

Cleveland, Ohio

October 22, 1938

Phil Herzog

INFORMATION REGARDING THE
CONSTANTS OF SOLVENTS

Attached are sheets showing the code numbers of the solvents we use with information as to distillation range and constants. This should be kept in your code book with the information on pigments and varnishes.

The suppliers are listed by number in the first column and are as follows:

1. Carbide & Carbon Chemicals Corporation
2. Standard Oil Company
3. American Mineral Spirits Company
4. Republic Steel Co.
5. Southern Pine Products Company
6. Nelio Resin Corporation
7. Sharples Solvent Corporation
8. Barrett Company
9. Commercial Solvents Co.
10. U. S. Industrial Alcohol Co.
11. Publicker Commercial Alcohol Co.
12. Koppers' Products Company
13. Union Oil Company
14. Cities Service Oil Company
15. Sun Oil Company
16. S. D. Cantelou
17. E. I. du Pont de Nemours
18. Standard Alcohol Co.
19. Advance Solvents & Chem. Co.
20. Cliffs Dow Chemical Company
21. George W. Truxal Company
22. Nelio Rosin Division - The Glidden Co.
23. Southern Pine Chemicals Company
24. General Naval Stores
25. Hercules Powder Company
26. Velsicol Corporation

J. P. WAGNER

H.

N13634

<u>CODE</u>	<u>NAME</u>	<u>SP.GR.@ 15.5° C</u>	<u>WT./GAL. 60°BAUME</u>	<u>FLASH PT. FO</u>	<u>SOL- VENCY</u>	<u>DISTILLATION</u>		<u>H₂O SOLUBLE</u>	<u>H₂SOL SOLUBLE</u>	<u>USES</u>
S-1	Butyl Alcohol	.815	6.78	111		237	243 244	10-15%I	100%	High boiling alcohol.
S-2	Ethyl Acetate	.893	7.43	35	DR 3.5 - 4.0	160	170 171	16-18%	100%	Fast Lacquer solvent.
S-5	Butyl Acetate	.882	7.35	88	DR 3.2	240	258 260	1%	100%	Slow Lacquer solvent.
S-6	Toluol	.872	7.26	144	Tol. 4.5 - 4.9	225	230 231		Nil	Principal lacquer diluent and fast coal tar solvent.
S-10	Methyl Acetone	.853	7.10	23	DMS 100%	130	142 151	100%	100%	Varnish remover solvent.
S-19	Pine Oil	.935	7.79			350	436 450	Nil		Improve flow & leveling.
S-23	Xylol	.869	7.23	80	DMS 100%	273	292 295	Nil	Nil	Slow lacquer diluent & medium bailing coal tar sol.
S-28	Ansol M	.805	6.70			161	174 174	100%	100%	Special lacquer gum solvent.
S-33	Amyl Acetate	.876	7.30	111	DR 3.0	240	273 276	Nil	100%	High boiling lacquer solvent.
S-37	Isopropyl Acetate	.368	7.22	45	DR 3.1	182	193 194	4%	100%	Principal fast lacquer sol- vent. Substitute for S-2.
S-40	Turpentine (Gum)	.870	7.23	97		307	329 334	Nil		Resale to master painters.
S-41	Turpentine	.863	7.18	98		303	321 325	Nil		Specification work.
S-42	(Steam Dist. Wood) V M & P Naphtha	.773	6.44		KB 35- 40	230	361 370	Nil		Common fast varnish thinner.
S-43	Varnolene	.791	6.60	108	KB 37- 40	306	378 384	Nil		Common varnish thinner.
S-45	C.D. #5 Alcohol	.815	6.78			172	178 186	100%		Radiator alcohol.
S-46	Benzol	.882	7.35	6	DMS 100%	178	210 220	Nil	Nil	Diluent in varnish removers.
S-47	Solvent Naphtha	.870	7.25	103- 112	KB 88- 104 DMS 100%	296	345 350	Nil		Common Spedene thinner.

