

physical sciences data 7

liquid-liquid equilibrium and extraction

a literature source book

Part B

jahme wisniak and abraham tamir

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תן להבם ויחבם עוד הודע לצדיק ויוסף לקח.
משלי ט' 9

GIVE INSTRUCTION TO A WISE MAN, AND HE WILL BE
YET WISER ; TEACH A JUST MAN, AND HE WILL
INCREASE IN LEARNING.

Proverbs 9:9

To

Anita, Daniel, Debora, Miriam and Ariel Wisniak

Dalia, Idan, Guy and Hadas Tamir

Part B of this literature source book contains an up-date of the material included in Part A, all compounds from CM100 to Z and the solvents.

GUIDE TO TABLES

The sequence of systems in the Tables is based on the empirical convention used in Chemical Abstracts. The compounds are arranged in order of increasing C and H, with the remaining compounds in alphabetical order. For a given leading compound, the binaries are reported first, followed by ternary, quaternary, etc., systems. In order to save space the cross reference has been divided in two categories: (1) For simple liquid-liquid equilibrium a particular system may be reached through any of its components, (2) for extraction data, reference is made only to the compound(s) being extracted. At the end of the book the solvents are again listed together with the global formula of the solutes for which data are available.

An arbitrary classification formula has been assigned to those compounds that do not have a specified composition, or the few that have too long a global formula. A dictionary is provided for their identification. The reader is requested to familiarize himself with the dictionary before using the tables. Many references do not identify the isomer, hence the reader is advised to check all the components having the same global formula.

All references are provided with their Chemical Abstract numbers. This should prove useful for journals that are difficult to obtain.

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AC100 ACETAMINOPHENCL-4 ALKYL DERIVATIVES
AC110 ACETATE ESTERS
AC120 ACETATE SOLUTION
AC130 ACETIC ACID CHLOROC-SUBSTITUTED
AC140 ACETYL FENICILLIN
AC145 ACHOLEPLASMA LAIDLAWII MEMBRANE
AC150 ACID 810
AC160 ACID MEDIUM
AC170 ACID MEDIUM, CHLORIDE AQUEOUS MEDIUM
AC180 ACIDIC DYES
AC190 ACIDS
AC200 ACRYFLAVINE
AC210 ACRYLONITRILE-STYRENE COPOLYMER
AC220 ACTINIDES
AD100 ADAMANTANETHIOL O-HYDROXYPHENYL PHOSPHATE ESTER
AD110 ADAMANTANOL O-HYDROXYPHENYL PHOSPHATE ESTER
AD120 ADAMANTYL ALCCOL O-HYDROXYPHENYL PHOSPHATE ESTER
AD130 ADDITIVES
AD140 ADENOVIRUS DNA
AD150 ADOGEN 363
AD160 ADOGEN 364
AD170 ADOGEN 365
AD180 ADOGEN 368
AD200 ADOGEN 464
AD210 ADP
AF100 AFLATOXINS
AG100 AGAR
AG110 AGLYCONE A9-DIME-D
AG120 AGLYCONE A9-HO-HE-A
AL050 ALAMINE OXIDE
AL100 ALAMINE 300
AL105 ALAMINE 308
AL110 ALAMINE 336
AL120 ALAMINE 336-S
AL130 ALBUMIN
AL140 ALCOHOL OR CHLOROFORM
AL150 ALCOHOL SULFATE SOLUTIONS
AL160 ALCOHOLS
AL170 ALCOHOLS C10, C17-HYDROCARBONS C19 MIXTURE
AL180 ALCOHOLS C1-C10
AL200 ALCOHOLS C4-C8
AL210 ALCOHOLS C5-C10
AL230 ALCOHOLS C8, C10, C16-HYDROCARBONS C18 MIXTURE
AL235 ALDEHYDES
AL240 ALIPHATIC ACIDS
AL250 ALIPHATIC ACIDS C7-C9
AL260 ALIPHATIC ACIDS METHYL ESTER
AL270 ALIPHATIC ALCOHOLS
AL280 ALIPHATIC ALCOHOLS C6-C10 NORMAL
AL300 ALIPHATIC ALCOHOLS MIXTURE C6-C8
AL310 ALIPHATIC AMINES C7-C9
AL320 ALIPHATIC AMINES MIXTURE
AL330 ALIPHATIC CARBOXYLIC ACIDS C7-C9
AL340 ALIPHATIC HYDROCARBONS
AL350 ALIPHATIC KETONES
AL360 ALIPHATIC MONOCARBOXYLIC ACIDS
AL370 ALIPHATIC MONOCARBOXYLIC ACIDS C7-C9
AL380 ALIPHATIC MONOCARBOXYLIC ACID, BRANCHED
AL400 ALIQUAT 336
AL410 ALIQUAT 336 S-I
AL415 ALIQUAT 336-ON
AL420 ALIQUAT 336-S
AL430 ALIQUAT 4
AL440 ALKALI BROMIDES
AL450 ALKALI HALIDES
AL460 ALKALI NITRATES MOLTEN
AL470 ALKALI SULFIDE SOLUTIONS
AL480 ALKALIES
AL500 ALKALIMETAL SALTS
AL510 ALKANESULFONATES C12-C18
AL520 ALKOXYETHANOL-2
AL525 ALKYL ACETATES
AL530 ALKYL ACID PHOSPHATES
AL540 ALKYL SULFIDES
AL550 ALKYL SULFOXIDE
AL560 ALKYL SULFOXIDES MIXTURES
AL570 ALKYLAMINES
AL580 ALKYLAMINES C10-C12
AL600 ALKYLAMINES C10-C13
AL610 ALKYLAMINES C17-C20
AL620 ALKYLAMMONIUM CITRATE
AL630 ALKYLAMMONIUM FLUORIDES
AL640 ALKYLAMMONIUM NITRATE
AL650 ALKYLAMMONIUM SALTS
AL660 ALKYLANTILINES
AL670 ALKYL BENZENE SULFONATES
AL680 ALKYL BENZYLAMMONIUM NITRATE
AL690 ALKYL BENZYLOTHEYLAMMONIUM CHLORIDE
AL700 ALKYLMALEIMIDES
AL710 ALKYL MERCAPTOSULFOLANE-3

