alcohol Octyl
Octoic Acid	Caprylic Acid
Oil of Mirbane	Nitrobenzene
Oil of Turpentine	Turpentine
Oil of Bitriol	Sulfuric Acid, Concentrated
Oleum	Surfuric Acid, Fuming
Orthoboric Acid	Boric Acid
Orthodichlorobenzene	o- Dichlorobenzene
Oxirane	Ethylene Oxide
Pearl Ash	Potassium Carbonate
	Pentachloroethane
Pentalin	Alcohol Amyl
Pentanol	Methyl Propyl Ketone
2-Pentanone Perchloroethylene	Tetrachloroethylene
Petroleum Ether	Ligroin
Phene	Benzene
Phenol	Carbolic Acid
Phenyl Amine	Aniline
Phenyl Chloride	Chlorobenzene
Phenyl Ethane	Ethyl Benzene
Phenyl Ether	Diphenyl Oxides
Phenyl Ethylene	Styrene
Phenol Sulfonic Acid	Benzene Sulfonic Acid
Phosphoric Acid Triphenyl Ester	Tricesy Phosphate
Photographic Emulsion	Silver Notrate
Photographic Hypo Fixing Bath	Sodium Thiousulfate
Picric Acid	Trinitrophenol
Pimlic Ketone	Cyclohexanone
Potash	Potassium Carbonate
Potash Caustic	Potassium Hydroxide
Potassium Bichromate	Potassium Dichromate
Potassium Nitrate	Niter
Propane	LPG
Propane	Dimethyl Methane
1,2- Propanediol	Propylene Glycol
Propanoic Acid 2-Hydroxy	Lactic Acid
Propanoic Acid Nitrile	Acetophenone
2- Propanone	Acetone
Propanol	Propyl Alcohol
Propene	Propylene
Propenoic Acid Methyl Ester	Methyl Acetate
Propenoic Acid Notrile	Acrylonitrile
Propenyl Alcohol	Allyl Alcohol
Propionic Acid	Acrylic Acid
Propionic Acid Ethyl Ester	Ethyl Acrylate
Propylene Glycol	1,2- Propanediol
Prussic Acid	Hydrocyanic Acid
Quicklime	Calcium Carbonate
RP1	Jet Fuel JP1
Sal Ammonia	Ammonium Chloride
Sal Ammonian	Ammonium Chloride
SalSoda	Sodium Carbonate

CHEMICAL SYNONYMS / ALTERNATE LISTINGS

SYNONYM	LISTED AS: / ALSO SEE:
Salicylic Acid	2 Hydroxy Benzoic Acid
Salt	Sodium Chloride
Salt Brine	Brine
Salt Cake	Sodium Sulfate
Saltpeter	Potassium Notrate
Saltpeter	sodium Notrate
Sand Acid	Fluorosilicic Acid
Silicate Ester Oils	OS45 type III & IV
Silicate of Soda	Sodium Silcate
Skydrol 500, 500B & 500B4	Isooctyl Diphenyl Phosphate Hydraulic Fluids
Sludge Acid	Sewage
Soda Ash	Sodium Carbonate
Soda, Caustic	Sodium Hydroxide
Soda Niter	Aqueous Sodium Nitrate
Sodium Hexametaphosphate	Calgon
Sodium Metaborate Peroxyhydrate	Sodium Perborate
Sodium Niter	Sodium Nitrate
Sodium Thiosulfate	Developing Fluid
Soluble Glass	Sodium Silicate
Soya Oil	Oil Soy
Succinic Acid	Maleic Acid
Sulfuric Acid Diethyl Ester	Ethyl Sulfate
Sulfuric Chlorohydrin	Chlorosulfonic Acid
Super Phosphoric Acid	100-115% Phosphoric Acid
Synthetic Natrual Rubber	Latex
Table Salt	Sodium Chloride
Tannin	Tannic Acid
Tar Camphor	Naphthalene
TEA	Triethanolamine
Tetrachloroethylene	Perch loroethylene
Tetrachloromethane	Carbon Tetrachloride
Tetrafluoromethane	Freon 14 (see Freons Misc.)