CODE	NAME	SP.GR. @ 15.50 C	WT./GAL. 60°BAUME	FLASH PT. °F	SOL- VENCY	DISTILLATION BP °F 95% E.P.	H ₂ O SOLUBLE	H ₂ SO ₄ SOLUBLE	USES
S-48	Kerosene	.817	6.81 41.6	140	KB 34	330 492 500	Nil		Slow varnish thinner. Reduc- tor for flat wall paint.
S-50	Cellulosolve Acetate	.975	8.12 13.6	142	DR 2.5		22%	100%	Slow lacquer solvent.
S-51	Turpentine (D.D.Wood)	.861	7.18 32.6	103		305 342 345	Nil		Specification work.
S-54	Navy Gasoline	.734	6.11 61.3		KB 35	120 342 347	Nil		Cheap fast thinner.
S-55	Collosolve	.931	7.75 20.5	111		272 - 277	100%	100%	Slow lacquer solvent and N G R stain solvent.
S-56	Butyl Cellosolve	.902	7.51 25.4	165		326 - 342	100%	100%	Slow lacquer solvent.
S-57	Lactol Spirits	.734	6.11 60.8		Tol. 1.2- 1.5	186 246 252	Nil		Petroleum lacquer diluent.
S-66	Pontacetate	.865	.721 31.8	118		259 - 311	1%	100%	Slow lacquer solvent.
S-67	Carbitol	.990	8.24 11.4	210		372 - 398	100%	100%	Water dye solvent.
S-70	C.P. Acetone	.793	6.60 46.9	0°		131 - 135	100%	100%	Used in laboratory.
S-72	Methanol (Synthetic)	.758	6.32 55.2			149 150 150	100%	100%	Water dye solvent.
S-73	Pentanol	.822	6.85 40.6			246 270 273		100%	High boiling alcohol.
S-75	Anon	.946	7.88 13.0	145		266 - 347			High boiling ketone.
S-79	Butyl Lactate	.985	8.20 12.2	176		320 369 370		100%	Slow solvent for brushing lacquer.
S-80	E. W. Naphtha	.944	7.86 13.3			284 500 508	Nil		Very high boiling coal tar solvent in wire enamel.
S-88	Isopropyl Alcohol	.792	6.60 47.2	67		180 181 182	100%	100%	Substitute for S-23.
S-90	Dipentene	.865	7.21 31.9	123	DMS 18%	332 360 362	Nil		Like turps but slower.
S-91	S.D. Alcohol	.919	6.82 41.0			167 174 175	97%	97%	Shellac solvent and lacquer reducers.

<u>CODE</u>	<u>NAME</u>	<u>SP.GR. @ 15.5° C</u>	<u>WT./GAL. 60° BAUME</u>	<u>FLASH PT. °F</u>	<u>SOL- VENCY</u>	<u>DISTILLATION BP °F 95% E.P.</u>	<u>H₂O SOLUBLE</u>	<u>H₂SO₄ SOLUBLE</u>	<u>USES</u>
S-93	Ethylene Dichloride	1.26	10.5	70		180 -	1%		Special solvent.
S-98	Methyl Cellosolve	.966	8.04	105		250 -	100%	100%	Water dye solvent.
S-102	Diethylene Glycol	1.12	9.33	286		473 -	100%	100%	Water dye solvent.
S-104	Solvesso #2	.861	7.18		KB 90-100 DMS 100%	276 336 339	Nil		Partial substitute for S-23.
S-105	Solvesso #1	.823	6.85		Tol. 3.2 DMS 84%	194 256 262	Nil		Partial substitute for S-6.
S-106	Solvesso #3	.886	7.38		KB 84 DMS 60	350 403 406	Nil		Partial substitute for S-47.
S-107	Solvesso #4	.947	7.88		DMS 72	412 434 491	Nil		Promote flow in primer- surfacers.
S-109	#78 Solvent	.871	7.26		DR 2.8	224 270 273		100%	Cheap medium boiling lacquer solvent.
S-111	Hexone	.802	6.68	74		232 241 241	2%		Solvent for Vinylite.
S-115	Unfinished Naphtha	.776	6.47	110	KB 34	308 374 330	Nil		Cheap solvent for pipe oil.
S-120	Methyl Ethyl Ketone	.810	6.74	34	Tol. 4.7	174 177 178	24%		Solvent for Vinylite. Substitute for S-2.
S-122	#2 Velsicol	.877	7.30		KB 115-151 DMS 100%	182 242 253	Nil	2%	Substitute for S-6.
S-123	#3 Velsicol	.860	7.17		KB 82.5	236 364 366	Nil	2%	Substitute for S-23 but much slower.
S-124	W.D.S. solvent	.827	6.88			148 174 400	100%	100%	Water dye solvent.
			39.6						