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AL720 ALKYLPHENOLS
AL730 ALKYLPHENOLS C6-C9
AL740 ALKYLPHENOLS C8-C9
AL750 ALKYLPHOSPHONATE
AL760 ALKYLPHOSPHORIC ACIDS
AL770 ALKYLPIRIDINIUM IODIDE
AL780 ALKYLTHIOURONIUM THIOCYANATE C10-C16
AL800 ALKYLTRIMETHYLAMMONIUM CHLORIDE
AL810 ALPHA-CHYMOTRYPSINOGEN
AL820 ALPHA-DITHIONAPHTHCLATES
AL830 ALPHA-FLUPENTHIXOL
AL840 ALPHA-METHYLAMINO CYME
AL850 ALUMINUM CHLORIDE-LITHIUM CHLORIDE MOLTEN
AL860 ALUMINUM CITRATE COMPLEX
AM100 AMBERLITE LA-1
AM110 AMBERLITE LA-2
AM120 AMBERLITE XE
AM130 AMBERLITE XE-204
AM135 AMBERLITE XLA3
AM140 AMERICAN PETROLEUM
AM150 ANINE ANP TECHNICAL
AM160 ANINE XE-204
AM170 ANINES
AM180 ANINES LONG CHAIN
AM200 ANINOPARAFFIN HYDROCHLORIDE
AM210 ANINOXIDES
AM220 AMINO-6-PENICILLANIC ACID
AM230 AMMONIUM CARBONATE OR AMMONIUM SULFATE SOLUTIONS
AM240 AMMONIUM NITRATE-LITHIUM NITRATE EUTECTIC
AM250 AMP
AM260 AMSCO
AM270 AMSCO DILUENT
AM280 AMSCO 125-82
AM300 AMSCO 125-82 SOLVENT
AM310 AMSCO-125
AN100 ANTONIC DYES
AN110 ANTONIC SURFACTANTS
AN120 ANTONS
AN130 ANP COLLECTOR
AN140 ANP-1 COLLECTOR
AN150 ANP-2 COLLECTOR
AQ100 AQUEOUS ACETATE-CHLORIDE MEDIUM
AQ110 AQUEOUS CHLORIDE SOLUTION
AQ120 AQUEOUS CHLORIDE/BISULFITE SOLUTIONS
AQ130 AQUEOUS CHLORIDE,NITRATE,CARBONATE OR HYDROXIDE SOLUTION
AQ140 AQUEOUS ETHANOL
AQ150 AQUEOUS HALIDE SOLUTION
AQ160 AQUEOUS HYDROGEN CHLORIDE
AQ170 AQUEOUS IODIDE SOLUTION
AQ180 AQUEOUS ISOPROPANOL
AQ200 AQUEOUS LITHIUM BROMIDE
AQ210 AQUEOUS LITHIUM CHLORIDE
AQ220 AQUEOUS LITHIUM IODIDE
AQ230 AQUEOUS LITHIUM NITRATE
AQ235 AQUEOUS NITRIC ACID
AQ240 AQUEOUS ORGANIC SOLUTION OF NITRIC ACID
AQ250 AQUEOUS PERCHLORATE SOLUTION
AQ260 AQUEOUS PHOSPHATE SOLUTION
AQ270 AQUEOUS PHOSPHORIC ACID
AQ280 AQUEOUS POLAR NONELECTROLYTES SOLUTION
AQ300 AQUEOUS POTASSIUM CHLORIDE
AQ310 AQUEOUS POTASSIUM NITRATE
AQ320 AQUEOUS SALT SOLUTION
AQ330 AQUEOUS SODIUM CARBONATE
AQ340 AQUEOUS SULFATE SOLUTION
AR100 ARHEEN 10
AR110 ARHEEN 18-0
AR112 AROCLOR 1016
AR114 AROCLOR 1242
AR116 AROCLOR 1248
AR118 AROCLOR 1254
AR120 AROMATIC HYDROCARBONS
AR125 AROMATIC MIXTURE
AR130 AROMATIC OIL
AR140 ARQUAD 2HT-75
AR150 ARSENAZO
AR160 ARSENAZO I
AR170 ARSENAZO III
AR180 ARSENIC ACID-CATECHOL COMPLEX
AS100 ASPIRIN,RING-SUBSTITUTED
AT100 ATP
AZ100 AZEPINAMIDE
AZ110 AZO DYES
BA100 BABASU OIL
BA110 BAKERS YEAST
BA120 BARBITURIC ACID DERIVATIVES
BA130 BARIUM DIALKYLDITHIOPHOSPHATE
BA140 BARIUM PICRATE COMPLEX
BA150 BARIUM(II) NAPHTHENATE
BA160 BARLEY ALBUMIN