SYNONYM	LISTED AS: / ALSO SEE:
Tetramethylene Oxide	Tetrahydrofuran
Tin (11) Chloride	Stannous Chloride
Tin Dichloride	Stannous Chloride
Tin Tetrachloride	Stannic Chloride
Titanic Chloride	Titanium Tetrachloride
TNT	Trinitrotoluene
Trans-Butenedoic Acid	Fumaric Acid
Traid	Trichloroethylene
Trichlorofluoromethane	Freon 113
Trichloromethane	Chloroform
Trifluoromonobromomethane	Freon 13131 (see Freons Misc.)
3,4,5- Trihydroxy Benzoic Acid	Gallic Acid
2,2,4- Trimethyl Pentane	Isooctane 100%
2,2,4- Trimethyl Pentane	Diisobutylene
2,4,6- Trinitrophenol	Picric Acid
Turps	Turpentine
Type I Fuel MIL-S-3136	ASTM Reference Fuel A
Type III Fuel MIL-S-3136	ASTM Reference Fuel B
UDMH	Unsymetrical Dimethyl Hydrazine
Vanillin	Vanilla Extract
Varsol	Mineral Oil
Vinyl Cyanide	Acrylonitrile
Vitriol, Blue	Copper Sulfate
Vitriol, Oil of	Concentrated Sulfuric Acid
Water Glass	Sodium Silicate
Whale Oil	Oil Sperm
White Vitriol	Zinc Sulfate
Wood Alchohol	Alcohol Methyl
Wood Tar	Creosote-Wood Tar
Zeolitic	Zeolite

MANUFACTURER / PRODUCT REFERENCE

NAME	MANUFACTURER	PRODUCT
Actron 1		Refrigerant
Aero Lubriplate	Fish Brothers	Lubricant
Aerosafe 2300 & 2300W	Stauffer	
Aeroshell IIAC & 750	Shell Oil Co.	
Aeroshell 7A &17	Shell Oil Co.	Grease
Airshow W		Deicing Fluid
Alk-Tri		Trichloroethylene
Ambrex 33 & 830	Mobil Oil Co.	Lubricating Oil
Anderol L-774, 826 & 829	Tenneco Chemicals	Diester Base Oil
ANG-25	Texaco	Diester Base & Glycerol Ester
Ansul Ether 161 & 181	Fire Engineers Inc.	
AN-0-3 Grade M	GAF Corp.	E.P. Grease
AN-0-6	GAF Corp.	Oil No. 6
AN-0-366	GAF Corp.	Oil
Arklone P		Trichlorotrifluoroethylene
Aro-Tox		Spray
Arochlor 1248, 1254 &1260	Monsanto	F.R. Chlorinated Hydraulic Fluid
Askarel	Monsanto	Chlorinated Transformer Oil
Astral Oil	D.A. Stewart Oil Co.	Lubricating Oil
Atlantic Utro Gear		E.P. Lubricant
Atlantic Dominion F		
Aurex: 903R	Mobil Oil	
Bardol B	Bardahl Manufacturing Co.	Oil Additives Bayol D & 35
Blackpoint 77		
Bonderite		Parkerizing Solution
Borax	Borax Corp.	Sodium Tetraborate
Bray GG-130	Bray Oil Co.	
Brayco 7119-R, 885 &910	Bray Oil Co.	
Bret 710		
Brom-1 13 &114		
Bunker C		6000 Second Fluid Oil
Calgon		Sodium Hexametaphosphate
Cellosolves	Union Carbide	Alcohols
Celluguard		
Cellulube	Celenese Corp.	Phosphate Ester Oils
Cellulube A60	Celanese Corp.	Triaryl Phosphate Ester
Cellulube 90, 100, 200, 220, 300, 500 & 1000	Celenese Corp.	Phosphate Ester Lubricants
Cellutherm 2505A	Celanese Corp.	Trimethylol Propane Ester
Chlorextol	Allis-Chalmers	Transformer Oil
Chlordane		
Chlorox	Clorox Co.	Sodium Hypochlorite
Chlorowax	Diamond Shamrock	Liquid Chlorinated Parafin
Circo Light Processing Oil	Sunmark Industries	
City Service Kool Motor		A.P. Gear Oil
City Service Pacemaker No. 2		Glycol FR 15, 20 & 25
City Service 65, 120, & 250		
Convelex 10		
Coolanol 25 & 45	Monsanto Co.	Dielectric Heat Transfer Fluid
Cryolite		
Cryscoat FH. Rinse, L.T. & S. W.	Oakite Products	Phosphate Coatings
Cryscoat 42, 87, 89 & 89M	Oakite Products	Phosphate Coatings
DC-200, 500 & 710	Dow Corning	Silicone Fluids
Delco Brake Fluid	General Motors	Hydraulic Fluids
Dextron	General Motors	Automatic Transmission Fluid
Diazon		Insecticide
Dow Chemical 50-4, ET588 & ET378	Dow Chemical	