CODE	NAME	SUPPLIERS	SP. GR.	WT. / GAL	FLASH PT.	SOL. VISC.	DISTILLATION	H ₂ O SOLUBLE	H ₂ SO ₄ SOLUBLE	USES
			15.5°C	60°BAUME	PT. °F	°P	BP 95% E.P.	10-15%	100%	
S-1	Butyl Alcohol	1,9,10	.815	6.78	111		237 243 244	100%	100%	High boiling alcohol.
S-2	Ethyl Acetate	10,12,9	.893	7.43	35	DR 3.5	160 170 171	16-18%	100%	Fast Lacquer solvent.
S-5	Butyl Acetate	1,10	.882	7.35	88	DR 3.2	240 258 260	1%	100%	Slow lacquer solvent.
S-6	Toluol	4	.872	7.26	44	Tol. 4.5	235 230 231		Nil	Principal lacquer diluent and fast coal tar solvent.
S-10	Methyl Acetone	20,21	.853	7.10	23	DMS 100%	130 142 151	100%	100%	Varnish remover solvent.
S-19	Pine Oil	5	.935	7.79			350 436 450	Nil		Improve flow & leveling.
S-23	Xylol	4	.869	7.23	80	DMS 100%	273 292 295	Nil	Nil	Slow lacquer diluent & medium boiling coal tar sol.
S-28	Ansol M	10	.805	6.70			161 174 174	100%	100%	Special lacquer gum solvent.
S-33	Amyl Acetate	10,9	.876	7.30	111	DR 3.0	240 273 276	Nil	100%	High boiling lacquer solvent.
S-37	Isopropyl Acetate	18	.868	7.22	45	DR 3.1	182 193 194	4%	100%	Principal Fast lacquer solvent. Substitute for S-2.
S-40	Turpentine (Gum)	22	.870	7.23	97		307 329 334	Nil		Resale to master painters.
S-41	Turpentine (Steam Dist. Wood)	24,25	.863	7.18	98		303 321 325	Nil		Specification work.
S-42	V M & P Naphtha	2,3	.773	6.44		KB 35-40	230 361 370	Nil		Common fast varnish thinner.
S-43	Varnolene	2,3	.791	6.60	108	KB 37-40	306 378 384	Nil		Common varnish thinner.
S-45	C.D. #5 Alcohol	1	.815	6.78			172 178 186	100%		Radiator Alcohol.
S-46	Benzol	4	.882	7.35	46	DMS	178 210 220	Nil	Nil	Diluent in varnish removers.
S-47	Solvent Naphtha	4,12	.870	7.25	103-112	KB 88-104	296 345 350	Nil		Common Spedene thinner.

S-38
S-39

CODE	NAME	SUPPLIERS @ 15.5°C	SP. GR.	WT. / GAL 50°BAUME	FLASH PT. °F	SOL- VENCY	DISTILLATION BP °F	H ₂ O SOLUBLE	H ₂ SO ₄ SOLUBLE	USES	
S-48	Kerosene	15, 16	.817	6.81	140	KB 34	330	492	500	Nil	Slow varnish thinner. Reducer for flat wall paint.
S-50	Cellosolve Acetate	1	.975	8.12	142	DR 2.5	308	310	22%	100%	Slow lacquer solvent.
S-51	Turpentine (D.D. Wood)	23	.861	7.18	103		305	342	345	Nil	Specification work.
S-54	Navy Gasoline	14	.734	6.11		KB 35	120	342	347	Nil	Cheap fast thinner.
S-55	Cellosolve	1	.931	7.75	111		272	-	277	100%	Slow lacquer solvent and N G R stain solvent.
S-56	Butyl Cellosolve	1	.902	7.51	165		326	-	342	100%	Slow lacquer solvent.
S-57	Lactol Spirits	2	.734	6.11		Tol.	186	246	252	Nil	Petroleum lacquer diluent.
S-60	Same as S-47			60.8		1.2-1.5					
S-66	Pentacetate	7	.865	.721	118		259	-	311	1%	Slow lacquer solvent.
S-67	Carbitol	1	.990	8.24	210		372	-	398	100%	Water dye solvent.
S-70	C.P. Acetone	1	.793	6.60	0°		131	-	135	100%	Used in laboratory.
S-72	Methanol (Synthetic)	1.9	.758	6.32			149	150	150	100%	Water dye solvent.
S-73	Pentanol	7	.822	6.85	55.2		246	270	273	100%	High boiling alcohol.
S-75	Anon	19	.946	7.88	145		266	-	347		High boiling ketone.
S-79	Butyl Lactate	9	.985	8.20	176		320	369	370	100%	Slow solvent for brushing lacquer.
S-80	E. W. Naphtha	8	.944	7.86			284	500	508	Nil	Very high boiling coal tar solvent in wire enamel.
S-88	Isopropyl Alcohol	18	.792	6.60	67		180	181	182	100%	Substitute for S-28.
S-90	Dipentene	23	.865	7.21	123	DMS 18%	332	360	362	Nil	Like turps but slower.
S-91	S.D. Alcohol	9, 10, 11	.819	6.82			167	174	175	97%	Shellac solvent and lacquer reducers.
				41.0							