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BA170 BASALT
BA180 BASIC DYES
BA200 BASIC MEDIUM
BA210 BASIO YUNQUOISE
BE100 BENZALDEHYDE DERIVATIVES
BE110 BENZENE CUT, 50-95 DEGREES BOILING RANGE
BE120 BENZENE DERIVATIVES
BE130 BENZODIAZEPINES
BE140 BENZOQUINONE-1,4 DERIVATIVES
BE150 BENZYL PENICILLIN
BE160 BENZYLALKYLAMINES
BE170 BENZYLTRIBUTYLAMMONIUM SALTS
BE180 BERYLLIUM FLUORIDE-LITHIUM FLUORIDE EUTECTIC
BE200 BERYLLIUM PICRATE COMPLEX
BE210 BETA-FLUPENTHIXOL
BE220 BETA-LACTOGLOBULIN
BI100 BILE SALTS
BI105 BIPHENYL-NAPHTHALENE EUTECTIC
BI110 BIPHENYL-O-BIPHENYL BENZENE-M-BIPHENYL BENZENE EUTECTIC
BI120 BIPHENYL-O-TERPHENYL-M-TERPHENYL EUTECTIC
BI130 BISBENZIMIDAZOLE DERIVATIVES
BI140 BISMUTH HALO COMPLEX
BI150 BISMUTHOL DERIVATIVES
BI160 BISMUTH(III) NAPHTHENATE
BI170 BISMUTH-LEAD ALLOY MOLTEN
BI180 BISMUTH-LITHIUM ALLOYS
BI200 BIS(BENZENESULFONYL)BENZAMICAZONE
BI210 BIS(P-CHLORO-O-PHOSPHONOPHENYLazo)-2,7-CHROMOTROPIC ACID
BI220 BIS(1,2-DICARBOLLYL)COBALT(III) ANION
BI230 BITUMENOUS COAL
BO100 BONE GREASE
BO110 BOVINE SERUM
BO115 BORATE ANION UNIVALENT, POLYHEDRAL
BO120 BOVINE SERUM ALBUMIN
BR100 BRADYKININ-POTENTIATING PEPTIDES
BR110 BRANCHED MONOCARBOXYLIC ACIDS
BR120 BRIGHT STOCK
BR130 BROMIDE SOLUTION
BR140 BROMIDES
BR150 BROMOCARBOXYLIC ACID
BR160 BROMOCOPPER(III) COMPLEX
BU100 BUFFER
BU110 BUTEX
BU120 BUTHALITAL
BU130 BUTTERFAT
BU140 BUTYL VINYL ETHER-MALEIC ANHYDRIDE COPOLYMER
BU150 BUTYLCELLULOSE
BU160 BUTYRYL PENICILLIN
CA100 CADMIUM GLUTATHIONATE
CA110 CADMIUM HALIDE COMPLEX
CA120 CADMIUM HALIDES
CA130 CADMIUM THIOCYANATE COMPLEX
CA140 CADMIUM(III) NAPHTHENATE
CA150 CAERULOPLASMIN
CA160 CALCIUM PICRATE COMPLEX
CA170 CALCIUM PYRUVATE ISONIAZONE
CA175 CALENDULA FLOWERS
CA180 CAMMELLIA OIL
CA200 CAPRIQUAT
CA210 CAPRONYL PENICILLIN
CA220 CAPRYL PENICILLIN
CA230 CARBENICILLIN
CA240 CARBOWAX 400
CA250 CARBOWAX 550
CA260 CARBOWAX 750
CA270 CARBOXYLIC ACIDS
CA280 CARBOXYLIC ACIDS BRANCHED, C8-C9
CA300 CARBOXYLIC ACIDS C7-C9
CA305 CARBOXYLIC ACIDS C7-C9 MOLTEN
CA310 CARBOXYLIC ACIDS C9-C11
CA320 CASEIN
CA330 CASTOR OIL
CA340 CASTOR OIL HYDROXYMETHYL ESTERS
CA350 CATIONIC BLUE 3
CA360 CATIONIC RED VIOLET
CA370 CATIONS
CE100 CEFAMANDOLE NAFATE
CE110 CELLULOSE ACETATE
CE120 CELLULOSE DIACETATE
CE130 CELLULOSE DIACETATE-STYRENE GRAFT COPOLYMER
CE140 CELLULOSE TRIACETATE
CE150 CELLULOSE TRICAPRYLATE
CE160 CELLULOSE TRICARBANILATE
CE170 CEPHALORIDINE
CE180 CERIUM(III) NAPHTHENATE
CE200 CESTUM PICRATE COMPLEX
CH100 CHLORIDE AND BROMIDE SOLUTION
CH110 CHLORIDE OR NITRATE SOLUTION
CH120 CHLORIDES
CH130 CHLORIDE-SULFATE SOLUTIONS
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CH140	CHLORIDE-THIOCYANATE SOLUTION
CH150	CHLORO(5)-2-HYDROXY-3-(2-HYDROXY-1-NAPHTHYLAZO)BENZENESULFONIC ACID