MANUFACTURER / PRODUCT REFERENCE

NAME	MANUFACTURER	PRODUCT
Dow Corning Oil 3, 4 & 11	Dow Corning Corp.	Silicone Fluids
Dow Corning 5, 33, 44, 55, 220, 510, 550, 704 & 705	Dow Corning Corp.	Silicone Fluids
Dow Corning 1265	Dow Corning Corp.	Fluorosilicone Fluid
Dow Corning 1208, 4050, 6620, F-60 & XF-60	Dow Corning Corp.	Chlorinated Silicone Fluid
Dow Corning F-61	Dow Corning Corp.	
Dow General Weed Killer	Dow Chemical	Phenol & Water Base Weed Killer
Dow Gage Fluid R-200	Pressure Gage Fluid	
Dow Per	Dow Chemical Co.	Dry Cleaning Fluid
Dow Purifloc C-31	Dow Chemical Co.	
Dowanols	Dow Chemcial Co.	Glycol Ethers
Dowtherm A	Dow Chemcial Co.	Heat Transfer Fluid 26.5% Diphenyl, 73.5% Diphenyl Oxid
Dowtherm B	Dow Chemical Co.	
Dowtherm E & 209	Dow Chemical Co.	Heat Transfer Fluid
Dowtherm S.R. I	Dow Chemical Co.	Heat Transfer Fluid
Drinox	Morton Chemical Co.	
DTE 23-26 & 950	Mobil Oil	Light, Medium & Heavy Hydraulic Oils
DTE Light Oil	Mobil Oil	Lubricating Oil
Duco, Paint Thinner	Dupont Co.	Paint Thinner
Elco 28	Detrex Chemical Industries	E.P. Lubricant
Esso Fuel 208	Exxon Corp.	
Esso Golden Gasoline	Exxon Corp.	Gasoline
Esso Transmission Fluid	Exxon Corp.	Automatic Transmission Fluid
Esso WS2812	Exxon Corp.	MIL-L-7808A
Esso XP90	Exxon Corp.	E.P. Lubricant
Esso Turbo Oil	Exxon Corp.	Turbine Oil Esstic 42 & 43
Ex-Tri	Exxon Corp.	Ethylene Trichloride
Exxon 2380 Turbo Oil	Dow Corning	Turbine Oil F-60 & 61
FC-43		Heptacosoflourotributylamine
FC75	3M Co.	Fluorocarbon
Fluorolube	Hooker Chemical Co.	
Freon	E.I. Du Pont Co.	Fluorocarbon Refrigerants
Fyrquel 90, 100, 150, 220, 300, 500, 550 & A60	Stauffer Chemical	F.R. Hydraulic Fluids
Genesolve D	Allied Signal	Trichlorotrifluoroethane
Genesolve 2000	Allied Signal	Solvent HCFC 141 B
Genklene	Icl	Chlorinated (1,1,1-Trichloroethane)
Girling Brake Fluid	Lucas Service	Brake Fluid
Gulf Endurance Oils	Gulf Refining	Lubricating Oil
Gulf FR Fluids	Gulf Refining	F.R. Fluids
Gulf FR G-Fluids G1 00, 150, 200 & 250	Gulf Refining	F.R. Fluids
Gulf FIR P-Fluids P37, 40, 43, 45 & 47	Gulf Refining	FR. Fluids
Gulf Harmony Oils	Gulf Refining	Oils
Gulf High temperature Grease	Gulf Refining	H.T. Grease
Gulf Legion Oils	Gulf Refining	Oils
Gulf Paramont Oils	Gulf Refining	Oils
Gulf Security Oils	Gulf Refining	Oils
Gulfcrown Grease	Gulf Refining	Grease
Hannifin Lube A	Parker Hannifin	
Hi-Lo MS No. 1		
Hi-Tri	Ethylene Trichloride	
Hollingshead H-2	E.F. Houghton & Co.	Water & Ethylene Glycol
Houghto-Safe 271 & 600	E.F. Houghton & Co.	MIL-H-27072 Water & Glycol Base
Houghto-Safe 271 & 600	E.F. Houghton & Co.	Water & Glycol Based MIL-H-27072
Houghto-Safe 416 & 500	E.F. Houghton & Co.	
Houghto-Safe 1010, 1055 & 1120	E.F. Houghton & Co.	MIL-H-19547 Phosphate Ester Base