CODE	NAME	SUPPLIERS @ 15.5°C	SP. GR.	WT. / GAL	FLASH SOL- 60° BAUME	PT. OF VISC.	DISTILLATION BP °F	H2O 95% E.P.	H2SO4 SOLUBLE	USES
S-93	Ethylene Dichloride	1.9	1.26	10.5	70	180	-	183	1%	Special solvent.
S-98	Methyl Cellosolve	1	.966	8.04	105	250	-	259	100%	Water dye solvent.
S-102	Diethylene Glycol	1	1.12	9.33	286	473	-	-	100%	Water dye solvents.
S-104	Solvesso #2	2	.861	7.18	KB 90-100 DMS 100%	276	336	339	Nil	Partial substitute for S-23.
S-105	Solvesso #1	2	.823	6.85	Tol 3.2 DMS 84%	194	256	262	Nil	Partial substitute for S-6.
S-106	Solvesso #3	2	.886	7.38	KB 84	350	403	406	Nil	Partial substitute for S-47.
S-107	Solvesso #4	2	.947	7.88	DMS 60	412	484	491	Nil	Promote flow in primer- surfacers.
S-109	#78 Solvent	18	.871	7.26	DR 2.8	224	270	278	100%	Cheap medium boiling lacquer solvent.
S-111	Hexone	1	.802	6.63	74	232	241	241	2%	Solvent for Vinylite.
S-115	Unfinished Naphtha	14	.776	6.47	110 KB 34	308	374	380	Nil	Cheap solvent for pipe oil.
S-120	Methyl Ethyl Ketone	18	.810	6.74	34 Tol 4.7	174	177	178	24%	Solvent for Vinylite. Sub- stitute for S-2.
S-122	#2 Velsicol	26	.877	7.30	KB 115-151 DMS 100%	182	242	253	Nil	Substitute for S-6.
S-123	#3 Velsicol	26	.860	7.17	KB 82.5	236	364	366	Nil	Substitute for S-23 but much slower.
S-124	W.D.S. Solvent	17	.827	6.88	148	174	400	100%	100%	Waterdye solvent.
METHYL AMYL KETONE		1	.818	6.81	130°F	147°C	153°C	0.4%	99% PURE	
S-133 - #3 Cellosolve			.952	7.90	ND-147 (4.5 P.P.M.)	386°F	470°F	478°F		
S-131 - PINE OIL			8.01							
S-128 -			6.75							

SOLVENTS

CODE	SOLVENT NAME	S.G.	BAUMÉ	LB/GAL.	EVAP. PERIOD	FLASH POINT	DIL. R. TOL. 2%	K.B. 20°C.	H ₂ O SOL.	°F B.P.	50%	95%	DRY	MISC.
S-1	BUTYL ALCOHOL	.814	42° LT.	6.78*	3.3	90°F			121	232°	241°	244°	247°	S-1
S-2	ETHYL ACETATE	.892	27° LT.	7.43*	2.9	18°F	4.4D	1	16	158°	165°	180°	181°	S-2
S-5	BUTYL ACETATE	.880	29° LT.	7.32*	12.5	77°F	3.6D		2.3	240°	250°	265°	272°	S-5
S-6	TOLUOL	.870	31° LT.	7.25*	6.1	45°F			0	223°	227°	230°	231°	S-6
S-10	METHYL ACETONE	.854	34° LT.	7.11*	1.8	BELOW 0°F			100	130°	133°	141°	145°	S-10
S-19	PINE OIL	.930	20.5° LT.	7.74*		155°F			0	360°	405°	419°	422°	S-19
S-23	XYLOL	.869	31.1° LT.	7.25	13.5	75°F			0	266°	280°	288°	295°	S-23
S-28	ANHYD. ALCOHOL	.801	45° LT.	6.68		20°F			94	166°	171°	176°	180°	S-28
S-33	AMYL ACETATE	.870	31° LT.	7.25	13.0	85°F	3.3D		2.5	237°	267°	285°	290°	S-33
S-38	SEC. BUTYL ALCOHOL									205°			223°	S-38
S-39	SEC. BUTYL ACETATE									216°			250°	S-39
S-40	GUM TURPENTINE	.868	31° LT.	7.23*		100°F			0	308°	314°	328°	340°	S-40
S-41	S.D. WOOD TURPENTINE	.865	32° LT.	7.20*		95°F			0	300°	315°	331°	340°	S-41
S-42	NAPHTHA	.766	53° LT.	6.38*		32°F			0	220°	290°	370°	385°	S-42
S-43	VARNOLENE	.784	49° LT.	6.53*		100°F			0	295°	339°	390°	400°	S-43
S-46	BENZOL	.881	29° LT.	7.34*	3.0	BELOW 0°F			0	174°	181°	205°	227°	S-46
S-47	SOLVENT NAPHTHA	.870	31° LT.	7.25*		105°			0	302°	316°	340°	344°	S-47
S-48	KEROSENE	.810	43° LT.	6.75*		145°		K.B. 34-36	0	330°	444°	498°	510°	S-48
S-50	CELLOSOLVE ACETATE	.866	33° LT.	7.17*	52.					289°			310°	S-50
S-51	S.D. WOOD TURPS.	.860	33° LT.	7.17*		105°			0	302°	329°	358°	364°	S-51
S-55	CELLOSOLVE	.933	20° LT.	7.77*	43	95°			100	266°	270°	273°	275°	S-55
S-57	LACTOL SPIRITS	.730	62° LT.	6.08*		BELOW 0°F	1.6T		0	175°	214°	245°	250°	S-57
S-60	HI-FLASH NAPHTHA	.865	32° LT.	7.20*		110°		D.M.S. 72-100	0	300°	324°	346°	354°	S-60
S-64	DI-ACETONE ALCOHOL				147	43-57°			100	140°	310°	325°	332°	S-64
S-72	METHANOL			6.3						146°			152°	S-72
S-73	PENTASOL (AMYL ALCOHOL)			62.0						240°			275°	S-73
S-79	BUTYL LACTATE	.982	12.6° LT.	8.18*					100	340°	365°	368°	370°	S-79
S-80	E.W. HEAVY NAPHTHA	.992	22° LT.	7.66*		120°F			0	265°	360°	477°	490°	S-80
S-85	SEC. AMYL ACETATE	.865	32° LT.	7.20*		80°F	2.6D		1.5	246°	268°	280°	282°	S-85
S-90	DI-PENTINE	.868	31° LT.	7.23*		120°F		K.B. 102	0	326°	347°	361°	364°	S-90
S-91	DENAT. ALCOHOL	.817	41° LT.	6.86*					100	164°	171°	173°	175°	S-91
S-95	D.C. NAPHTHA									185°			330°	S-95
S-104	*2 SOLUOSSO									275°			365°	S-104
S-105	*1 SOLUOSSO									200°			275°	S-105
S-106	*3 SOLUOSSO									365°			420°	S-106
S-107	*4 SOLUOSSO									425°			540°	S-107
S-109	*78 SOLVENT									226°			274°	S-109