CH160	CHLORO(5)-3-(2,4-DIHYDROXYPHENYLAZO-2-HYDROXYBENZENESULFONIC ACID
CH170	CHLORPENTAZIDE
CH180	CHLORPHENIRAMINE TANNATE
CH200	CHLORPROPAMIDE
CH210	CHLORPYRIFOS
CH220	CHOLESTERYL ESTER
CH230	CHONDROITIN-2-SULFATE
CH240	CHROMIUM(III) NAPHTHENATE
CH250	7-CHLORO-1,3-DIHYDRO-5-PHENYL-(2,2,2-TRIFLUOROETHYL)-2H-1,4-BENZODIAZE
	PIN-2-ONE
CH260	7-CHLORO-5-(2-FLUOROPHENYL)-1,3-DIHYDRO-3-HYDROXY-1-METHYL-2H-1,4-BENZ
	ODIAZEPIN-2-ONE
CH270	7-CHLORO-5-(2-FLUCROPHENYL)-1,3-DIHYDRO-3-HYDROXY-2H-1,4-BENZODIAZEPIN
	-2-ONE
CH280	7-CHLORO-5-(2-FLUOROPHENYL)-1,3-DIHYDRO-3-HYDROXY-1-(2-HYDROXYETHYL)-2
	H-1,4-BENZODIAZEPIN-2-ONE
CH290	7-CHLORO-(2-DIETHYLAMINO)ETHYL)-5-(2-FLUOROPHENYL)-1,3-DIHYDRO-3-HYDR
	OXY-2H-1,4-BENZODIAZEPIN-2-ONE
CI100	CITRATE
CI110	CITRUS ESSENTIAL OILS
CL050	CLOFLUPEROL
CL100	CLOMETHOCILLIN
CL110	CLOPIMOZIDE
CL120	CLOXACILLIN
CL130	CLUPEINE
CM100	CMF
CO100	COBALT OXALATE COMPLEX
CO110	COBALT TETRATHIOCYANATE(II) COMPLEX
CO120	COBALT(II) CYANIDE COMPLEX
CO130	COBALT-IRON-DIMETHYLGLYOXIME COMPLEX
CO135	COCONUT HUSKS
CO140	COCONUT OIL
CO150	CODEINE DERIVATIVES
CO160	COO-LIVER OIL
CO170	COLOPHONY
CO180	COMPLEXING AGENTS
CO200	COMPLEXING ANIONS
CO210	COPPER CHLORIDE-POTASSIUM CHLORIDE MELT
CO220	COPPER CYANIDE(I) COMPLEX
CO230	COPPER SULFIDE-IRON SULFIDE MIXTURE
CO240	CORN OIL
CO250	CORN OIL METHYL ESTERS
CO260	COTTONSEED OIL
CO270	COTTONSEED OIL DIGLYCERIDE
CO280	COTTONSEED OIL MONOGLYCERIDE
CO300	CO-HEMOGLOBIN
CO310	CO-HEMOGLOBIN HUMAN
CR100	CREDOSITE
CR110	CRESOL 40/60
CR120	CROTONALDEHYDE-VINYLPYRROLIDONE COPOLYMER
CR130	CROTONIC ACID-VINYLPYRROLIDONE COPOLYMER
CR140	CRYSTAL OIL
CU100	CUCURBIT OIL
CU110	CUPROUS CHLORIDE-POTASSIUM CHLORIDE EUTECTIC
CU120	CUPROUS HYDROGEN CHLORIDE
CY100	CYCLIC ADENYLATE
CY110	CYNNAMYLAIDENE DERIVATIVES
CY120	CYTOCHROME-C
DA100	DAUNORUBICIN D9-BUA
DA110	DAUNORUBICIN D9-DIMED
DA120	DAUNORUBICIN D9-MOMEA
DA130	DAUNORUBICIN D-DIMETHYLGLYCINE
DA140	DAUNORUBICIN D-DIMETHYLGLYCINEGLYCINE
DA150	DAUNORUBICIN D-GLYCINE
DA160	DAUNORUBICIN D-PRCPYLGLYCINE
DE100	DEOBASE
DE110	DEOXYRIBONUCLEIC ACID
DE120	DEWAXED OILS
DE130	DEXTRAN
DE140	DEXTRAN-POLYETHYLENE GLYCOL
DI100	DIACETYLCELLULOSE ACETATE
DI110	DIALIFOR
DI120	DIALKYL PHOSPHATES C5-C12
DI130	DIALKYL PHOSPHONATES
DI140	DIALKYL SULFIDES
DI150	DIALKYL DIMETHYLAMMONIUM CHLORIDE
DI160	DIALKYL DITHIOPHOSPHORIC ACID
DI170	DIALKYL METHYLBENZYLAMMONIUM SALTS
DI180	DIALKYL MCNOCARBOXYLIC ACID C11-C19
DI200	DIALKYL PHOSPHORIC ACID
DI210	DIALKYL(1,3)-1,3-PROPANEDIONE
DI220	DIANTIPYRYLMETHANE TETRATHIOCYANATOZINCATE
DI230	DICHLOFENTHION
DI240	DICLOXACILLIN
DI250	DIESEL OIL
DI260	DIETHYLAMINO-2-ETHYL-3-FLUORO-5-CHLORO-6-METHOXYBENZAMIDE
DI270	DIGESTIVE ENZYMES
DI280	DIHALO-5,7,8-HYDROXYQUINOLINE

