

Chemical Breakthrough Times – StarGuard® Essential^{PLUS}.



CHEMICAL	ESSENTIAL ^{PLUS}
(±)-1-Methyl-4-(1-methylvinyl)cyclohexene (Limonene)	>30
2-Bromonaphthalene	0
(1-Methoxy-2-propyl) acetate	0
(2-Hydroxyethyl) methacrylate	0
(2-Hydroxyethyl) salicylate	>480
(3,4-Dihydroxyphenyl)-L-alanine	>480
(3-Methoxyphenyl) propionic acid	>480
(4-hydroxy-3-methoxyphenyl)-3-buten-2-one	>480
(Ethylmercurio)thiol-benzoic acid (sodium salt)	>480
0.5% 3-Iodo-2-propynyl-butyl-carbamate, 0.5% carbendazim	>10
1,1,1-Trichloroethane	0
1,1-Dichloroethane	0
1,1-Difluoroethane (R152a)	0
1,2 Propanediol	>480
1,2,3-Trichloropropane	0
1,2,4-Trimethylbenzene	0
1,2-Dichloroethane (ethylene dichloride)	0
1,2-Phenylenediamine	>10
1,4-Butanediol dimethacrylate, stabilized	0
1,4-Dioxane	0
1,6-Hexamethylene diisocyanate (HDI)	0
1,2-Dichlorobenzene p.a.	0
10% 2-Ethyl cyanoacrylate	0
1-Bromonaphthalene	0
1-Butoxy-2-propanol	0
1-Methoxy-2-propanol (methoxypropanol (PM))	0
1-Methyl-2-pyrrolidone	0
1-Naphthylamine	>480
2-(1H-indol-3-yl)-N-methoxy-N-methylacetamide	>10
2,2-Dichloroacetamide	0
2-Butanone (MEK)	0
2-Butoxyethanol	0
2-Ethyl-1-butanol	0
2-Ethylhexyl acrylate	0
2-Hexanol	>10
2-Mercaptoethanol	0

CHEMICAL	ESSENTIAL ^{PLUS}
2-Naphthol	>480
2-Phenoxyethanol	>480
2-Propanol D1	0
3-(Acryloyloxy)-2-hydroxypropyl methacrylate	0
3,4-(Methylenedioxy)-acetophenone	>480
3-Mercaptopropionic acid	0
3-Methyl-2-benzothiazolinone hydrazone hydrochloride monohydrate	>480
4-Amino-2-hydroxytoluene 3%	>30
4-Methacryloxyethyl trimellitic anhydride 25%	>480
4-Nitroaniline	>480
5-(4-Dimethylaminobenzylidene) -rhodanine p.a.	0
Acetaldehyde	0
Acetone	0
Acetonitrile	0
Acetylacetone	0
Acrylamide 40%	>480
Acrylamide, solid	>480
Acrylonitrile	>10
Acrylonitrile-butadiene-styrene	>10
Acrylic acid	0
alpha-Limonene	>480
Alizarin Red S sodium salt	>480
Alkali blue indicator	>480
Alkali hexafluorosilicate (Na) 1.5%	>120
Aluminum chloride hexahydrate, pure	>480
Aluminum potassium sulfate dodecahydrate p.a. (potassium alum)	>480
Aluminum-magnesium powder	>480
Aluminum nitrate nonahydrate	>480
Aluminum oxide (alumina)	>480
Aluminum powder	>480
Aluminum-silicon powder	>480
Aluminum sulfate, solid	>480
Formic acid 10%	>10

CHEMICAL	ESSENTIAL ^{PLUS}
Formic acid 100%	0
Formic acid 50%	0
Formic acid 70%	0
Formic acid 90%	0
Amidosulfonic acid	>480
Ammonia	0
Ammonia solution 1%	>480
Ammonia solution 10%	>240
Ammonia solution 25%	0
Ammonium acetate	>480
Ammonium carbamate p.a.	>480
Ammonium carbonate	>480
Ammonium cerium(IV) nitrate p.a.	>480
Ammonium cerium(IV) sulfate dihydrate p.a.	>480
Ammonium chloride	>480
Ammonium iron(II) sulfate hexahydrate p.a.	>480
Ammonium fluoride	>480
Ammonium heptamolybdate tetrahydrate	>480
Ammonium hydroxide 85%	>30
Ammonium metavanadate	>480
Ammonium monochloroacetate	>480
Ammonium monovanadate	>480
Ammonium nitrate	>480
Ammonium oxalate	>480
Ammonium oxalate monohydrate p.a.	>480
Ammonium persulfate 10%	>480
Ammonium persulfate 100%	>30
Ammonium sulfamate p.a.	>480
Ammonium sulfate p.a.	>480
Ammonium sulfide	>480
Ammonium tartrate p.a.	>480
Ammonium thiocyanate p.a.	>480
Ammonium thiosulfate	>480
Aniline	0
Antimony(III) chloride p.a.	>480