MANUFACTURER / PRODUCT REFERENCE

NAME	MANUFACTURER	PRODUCT
Houghto-Safe 5040	E.F. Houghton & Co.	Water & Oil Emulsion
Houghto-Safe 5040	E.F. Houghton & Co.	Petroleum Base
Hydro-Drive MIH50 & MIH10	E.F. Houghton & Go.	Petroleum Base
Hydrolube		Water & Ethylene Glycol
Hypoid Lubes		Hypoid Gear E.P Lubes
Hy Kil No. 6		
Hyjet	Chevron	Phosphate Ester
Igepal	Gaf	Surfactant
Irus 902		
Isopar G	Exxon Corp.	Solvent
Karo	CPC International	Syrup
Kel-F Liquids	3M Co.	Fluorocarbon Liquids
Kester No. 1544		Soldering Flux
Keystone No. 87HX	United Refining Co.	Grease
Klenzade		Sanitizer
Lestoil	Lestol	Detergent
Lehigh X1 169 & X1 170	Lehigh	
Lindoil		Phosphate Ester Hydraulic Fluid
Lindol	Stauffer Chemical Co.	FR. Plasticizer
Liqui-Moly	Lockney Co.	Oils & Greases
Lubrite		Parkerizing Solution
Ludox		
Lysol	National Laboratories	Cleanser Master Kill
Mazola		Corn Oil
MCS 312, 352 & 463	Monsanto	Jet Lubricant
MIL-L-210413		Motor Oil SAE 10W
MIL-L-7808	Exxon P15A	Diester No. 15 Turbine Oil
MIL-S-3136B Type I		ASTM Reference Fuel A
MIL-S-313613 Type 11		ASTM Reference Fuel B
MIL-H-5606		High Energy Fuel A & J-43
Mil-J-5624F		JP4 & JPS Jet Fuel
MIL-L-7808C		Dibasic Ester
MIL-L-7808E	Braco 880D	
MIL-L-7808E	Stauffer Jet I	
MIL-L-7808G		Ester Blend Oil
MIL-C-8188C		Diester Fluid
MIL-H-844613		MLO-8515 Silicone Fluid
MIL-L-1410713		Silicate Ester Oil
MIL-L-17672B		Turbine Oil
MIL-L-11945713		F.R. Fluid, Phosphate Ester
MIL-L-23699		Neopentyl Ester Oil
MIL-G-25013D		Silicone Grease
MIL-F-25558		RJ1 Ram Jet Fuel Petroleum Based
MIL-F-2555813		R.11 Ram Jet Fuel Petroleum Based
MIL-F-25576C		RP1 Rocket Fuel Petroleum Based
MIL-F-25656		JP6 Jet Fuel
MIL-L-46000A		Diester Oil
MIL-S-81087A		Chlorinated Phenyl Silicone Fluid
Mineguard FIR		F.R. Hydraulic Fluid
MLO-7277 & MLO-7557		Hydraulic Fluid
MLO-8200		Silicone Fluid
MLO-8515		MIL-H-8446B Silicone Fluid
Mobil Delvac 1100, 1110, 1120, 1130	Mobil Co.	
Mobil HF	Mobil Co.	
Mobil Nyvac 20 & 30	Mobil Co.	
Mobil Therm 600	Mobil Co.	
Mobil Velocite C	Mobil Co.	
Mobil XRM 206A	Mobil Co.	