DI300 DIHYDROCYNAMIC ACID ESTER DERIVATIVES
DI310 DIKETONES
DI320 DILUTED HYDROCARBON OIL SULFOXIDES
DI330 DIMETHYLBENZENE CUT, 124-150 DEGREES BOILING RANGE
DI340 DIMETHYLBENZYLALKYLAMMONIUM CHLORIDE
DI350 DIMETHYLDIALKYLAMMONIUM CHLORIDE
DI360 DIMETHYL-2,4,2,4-DIOLS
DI370 DIMYRISTOYL LECITHIN
DI380 DIMYRISTOYL PHOSPHATIDYLCHOLINE
DI400 DINITROBENZENE-3,5-PENICILLIN
DI410 DINITROPHENYL-2,4-PENICILLIN
DI420 DIOLEYL PHOSPHATIDYLCHOLINE
DI430 DIPHENYL-NAPHTHALENE EUTECTIC
DI440 DISTEAROYLPHOSPHATIDIC ACID
DI450 DITHIOCYANOTETRAKIS(PICOLINE)COBALT(III) COMPLEX
ON100 DNA
ON110 DNA-RNA HYBRIDS
OO100 DODECENYL(TRIALKYL METHYL) AMINE
OO105 DONOR ADDITIVES
OO110 DOWEX 50WX12
EC100 ECHINOMYCIN
EE100 EEL-MUSCLE OIL
EG100 EGG LECITHIN
EL100 ELECTROLYTES
EN100 ENOLASE
EN110 ENT-KAURENOIC ACID
ER100 ERGOT ALKALOIDS
ER110 ERYTHROCYTES
ES100 ESTERS
ET100 ETHOXYCARBONYLALKYLANILINES
ET110 ETHYL ESTERS OF 5-HYDROXY-1-ARYL-4-PYRIDONE-2-CARBOXYLIC ACIDS
EU100 EUROPIUM(III) NAPHTHENATE
FA100 FATS
FA110 FATTY ACID MIXTURE
FA120 FATTY ACIDS
FA130 FATTY ACIDS C1-C4
FA140 FATTY ACIDS C7-C9
FA145 FATTY ACIDS C10-C16
FA150 FATTY ACID-ETHYLENE OXIDE ADDUCTS
FE100 FERMENTATION LIQUORS
FE110 FERROUS SULFAMATES
FI100 FICOLL
FI110 FISH OIL
FL100 FLAVORING OILS
FL110 FLOXACILLIN
FL120 FLUCLOXACILLIN
FL130 FLUORIDE SOLUTION
FL140 FLUORIDES
FL150 FLUORINE COMPLEXES
FL160 FLUOROBORATES
FL170 FLUOROLUBE FS
FO025 FOOD BLACK
FO050 FOOD BLUE 1
FO100 FOOD BLUE 3
FO110 FOOD RED 7
FO120 FOOD RED 8
FO130 FOOD YELLOW 4
FU100 FUEL OIL
FU110 FUSEL OIL
FU120 FUSEL OIL PHOSPHATE
GA100 GANGLIOSIDES
GA110 GAS CONDENSATE
GA120 GAS OIL
GA125 GAS OIL II
GA130 GASOLINE
GA140 GASOLINE FRACTIONS
GE100 GELATIN
GE110 GENTAMICIN
GE120 GENTAMICIN B
GH100 GHOSTS
GI100 GIBBERELLIN A1 TO A29
GL100 GLUCOCORTICOID RECEPTOR COMPLEX
GL110 GLUCOSE ISONTAZONE
GL120 GLYCEROL POLYETHYLENE GLYCOL ETHER
GL130 GLYCEROL POLYPROPYLENE GLYCOL ETHER
GL140 GLYCOSAPINGLYCANS-HEXADECYLPYRIDINIUM CHLORIDE COMPLEX
GM100 GMP
GR100 GRAPESEED OIL
GR110 GRAPESEED OIL FATTY ACIDS
GU100 GUANIDINE DERIVATIVES
GU110 GULF BT PUREX
GU120 GUTTA-PERCHA
GU130 G-6-PD-PEG CONJUGATE
HA100 HAFNIUM THIOCYANATE COMPLEX
HA110 HALIDE OR THIOCYANATE IONS
HA120 HALOGEN AND HALIDE
HA130 HALOGEN ANIONS
HA140 HALONITROBENZENE ISOMERS
HA150 HALOPERIDIDE
HA160 HAMAMELIS LEAVES