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Antimony(III) oxide	>480
Antimony pentachloride	>30
Barium acetate	>480
Barium carbonate	>480
Barium chloride	>480
Barium chloride dihydrate	>480
Barium chloride dihydrate solution 10%	>480
Barium hydroxide octahydrate p.a.	>480
Barium nitrate p.a.	>480
Barium sulfate, chemically pure	>480
Benzaldehyde	0
Benzalkonium chloride	>480
Gasoline 80-110, pure (Naphtha (petroleum), hydrogen-treated light 100%; n-Hexane 5%)	0
Gasoline, super gasoline	0
Extraction gasoline III, low-aromatic (Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclic UVCB substance 100%, n-Hexane 1.5%, Toluene 0.1%, Benzene 0.01%)	0
Benzo[a]pyrene 1%	0
Benzoic acid, primary standard p.a.	>480
Benzene	0
Benzyl alcohol	0
Benzyl butyl phthalate 3%	>120
Benzyl nicotinate	>480
Epsom salts / Magnesium sulfate	>480
Lead in ingots, Cu	>480
Lead(II) oxide	>480
Lead(II) acetate - solution (basic)	0
Lead(II) nitrate	>480
Lead(II) nitrate solution 0.1 mol/L	>480
Lead(II) sulfate	>480
Lead acetate paper (Lead acetate <0.9% (SVHC))	>480
Lead stearate	>480
Lead oxide	>480
Lead stearate 28%	>480
Boric acid	>480

CHEMICAL	ESSENTIAL ^{PLUS}
Boron trifluoride diethyl ether complex	0
Boron trifluoride methanol complex	0
Bromine	0
Butan-2-one (MEK, methyl ethyl ketone)	0
Butanone 10%	0
Butyl acetate	0
Butyl acrylate	0
Butyl alcohol 99%	>10
Butyl diglycol	>120
Butyl glycol acetate	0
Butylated hydroxytoluene	0
Calcium carbonate	>480
Calcium chloride	>480
Calcium chloride hexahydrate	>480
Calcium chloride solution 34%	>480
Calcium chloride solution 35%	>480
Precipitated pure calcium fluoride	>480
Calcium nitrate 45%	>480
Caproic acid methyl ester	>10
Carbon disulfide / carbon disulfide	0
Cetylpyridinium chloride monohydrate	>480
Chlorine	0
Chloroacetyl chloride	>480
4-Chloroaniline	0
Chlorobenzene, pure	0
Ethyl chloroacetate	0
Chlorhexidine 10%	>480
Chlorhexidine 20%	>480
Chlorhexidine 25%	>480
Chlorhexidine 4%	>480
Chloroform	0
Hydrochloric acid / anhydrous hydrogen chloride	0
Chromium(VI) oxide p.a.	>480
Chromic sulfuric acid 10%	>30
Cisplatin 1.0 mg/mL (Cytostatic)	>60
Cobalt(II) chloride (anhydrous)	>480