MANUFACTURER / PRODUCT REFERENCE

NAME	MANUFACTURER	PRODUCT
Mobil24DTE	Mobil Co.	
Mobilgas WA200 ATF	Mobil Co.	Automatic Transmission Fluid
Mobiloil SAE20	Mobil Co.	SAE 20W Oil
Mobilux		
Mopar	Chrysler Corp.	Hydraulic Fluid
Navee	Deicing Fluid	
Nitrana 2 & 3		
Noryl	General Electric Co.	Thermoplastic
Oakite Solutions	Oakite Product	Fluids (Cleaners/Strippers Typ.)
Oronite 8200	Chevron Chemical	Disiloxane Hydraulic Fluid
Oronite 8515	Chevron Chemical	Hydraulic Fluid 85% Disiloxane, 15% Diester
OS45 & OS70	Monsanto	Silicate Ester Base
Par-Al-Ketone (Paralketone)	Black Bear Co. & Emco Chemical Co.	
Paraplex G62	Rohm & Haas Co.	
Parapoid 10-C	Exxon Chemical Co.	Hypoid Gear Oil
Parker O-Lube	Parker Hannifin	Grease
Parker Super O-Lube	Parker Hannifin	Silicone Grease
Penda Oil		Dibasic Ester Oil
Perclene		Perchloroethylene
Perklone		Perchloroethylene
Permachlor		Degreasing Solution
Polyol Ester		Hydraulic Fluid
Prestone	Union Carbide	Antifreeze
PRL	Rohm & Haas Co.	High Temperature Hydraulic Oil
PRL & PRL3161	Rohm & Haas Co.	High Temperature Oil
Pydraul 29E-LT, 30E, 50E, 65E & 90E	Monsanto	Phosphate Ester Oils
Pydraul 115	Monsanto	Phosphate Ester Oils
Pydraul 230C, 300, 312, 540C & MC	Monsanto	Phosphate Ester Oils
Pydraul F9 & 150	Monsanto	Aryl Phosphate Ester Hydraulic Fluid
Pyranol	General Electric	Chlorinated Transformer Oil
Pyrex	Corning Glass Works	High Temp. & Low Expansion Glass
Pyroguard	Mobil Oil	F.R. Oils
Pyrolube	Kano Laboratories	High Temperature Lubes
Red Line 100	Union Oil Co. Of California	Oil
Richfield A & B	Richfield Oil Co.	Weed Killer
RJ-1 (MIL-F-25558)		Ram Jet Fuel Petroleum-Based
RP-1 (MIL-F-25576A)		Rocket Fuel Petroleum-Based
Sanitizer 160	Monsanto	F.R. Additive
Santosafe 300	Monsanto	
Separan NP-10	Dow Chemical	Flocculant
SF 96, SF 1147, SF 1153, SF 1154	General Electric	Silicone Fluid
Shell Alvania Grease No. 2	Shell Oil Co.	Grease
Shell Camea 19 & 29	Shell Oil Co.	
Shell DD	Shell Oil Co.	
Shell Diala	Shell Oil Co.	
Shell Irus 902 & 905	Shell Oil Co.	F.R. Hydraulic Fluid
Shell LO Hydrax 27 & 29	Shell Oil Co.	
Shell Macome 72	Shell Oil Co.	
Shell Tellus 22 & 23	Shell Oil Co.	F.R. Hydraulic Fluid Petro. Based
Shell Turbine Oil 307	Shell Oil Co.	Turbine Oil
Shell LIMF	Shell Oil Co.	
Shell 3XF Mine Fluid	Shell Oil Co.	FR. Hydraulic Fluid
Skelly Solvent B, C & E	Getty Refining	Solvent
Skydrol 500, 500B & 500134	Monsanto	Isooctyl Diphenyl Phosphate Hyd. Fluid
Skydrol 7000	Monsanto	Hydraulic Fluid
Skydrol LD-4	Monsanto	
Socony Mobil Type A	Mobil Oil Co.	Transmission Fluid