HE100 HEAVY OIL
 HE110 HEMOGLOBIN
 HE120 HEMOGLOBIN, HUMAN
 HE130 HEMPSEED OIL
 HE140 HEPTYL PENICILLIN
 HE150 HETACILLIN
 HE160 HEXABROMORHENATE(II) COMPLEX
 HE170 HEXACHLORORHENATE(II) COMPLEX
 HE180 HEXOKINASE
 HI050 HIGH LEVEL WASTE
 HI100 HIGHER ALCOHOLS
 HI110 HISTONE
 HO100 HOSTAREX DK 16
 HU100 HUMAN ERYTHROCYTES
 HU110 HUMAN SERUM ALBUMIN
 HU115 HUMAN SERUM PROTEIN
 HU120 HUMIC ACID
 HX100 HX-70
 HY100 HYAMINE-1622
 HY110 HYDROCARBON MIXTURES
 HY120 HYDROCARBON OIL SULFOXIDES
 HY130 HYDROCARBON OIL SULFOXIDES, UNDILUTED
 HY140 HYDROCARBON SULFOXIDE
 HY150 HYDROCARBONS
 HY160 HYDROPHOBIC MEMBRANE PROTEINS
 HY170 HYDROPHOBIC ORGANIC CATIONS
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 HY200 HYDROXOCOBALAMIN
 HY210 HYDROXYACIDS
 HY215 HYDROXYCODEINE ESTERS
 HY217 HYDROXYOXIME ABF
 HY220 HYDROXYPHOBIC ANIONS
 HY230 HYDROXY-2-ALKYLBENZOPHENONE-4
 HY240 HYDROXY-2-ALKYLBENZOPHENONE-4 OXIME
 HY250 HYPOGLYCEMIC SULFONYLUREAS
 IN100 INACTIN
 IN110 INDIUM(III) NAPHTHENATE
 IN120 INDOEOSINE
 IN130 INORGANIC ADDITIVES
 IN140 INORGANIC ANIONS
 IN150 INSULIN
 IO100 IODINE HALIDE
 IO110 IONS
 IO120 3-(4-IODOPHENYL)-2-(4-NITROPHENYL-5-PHENYLTETRAZOLIUM CHLORIDE
 IP100 IPOMBA
 IR100 IRIIDIUM CYANIDE COMPLEX
 IR110 IRIIDIUM(III) CARBONYL COMPLEX
 IR120 IRIIDIUM(III) IODO COMPLEX
 IR130 IRIIDIUM(III) CXOSULPHATO COMPLEX
 IR140 IRIIDIUM(III) SULPHATO COMPLEX
 IR150 IRIIDIUM(IV) BROMIDE COMPLEX
 IR160 IRIIDIUM(IV) FLUORIDE COMPLEX
 IR170 IRON HEXATHIOCYANATE(II) COMPLEX
 IR180 IRON OXALATE COMPLEX
 IR200 IRON TETRATHIOCYANATE(II) COMPLEX
 IR210 IRON(III) CYANIDE COMPLEX
 IR220 IRON(II) CYANIDE COMPLEX
 IR230 IRON-IRON SULFIDE MELT
 IR240 IRON(IV) CYANIDE COMPLEX
 IS100 ISOLEUCYL-TRNA SYNTHETASE
 KA100 KANAMYCIN
 KE100 KELEX-100
 KE110 KELEX-120
 KE120 KEROSENE
 KE130 KEROSENE FRACTIONS
 KE140 KETOBISULFIDES
 KE150 KETONES
 KE160 KETOSULFIDES
 LA050 LACTIC ACID SOLUTION
 LA100 LANTHANIDES(III)
 LA110 LANTHANIDS INTERMEDIATE
 LA120 LANTHANUM(III) NAPHTHENATE
 LA130 LARD MONOGLYCERIDES
 LE050 LEAD DIACETATE AQUEOUS SOLUTION
 LE100 LEAD(II) NAPHTHENATE
 LE110 LECITHIN
 LE120 LEMONGRASS OIL
 LE130 LEPTOPHOS INSECTICIDE
 LE140 LEUCYL-TRNA SYNTHETASE
 LE150 LEU8-ANGIOTENSIN
 LI100 LIGHT GASOLINE
 LI110 LIGHT PETROLEUM
 LI114 LIGNIN
 LI117 LIGNITE
 LI120 LIGROIN
 LI130 LINOLENIC ACID PARTIALLY HYDROGENATED
 LI140 LINSEED METHYL ESTERS
 LI150 LINSEED OIL
 LI160 LINSEED OIL FATTY ACIDS
 LI170 LINSEED OIL METHYL ESTERS