CHEMICAL	ESSENTIAL ^{PLUS}
Cobalt(II) chloride hexahydrate	>480
Cobalt(II) nitrate hexahydrate	>480
Cyclohexane	0
Cyclohexanol	0
Cyclohexanone	0
Denatonium benzoate	>480
Di-(t-butylcyclohexyl) peroxydicarbonate	>480
Diacetone alcohol	0
Diammonium hydrogen citrate	>480
Dibutylamine	0
Dibutyl phthalate	>480
Dichloroacetyl chloride	0
Dichlorodifluoromethane (R-12)	0
Dichloroacetic acid	0
Dichloroacetic acid (DCAA) 98%	0
Dichloromethane	0
Diesel fuel	>10
Diethanolamine p.a.	0
Diethylamine	0
Diethylene glycol	>480
Diethyl ether	0
Diethyl ketone (3-pentanone)	0
Diethyl malonate (malonic acid diethyl ester)	>10
Diethyl succinate (succinic acid diethyl ester)	>10
Diisobutyl ketone	0
Diisodecyl phthalate for synthesis	>30
Diisopropanolamine solution S 90%	0
Diisopropyl ether	0
Di-potassium hydrogen phosphate	>480
Dimethyl sulfoxide	0
Dimethylacetamide	0
Dimethylaminoazobenzene (Dimethyl Yellow) Indicator	0
Dimethylamino-benzaldehyde p.a.	0
Dimethyl disulfide (DMDS)	0
Dimethyl ether	0

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Dimethylformamide (DMF)	0
Dimethyl sulfate	0
Disodium metasilicate, pentahydrate	>480
2,4-Dinitrophenylhydrazine	>480
Diethyl adipate	>10
Diethyl phthalate 99% (DOP)	>480
Diethyl sulfosuccinate sodium salt	>480
Dipentaerythritol pentaacrylate phosphate 15%	>480
Diphenylamine	>240
Diphenylmethane-4,4'-diisocyanate	0
Diphenylmethane diisocyanate	0
Iron(III) sulfate hydrate	>480
Iron(III) sulfate pentahydrate	>480
Iron(III) chloride solution 40%	>480
Vinegar cleaner	>240
Acetic acid 10%	>240
Acetic acid 1M	>480
Acetic acid 50%	>10
Acetic acid 80%	0
Acetic acid 90%	0
Acetic acid 99.5%	0
Acetic anhydride (triethylamine)	0
Ethanol	0
Ethanol 10%	>240
Ethanol 35%	>30
Ethanol 50%	>10
Ethanol 641 (96%), denatured with 1% 2-butanone	0
Ethanol 70%	>10
Ethanol 80%	0
Ethanol 96%, denatured with 1% MEK	0
Ethanol 96%, Ph.Eur., pure	0
Ethanolamine	0
Ethanolamine 10-15%	>10
Ethidium bromide 1%	>480
Ethidium bromide 5%	>480
Ethyl acrylate	0
Ethyl acetate	0

CHEMICAL	ESSENTIAL ^{PLUS}
Ethyl acetate 98/100%	0
Ethylbenzene	0
Ethyldiglycol	>240
Ethylenediamine	0
Ethylene glycol	>480
Hydrofluoric acid 1%	>120
Hydrofluoric acid 10%	>30
Hydrofluoric acid 20%	>10
Hydrofluoric acid 37%	0
Hydrofluoric acid 48%	0
Hydrofluoric acid 75%	0
Hydrofluoric acid 90%	0
Formaldehyde 10%	>480
Formaldehyde 25%	>480
Formaldehyde 35%	>480
Formaldehyde 37%	>480
Formaldehyde 4%	>480
Fuchsin	>480
Glutaraldehyde	>120
Glutaraldehyde 1%	>480
Glutaraldehyde 10%	>480
Glutaraldehyde 15%	>480
Glutaraldehyde 25%	>480
Glutaraldehyde 4%	>480
Glutaraldehyde 50%	>480
Glycerin	>480
Glyceryl monothioglycolate 11%	>480
Glyceryl monothioglycolate 20%	>480
Glycidyltrimethylammonium chloride	>30
Glycolic acid	>120
Glycolic acid 2%	>480
Glyoxal 40% w/w aqueous solution	>10
Urea	>480
Hexylamine	0
Hydranal methanol, dry	0
Hydranal solvent	0
Hydranal titrant 5	0