SOLVENTS

CODE	NAME	S.G.	BAUME	WT. GAL	EVAP. PERIOD	FLASH POINT	D.R. TOLEA.	K.B. D.M.S.	H ₂ O SOLD.	B.P. °F	50% DIST.	95% DIST.	DAY	MISC.
S-101	HERCOLYN													S101
S-102	DI-ETHYLENE GLYCOL									446°			518°	S102
S-111	METHYL ISOBUTYL KETONE	.802	44°LT	6.7*		74°F			1.9	276°				(HEXONE) S111
S-75	ANON (CYCLO HEXANONE)				40.4					296°			313°	S75
S-56	BUTYL CELLOSOLVE	.907	24°LT	7.55*		141°F			100	317°	332°	338°	340°	S56
S-120	METHYL ETHYL KETONE	.805	44°LT	6.7*						176°				S120
S-61	ETHYL LACTATE	1.034	4.8HY	8.61*		110°F	D.R. 16.0		100	260°	304°	319°	325°	S61
	METHYL AMYL KETONE	.818	41°LT	6.8*		115°F			.4	151°C				
	METHYL CYCLO HEXANONE	.933	20°LT	7.75*						352°			369°	

GLD38330

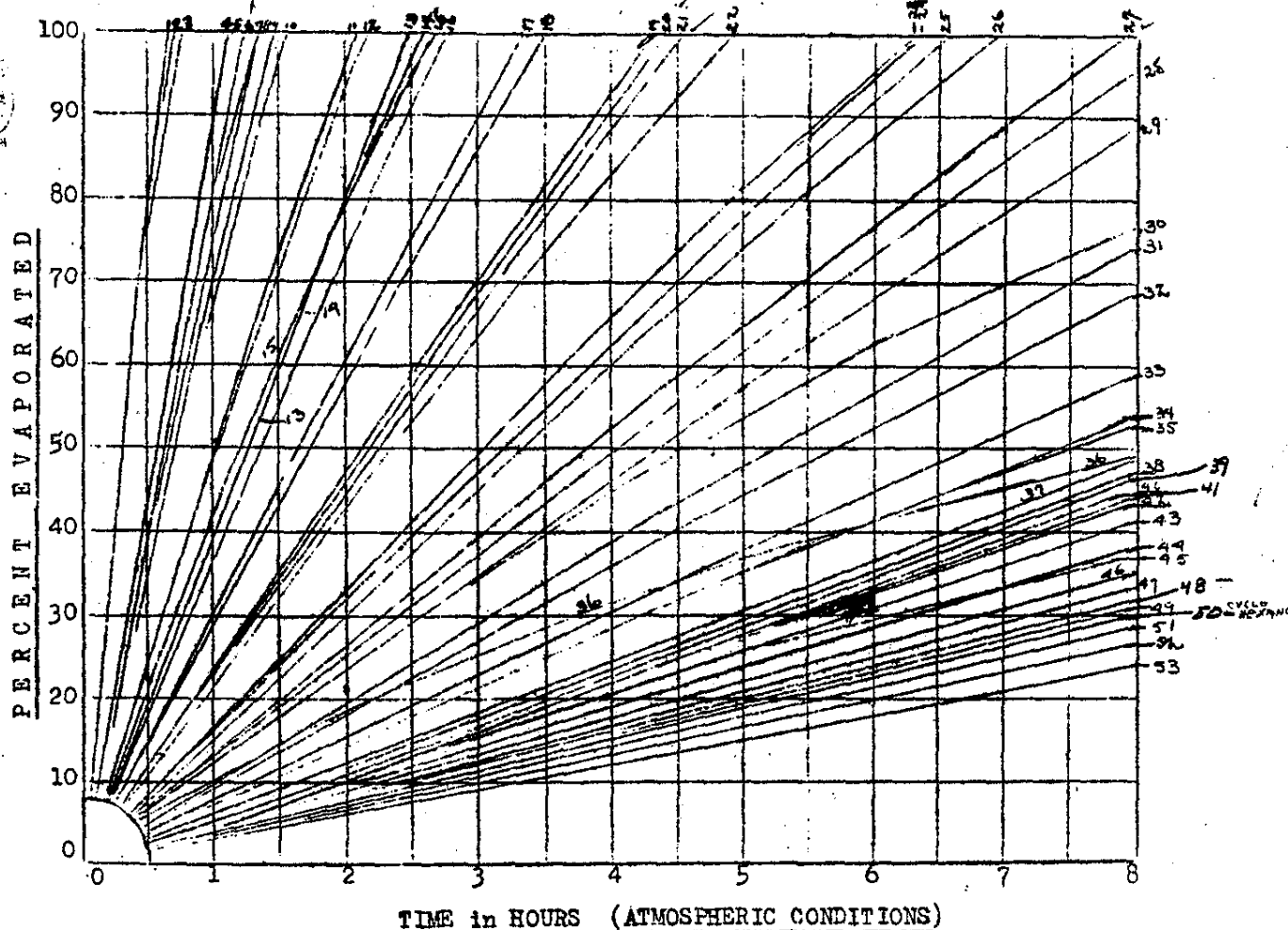
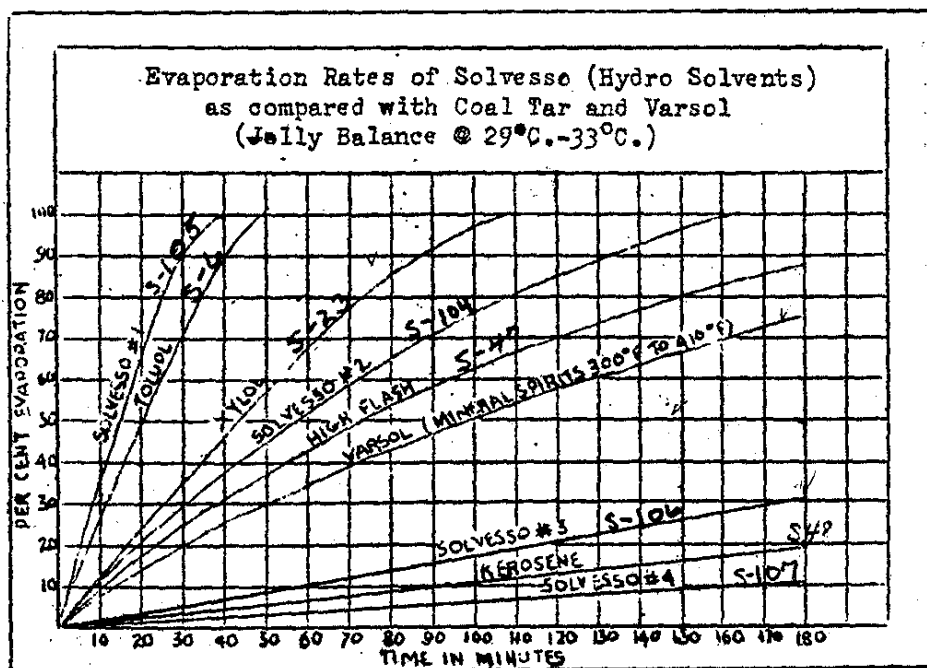