LI180 LIPOPROTEINS
 LI200 LIPOSOMES
 LI210 LIQUID WAX
 LI220 LITHIUM AMALGAM
 LI230 LITHIUM CHLORIDE MOLTEN
 LI240 LITHIUM CHLORIDE-LITHIUM FLUORIDE MOLTEN
 LI250 LITHIUM CHLORIDE-POTASSIUM CHLORIDE EUTECTIC
 LI260 LITHIUM CITRATE ELECTROLYTES
 LI270 LITHIUM HALIDE SOLUTION
 LI280 LITHIUM NITRATE-POTASSIUM NITRATE EUTECTIC
 LI300 LITHIUM NITRATE-POTASSIUM NITRATE-SODIUM NITRATE EUTECTIC
 LI310 LITHIUM PICRATE COMPLEX
 LI320 LIX SERIES EXTRACTANTS
 LI325 LIX-54
 LI330 LIX-63
 LI340 LIX-64
 LI350 LIX-64N
 LI360 LIX-65N
 LI370 LIX-70
 LU100 LUBRICATING OIL
 LY100 LYSOZYME
 MA100 MAGNESIUM CHLORIDE BRINES
 MA110 MAGNESIUM PICRATE COMPLEX
 MA120 MAGNESIUM(III)-ACETYLACETONATO COMPLEX
 MA130 MAGNEZON IREA
 MA140 MALACHITE GREEN INDIUM TETRAIODIDE(II) COMPLEX
 MA150 MANGANESE(II) NAPHTHENATE
 MA160 MASKING AGENTS
 ME100 MELANOPHORE-EXPANDING HORMONE
 ME105 MEMBRANE
 ME110 MERCAPTANS MIXTURE
 ME120 MERCURY(II) HALIDES
 ME130 MERCURY(II) NAPHTHENATE
 ME140 MERCURY(II) OXALATE COMPLEX
 ME150 MERCURY(II) SELENATE COMPLEX
 ME160 MERCURY(II) SULFATE COMPLEX
 ME170 METAL CATIONS
 ME175 METAL DIETHYLDITHIOCARBAMATES
 ME180 METHICILLIN
 ME200 METHITURAL
 ME210 METHYL CHLOROPYRIFOS
 ME210 METHYL CHLOROPYRIFOS
 ME220 METHYL LINOLEATE OXIDIZED
 ME230 METHYL LINOLENATE PARTIALLY HYDROGENATED
 ME240 METHYL OLEATE OXIDIZED
 ME250 METHYL ORANGE
 ME260 METHYL ORANGE AMMONIUM SALTS
 ME270 METHYLATED CYCLIC KETONE
 ME280 METHYLBIS(ALKOXYMETHYL)PHOSPHINE OXIDES
 ME300 METHYLOCELLULOSE
 ME310 METHYLDIALKYLAMINES C8-C14
 ME320 METHYLENE GREEN
 MI100 MILK PROTEINS
 MI110 MINERAL ACIDS
 MI120 MINERAL OILS
 MI130 MIXED SOLVENTS
 MO100 MOLTEN NITRATE MEDIUM
 MO110 MOLYBDATE SALT
 MO120 MOLYBDENUM BLUE
 MO120 MOLYBDENUM BLUE
 MO130 MOLYBDENUM THIOCYANATE COMPLEX
 MO140 MOLYBDENUM(IV) XANTHATE COMPLEX
 MO150 MOLYBDOPHOSPHATE COMPLEX
 MO160 MOLYBDSILICATE COMPLEX
 MO170 MONAZITE RARE EARTH NITRATES
 MO180 MONOCARBOXYLIC ACIDS
 MO200 MONOSTEARIN OXIDIZED-2
 MO210 MORPHINE DERIVATIVES
 MY100 MYOGLOBIN
 MY110 MYOSIN
 MY120 MYRJ 53
 MY130 MYRJ 59
 NA100 NADH-JUGLONE
 NA110 NADH-UBIQUINONE OXIDOREDUCTASE
 NA120 NADPH
 NA130 NADP+
 NA140 NAPHTHA
 NA150 NAPHTHA SULFIDES
 NA160 NAPHTHALENE HYDROCARBONS
 NA170 NAPHTHALENE RED JS
 NA180 NAPHTHALENEDIOL-1,4 DERIVATIVES
 NA200 NAPHTHENIC ACIDS
 NA210 NAPHTHOQUINONE-1,4 DERIVATIVES
 NA220 NAPHTHOQUINONE-1,4 EPOXIDE DERIVATIVES
 NA230 NATURAL RUBBER
 NE100 NEATS FACT OIL
 NI100 NICKEL CHLORIDE SOLUTION
 NI110 NICKEL DIETHYLDITHIOPHOSPHATE
 NI120 NICKEL(II) CYANIDE COMPLEX
 NI130 NICKEL(III) NAPHTHENATE