CHEMICAL	ESSENTIAL ^{PLUS}
Hydranal working solution K	0
Hydrazine	1
Hydrazinium sulfate	>480
Hydroxylamine hydrochloride (=hydroxylammonium chloride)	>480
Iodine	>480
Iodine solution 0.05 mol/L	>480
Iodine monochloride	0
Isoamyl alcohol; 3-methyl-1-butanol	>10
Isobutyl alcohol	0
Isooctane	>10
Isoparaffin	0
Isophorone	0
Isophorone diamine	0
Isopropanol	0
Isopropanol 40%	0
Isopropanol 60%	0
Isopropanol 70%	0
Isopropanol 80%	0
Isopropyl acetate (isopropyl ester of acetic acid)	0
Calcium carbonate, anhydrous	>480
Potassium chromate	>480
Potassium hexahydroxoantimonate (V)	>480
Potassium hydroxide	>480
Potassium hydroxide 30%	>480
Potassium hydroxide 45%	>480
Potassium hydroxide 50%	>480
Potassium hydroxide, saturated	>480
Potassium iodide	>30
Potassium permanganate	>480
Potassium persulfate 100%	>30
Kerosene	>10
Saline solution 10% (sodium chloride)	>480
Saline solution 25% (sodium chloride)	>480
Saline solution 50% (sodium chloride)	>480

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Saline solution, saturated (sodium chloride)	>480
Congo red (C.I. 22120)	>480
Crystal violet	>480
Copper(II) sulfate, anhydrous	>480
L-ascorbic acid test kit	>480
Levulinic acid	>480
Linalool oxide	0
Maleic acid, saturated	>480
Maleic anhydride	>480
Methacrylates (methyl esters of acrylic acid)	0
Methacrylic acid	>10
Methanol	0
Methanesulfonic acid	0
Methotrexate 25 mg/mL (cytostatic)	>240
Methoxypropanol 3%	0
Methyl ethyl ketone peroxide 37%	0
Methyl methacrylate 99%	0
Methylamine 40%	>480
Methyl butyl ether 99.8%	0
Methylcyclopentane	>10
Methylene blue (C.I. 52015)	>480
Methyl ethyl ketone (butanone)	0
Methyl isobutyl ketone (MIBK)	0
Methyl methacrylate	0
Methyl methacrylate (stabilized) for synthesis	0
Methyl methacrylate, monomer, stabilized	0
Methyl orange indicator solution	>480
Lactic acid	>480
m-Cresol	0
Monoethanolamine 99%	>480
Morpholine, liquid	0
N,N-Dimethylaniline, pure	0
N,O-Dimethylhydroxylamine hydrochloride	>480
n-Amyl acetate	0
n-Amyl alcohol 99%	>60
Naphthalene	>480
Sodium azide	>480

CHEMICAL	ESSENTIAL ^{PLUS}
Sodium bisulfite solution (38-40%)	>480
Sodium carbonate	>480
Sodium carbonate, analytical weight 0.05 mol/L (solid)	>480
Sodium chloride, industrial salt	>480
Sodium bicarbonate (soda)	>480
Sodium dithionite	>480
Sodium fluoride	>480
Sodium fluoride	>480
Sodium hexafluorosilicate 1%	>480
Sodium hexanitrocobaltate (III) (Trisodium hexanitritocobaltate)	>480
Sodium hydroxide 0.1 mol/L (0.1 N)	>480
Sodium hydroxide 10%	>480
Sodium hydroxide 20%	>480
Sodium hydroxide 30%	>480
Sodium hydroxide 40%	>480
Sodium hydroxide 99%, sodium carbonate 1.0%	>480
Sodium hypochlorite 10-20%, sodium hydroxide <1%	>480
Sodium hypochlorite 13%	>120
Sodium hypochlorite solution 10-20%, sodium hydroxide <2.5%	>480
Sodium hypochlorite solution 10-20%, sodium hydroxide, chlorine-based bleach >=30%	>480
Sodium methoxide 30% (=sodium methylate)	>480
Sodium nitrite	>480
Sodium N-lauroyl sarcosinate	>480
Sodium salicylate	>480
Sodium sulfide	>480
Sodium sulfide hydrate	>480
Sodium sulfide nonahydrate	>480
Sodium sulfide flakes (sodium sulfide) 62%	>480
Sodium tetraborate decahydrate, dihydrate	>480