FIGURE 2. RELATIVE EVAPORATION RATES OF FAST TO INTERMEDIATE EVAPORATING LIQUIDS

- | | | |
|--|---------------------------------|-----------------------------------|
| 1. Methyl Acetate | 21. Isobutyl acetate | 41. n-Butanol |
| 2. Acetone | 22. Ethyl butyrate | 42. sec-Amyl alcohol |
| 3. Methylacetone (acetone 48%, methyl acetate 28%, methanol 24%) | 23. Diethyl Cellosolve | 43. Gum Sprts. of Turp. |
| 4. Cyclohexane | 24. Diethyl carbonate | 44. Methyl n-amyl ketone |
| 5. Benzene | 25. sec-Butanol | 45. Solvesso #2 |
| 6. Ethylene dichloride | 26. Monochlorobenzene | 46. Amyl al., mixed isomers |
| 7. Ethyl acetate | 27. n-Butyl acetate | 47. Methyl amyl alcohol |
| 8. Methanol (anhydrous) | 28. Mesityl oxide | 48. Cellosolve |
| 9. Methyl ethyl ketone | 29. Methyl n-butyl ketone | 49. Methyl Cellosolve acetate |
| 10. Isopropyl acetate | 30. Xylene | 50. Cyclohexanone |
| 11. Ethyl propionate | 31. Isobutanol | 51. Isopropyl Cellosolve |
| 12. Ethanol (anhydrous) | 32. sec-Amyl acetate | 52. Hexyl (2-ethyl butyl) acetate |
| 13. Methyl propyl ketone | 33. sec-Hexyl acetate | 53. Cellosolve acetate |
| 14. Isopropanol (anhydrous) | 34. Amyl acetate, mixed isomers | |
| 15. Diethyl ketone | 35. n-Butyl propionate | |
| 16. Petroleum naphtha | 36. Hi-Flash naphtha | |
| 17. Toluene | 37. Methyl Cellosolve | |
| 18. Solvesso No. 1 | 38. Dipropyl ketone | |
| 19. sec-Butyl acetate | 39. Methyl amyl acetate | |
| 20. Hexone (methyl isobutyl ketone) | 40. Steam-distilled turpentine. | |