NI 140	NICOTINAMIDE-N-SUBSTITUTED
NI 150	NIOBIUM FLUORIDE COMPLEX
NI 160	NITRATE SOLUTION
NI 170	NITRATE-PERCHLORATE MEDIUM
NI 180	NITRITE SOLUTION
NI 200	NITROGLYCERIN AQUEOUS PHASE
NI 210	NITROGLYCERIN OIL PHASE
NI 220	NITROPHENOL BASIC DYE REACTION PRODUCTS
NI 230	NITROSOMALIDES
NI 240	NITROSO-N-SALT
NI 250	NITROSO-R-SALT
NI 260	NITROSO-1-NAPHTHOL-2-SULFO DERIVATIVES
NO 100	NOBLE METALS
NO 110	NONELECTROLYTES
NO 115	NONIONIC SURFACTANTS
NO 120	NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL
NO 130	NORMAL PARAFFINS
NU 100	NUCLEIC ACIDS
OC 050	OCTAFORS-OS
OC 025	OCTADECYLTRINGNYLAMMONIUM SALTS
OC 100	OCTANOYL 16-LEUCYL ANGIOTENSIN
OC 105	OCTYLAMMONIUM HALIDE SOLUTION
OC 110	OCTYLANILINE SALTS
OI 100	OILS
OI 110	OILSEED MEALS
OL 100	OLEFIN
OL 110	OLEFIN HYDROCARBONS
OL 120	OLEUM
OL 125	OLIVE MELT
OL 130	OLIVE OIL
OL 140	OLIVINE MELT
OR 100	ORANGE JUICE CAROTENOIDS
OR 110	ORGANIC CATIONICS
OR 120	ORGANIC ELECTROLYTES
OR 130	ORGANIC PHASE
OR 140	ORGANIC SOLVENTS
OR 150	ORGANOPHOSPHOROUS COMPOUNDS
OS 100	OSMIUM CYANIDE COMPLEX
OS 110	OSMIUM NITRATONITROSYL COMPLEX
OS 120	OSMIUM NITROSO COMPLEX
OS 130	OSMIUM NITROSOMALO COMPLEX
OV 100	OVALBUMIN
OX 100	OXALATE OR FLUORIDE MEDIUM
OX 110	OXALATE SOLUTION
OX 120	OXALIC ACID SOLUTION
OX 130	OXIDIZED GLUTATHIONE
OX 135	OKYANIONS
OX 140	OXYCILLIN
OX 150	OXYGENATED SOLVENTS
OX 160	OXYTOCIN
OX 170	O-BROMOPHTHALEXON S
OX 180	O-TETRAPHENYL MELT
PA 100	PALLADIUM CHLORO COMPLEXES
PA 110	PALLADIUM CYANIDE COMPLEX
PA 120	PALLADIUM HALIDE COMPLEXES
PA 130	PALM OIL
PA 140	PAPAVERINE TANNATE
PA 145	PARACETANOL ALKYL DERIVATIVES
PA 150	PARAFFIN
PA 155	PARAFFIN MIXTURE
PA 160	PARAFFIN OIL
PA 170	PARAFFIN WAX
PA 180	PARAFFIN, HYDROCARBONS
PA 200	PATENT BLUE V
PC 100	PCB-2,4,5,2,4,5
PC 110	PCB-2,4,5,2,5
PC 120	PCB-4,4
PE 100	PEANUT OIL
PE 110	PENICILLIN
PE 120	PENTENYL PENICILLIN
PE 130	PEPSIN
PE 140	PERCHLORATE OR SULFATE SOLUTION
PE 150	PERCHLORATE SOLUTION CONTAINING BR OR CL IONS
PE 160	PEROXYTUNGSTIC ACIDS
PE 170	PETROLEUM
PE 180	PETROLEUM C
PE 200	PETROLEUM ETHER
PE 210	PETROLEUM FRACTIONS
PE 220	PETROLEUM OIL
PE 230	PETROLEUM RESIDUES
PE 240	PETROLEUM SULFIDES
PE 250	PETROLEUM SULFONIC ACID
PE 260	PETROLEUM SULFOXIDES
PE 270	3-PENTYLOXYCARBANILIC ACID ESTERS
PH 100	PH RANGE
PH 110	PHENACYL HALIDES
PH 120	PHENOLS
PH 130	PHENOXYMETHYL PENICILLIN
PH 140	PHENYLACETYL PENICILLIN
PH 150	PHENYL CARBAMIDYL PENICILLIN