MANUFACTURER / PRODUCT REFERENCE

NAME	MANUFACTURER	PRODUCT
Socony Vacuum AMV AC781	Mobil Oil	Grease
Socony PD959B	Mobil Oil	
Solvasol 1, 2, 3, 73 & 74		
Spry		Shortening
Standard Oil Mobilube GX90-EP	Mobil Oil	Gear Lube
Stauffer 7700	Stauffer Chemical Co.	
Sunoco All Purpose Grease	Sunmark Industries	A.P Grease
Sunoco SAE 10	Sunmark Industries	
Sunoco 3661	Sunmark Industries	
Sunoco XS-820	Sunmark Industries	E.P. Lubricant
Sunsafe	Sun Refining	F.R. Hydraulic Fluid
Supershell Gas	Shell Oil Co.	Gasoline
Swan Finch E.P Lube	Swan Finch	E.F Lubricant
Swan Finch Hypoid 90	Swan Finch	Hypoid Gear E.P. Lubricant
Tellus	Shell Oil Co.	F.R. Hydraulic Fluid
Texaco Capell A & AA	Texaco	
Texaco Meropa 220 No Lead	Texaco	Gasoline
Texaco Regal B	Texaco	
Texaco Uni-Temp Grease	Texaco	Grease
Texaco 3450	Texaco	Rear Axel Oil
Texamatic A	Texaco	Automatic Transmission Fluid
Texamatic 1581, 3401, 3525 & 3528	Texaco	Transmission Fluid Texas 1500 Oil
Therminol 44, 45, 60, 66 & VP-1		H.D. Concentrate
Thiokol TP-90B & TP-95		
Tidewater Multigear 140		E.P Lubricant
Tidewater Oil, Beedol		Oil
Triad		Trichloroethylene
Triklone		Trichloroethylene
Turbine Oil No. 15	Exxon Corp.	Turbo Oil 15
Ucon Hydrolube J-4	Union Carbide	
Ucon Lubricant 135, 285, 300X, 625 & 1145	Union Carbide	
Ucon Lubricant 50-HB55, H13100, H13260, HB660	Union Carbide	
Ucon Oil LB65, LB385 & 40OX	Union Carbide	
Ucon Oil 50-HB28OX	Union Carbide	Polyacrylon Glycol Derivative
Univis 40 Hydraulic Fluid	Exxon Corp.	Hydraulic Fluid
Univis J43	Exxon Corp.	MIL-H-5606 F.R. Oil
Univolt No. 35	Exxon Corp.	Mineral Oil, Transformer Oil
Varsol	Mineral Spirits Solvent	
Vasoline	Chesebrough-Ponds, Inc.	Petroleum Jelly
Versilube F44, F50 & F55	General Electric	Silicone Hydraulic Fluid
VV-H-910		Glycol Brake Fluid
Vythene		1,1,1-Trichloroethane Solvent
Wagner 21 B	Wagner Div. McGraw Edison	Brake Fluid
Wemco C		Tranformer Oil

One of the more difficult task in selecting a pump for long, trouble free service is the proper choice of both wetted and non-wetted pump components. Pump components wear, and the trick is to get the longest life from the wearing parts. Knowing how to handle abrasive, and non-lubricating fluids, with additional thought given to handling corrosives, will lead to proper wetted materials selection.