THE GLIDDEN COMPANY

GENERAL RESEARCH DEPARTMENT

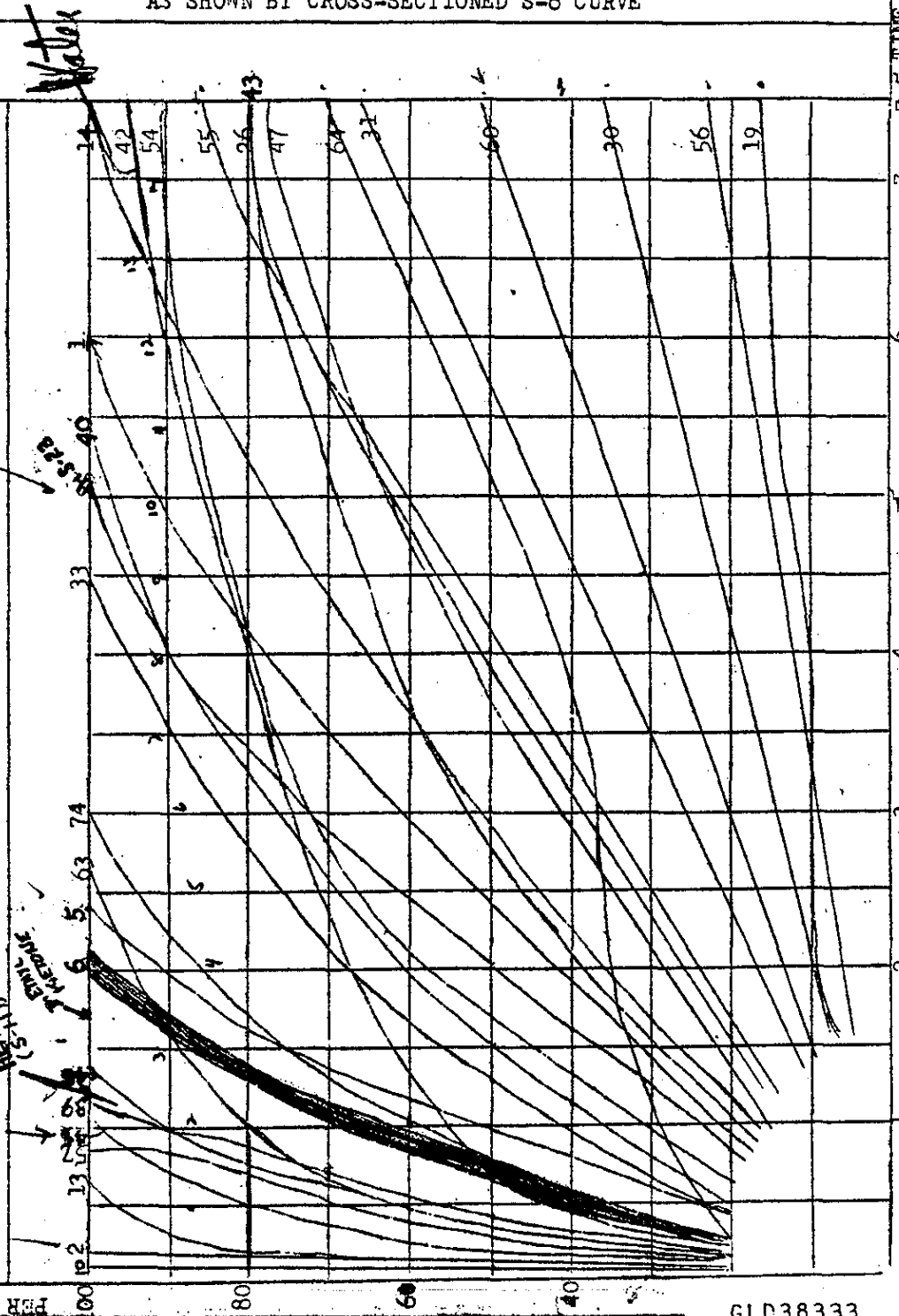
1-13-35

*THESE CURVES ARE PURELY RELATIVE AND DIFFER
FROM THE ABSOLUTE VALUES BY 1 TO 6 PER CENT
AS SHOWN BY CROSS-SECTIONED S-6 CURVE

TIME IN HOURS

- | | | | |
|--------------------|------------------------------------|-----------------------|------------------------------|
| 15-1.-Butanol | 28-19.-Pine Oil | 14 40.-Turpentine | 18-54.-Gasoline (Navy Spec.) |
| 2-2.-Ethyl Acetate | 13 23.-Xylol | 17-42.-Naphtha | 19-55.-Cellosolve |
| 9-5.-Butyl Acetate | 20 26.-Fusel Oil | 21-43.-Heavy Naptha | 27-56.-Butyl Cellosolve |
| 8-6.-Toluol | 26 30.-Hexalin | 7 46.-Benzol | 4-57.-Lactol Spirits |
| 1-10.-Acetone | 24 31.-Solactol (#2+4% Stabilizer) | 27-57.-Solvent Naptha | 560.-Hi Flash Naptha |
| 3-13.-Gasoline | 12-33.-Amvl Acetate | (11) 20 & 74 - Spec. | 10-63.-Wood Ether |
| 16-14.-Water | 6-39.-Secondary Butyl Acetate | Denatured Alcohol | 23 64.-Di Acetone Alcohol |

SOLVENT EVAPORATION CURVES *