CHEMICAL	ESSENTIAL ^{PLUS}
Sodium thiosulfate	>480
n-Butyl acetate 50%	0
n-Butyl methacrylate	0
n-Butyl methyl ether	0
n-Heptane	0
n-Hexane	0
Nicotine 2% LG	0
Ninhydrin	>480
Nitrobenzene	0
Nitroprusside sodium dihydrate (sodium pentacyanonitrosylferrate (III) dihydrate)	>480
Oxalic acid 12.5%	>480
Oxalic acid dihydrate	>480
p-Aminophenol 100%	0
p-Anisidine	>480
Liquid paraffin (Vaseline oil)	>60
Pararosaniline chloride (C.I. 42500)	>480
Pentane	>10
Peracetic acid 10%	>30
Peracetic acid 25%	>10
Peracetic acid 55%	0
Petroleum ether	0
Petroleum 180-250°C (Kerosene (Petroleum), hydrodesulfurized)	0
Petroleum benzene 40-80°C	0
Phenazone, Antipyrine	>480
Phenol	0
Phenol 10%	>10
Phenol 90%	0
Phenol-1,2-Dichlorobenzene mixture	0
Phenolphthalein - Solution 1% (Ethanol >60-<100%, Phenolphthalein >0.1-<=1%)	>480
Phosphorus pentoxide	>480

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Phosphoric acid 10%	>480
Phosphoric acid 85%	>10
Phthalic anhydride	>480
Propan-1-ol 40-50%	0
Propanol	0
Propyl acetate	0
p-Toluene sulfonamide	>30
Pyridine	0
Mercury	>60
Mercury(II) acetate	>480
Mercury(II) chloride	>480
Mercury(II) iodide	>480
R-(+)-Limonene	>30
Resorcinol	>480
Ammonia solution 15%	0
Nitric acid 10%	>120
Nitric acid 36%	0
Nitric acid 55%	0
Nitric acid 65%	0
Nitric acid 70%	0
Nitric acid, alcoholic, 3% (Ethanol 97%, Nitric acid 3%)	0
Hydrochloric acid 10%	>480
Hydrochloric acid 18%	>480
Hydrochloric acid 25-38%	0
Hydrochloric acid 30%	0
Hydrochloric acid 31%	0
Hydrochloric acid 33%	0
Hydrochloric acid 36%	0
Hydrochloric acid 37%	0
Hydrochloric acid 50%	0
Sulfuric acid 20%	>480
Sulfuric acid 37.5% (Battery acid)	>30
Sulfuric acid 38%	>30
Sulfuric acid 45%	>30
Sulfuric acid 50%	>30
Sulfuric acid 95%	0

CHEMICAL	ESSENTIAL ^{PLUS}
Silver diamine fluoride 38%	>480
Silicon dioxide	>480
Turpentine	0
tert-Butanol	0
tert-Butyl acrylate	0
Tetrabutylammonium hydrogen sulfate	>480
Tetrachloroethylene	0
Carbon tetrachloride	0
Tetrahydrofuran	0
Tetramethylammonium hydroxide	>480
Tetramethylammonium hydroxide pentahydrate	>480
Tetramethylammonium hydroxide solution	>10
Thioacetamide	>480
Thioglycolic acid 11%	>60
Thioglycolic acid	>480
Thiourea	>480
Thymol	>30
Toluene-2,5-diamine 10%	>10
Toluene	0
Toluene ≥ 99.5%, for synthesis	0
Tri(propylene glycol) diacrylate	0
Trichloroacetic acid 50%	0
Trichloroethylene	0
Triethylamine	0
Triethylene glycol dimethacrylate	0
Trifluoroacetic acid (TFA)	0
Tricresyl phosphate 90%	0
tri-Sodium phosphate anhydrous	>480
Vincristine sulfate 1.0 mg/mL (Cytostatic)	>60
Vinyl acetate monomer	0
Hydrogen peroxide 10%	>480
Hydrogen peroxide 12%	>480
Hydrogen peroxide 18%	>480
Hydrogen peroxide 3%	>480
Hydrogen peroxide 30%	>30
Hydrogen peroxide 33%	0

CHEMICAL	ESSENTIAL ^{PLUS}
Hydrogen peroxide 35%	0
Xylene	0
Xylene, o-	0
Zinc chloride	>480
Citric acid 10%	>480
Citric acid 100%	>120
Citric acid 50%	>120
Citric acid anhydrous	>480
Citric acid crystal water-free, pure	>480
Citric acid monohydrate p.a.	>480
Citric acid p.a.	>480
Citric acid anhydrous, grains	>480

Level 1	>10
Level 2	>30
Level 3	>60
Level 4	>120
Level 5	>240
Level 6	>480