When selecting a pump for corrosive service most use chemical compatibility charts and graphs for selecting and recommending pump materials of construction. These charts; at best, are meant as ever so general guidelines. Practical experience, and past history will dictate the use of certain materials with various fluids.

On slightly aggressive fluids it may be more advantages from a service life/dollar view point to use a material which; while not the preferred material, has been determined capable of offering satisfactory results. When discussing diaphragm pumps, Teflon; for example, while the preferred material when handling Amyl-Alcohol, has a lower flex life rating than neoprene which has a “B” vs. “A” chemical compatibility rating but, offers the higher flex life of the two. The “B” rating indicates the neoprene will perform, however; shortened flex life will be a result. When comparing the two materials Teflon vs. Neoprene, on this application the neoprene may not reach its mean flex life, however; should the obtained flex life be all that of Teflon, it would be considered the wiser choice. When lesser rated materials offer the same life expectancy as the preferred materials, they may be the viable alternative for the investment, as with the case of Amyl-Alcohol where the replacement price of Teflon is quadruple that of the neoprene.

When discussing pump components which see corrosive fluids at high velocities erosion will occur faster than the lower velocity areas of a pump. Erosion is accelerated by corrosion. When faced with choosing a “B” rated material versus an “A” rated material the affects of erosion as related to specific pump components should be considered.

A common misconception when handling abrasives, and solids in suspension is their sharpness; ability to cut. When selecting diaphragms and valve balls for a diaphragm pump sharp particulate will have a tendency to cut a Teflon diaphragm and embed in a Teflon valve ball. Should the diaphragm pump incorporate metallic valve seats the Teflon valve ball with embedded solids will accelerate valve seat wear. Elastomeric balls and sets being resilient will permit sharp particulate to “bounce” or reflect off their surface. While cutting and embedding can occur it will be reduced.

On diaphragm and plunger pumps using ball and valve seat arrangements the hardness of the ball and seat materials will affect their ability to pull a vacuum. A hard valve ball checking on a hard metallic valve seat is noisy and does not offer the sealing ability of hard to soft; Teflon or metal, to elastomeric combination.

The application itself will dictate the choice of materials on occasion. Should high static lifts and vacuums be experienced the chances of cavitation exist. A progressive cavity pump when addressed with cavitation will result in pitting and removal of material from the elastomeric stator. Operated dry for a short period of time the rotor, stator combination will be completely destroyed. The same is true with coatings and linings of pump components. When encountering the implosions created during cavitation expensive coatings are cratered and linings a pulled from their base.

A statement commonly made in the positive displacement pump circle is “oversize, operate slower”. While there is some merit to the verbiage, it must be made with a degree of knowledge of the application and the equipment. There is no doubt a larger pump operating at lower speeds; providing it meets all the application criteria, will out service a smaller pump running faster. Recognizing the competitive marketplace both user and manufacturer are faced with, it is not practical, nor financially beneficial to merely substitute large for small. However; when the service life versus investment ratio becomes to high, the decision can now be justified. Unfortunately; faced with the risk of losing business, or exceeding a budget, many of those recommending and supplying positive displacement pumps recognize only the investment portion of the equation.

These scenarios are typical when selecting materials of construction. Decisions should be based on a materials estimated life expectancy, down-time, complexity of repair, and costs; not necessarily in this order.

YTS Industrial Diaphragm Pumps

Head Office, 598-10 Monoi, Yotsukaido-City, Chiba
Japan, 284-0012