PER CENT EVAPORATED

GLD38333

LIQUID DRIERS

DRIER NO.	D-5	D-9-A	D-10	D-15
OIL LENGTH	12.5	100.0	13.0	12.5
SP/GR WT/GAL.	.876 7.297	1.00 8.330	.819 6.822	.875 7.289
NON VOLATILE	41.2%	45.5%	24.0%	41.6%
GALS OIL PER GAL.	0-2 .166	0-2 .269	0-1 .091	0-60 .161
LBS GUM PER GAL.	VM-158 .999 VM-64 .333	VM-259 .269	VM-484 .698	VM-226 1.29
GALS RED. PER GAL.	S-42 .667	S-40 .188 S-51 .097 S-43 .377	S-43 .785	S-43 .645
COMPOSITION %				
OILS	0-2 17.74%	0-2 25.11%	0-1 10.33%	0-60 17.25%
GUMS	VM-158 13.70% VM-64 4.57%	VM-259 3.23%	VM-484 10.23%	VM-226 17.71%
SOLVENTS	S-42 58.82%	S-40 16.35% S-51 8.35% S-43 29.85%	S-43 75.96%	S-43 58.46%
MISC.	CH-37 0.23% VM-310 2.47% VM-320 2.47%	VM-310 2.58% VM-308 6.78% VM-320 7.75%	VM-300 0.41% VM-308 1.53% VM-310 1.53%	VM-308 2.21% VM-250 2.95% VM-314 1.42%
% METALS	NA 0.10% MN 1.56% PB 2.25%	MN 1.63% PB 13.32%	CA 0.29% PB 1.42% MN 0.97%	PB 2.83% MN .83%
USES				

APRIL 8, 1946

GLD38334

LIQUID DRIERS

DRIER NO.	D-29-A	D-30-A	D-43	D-44
OIL LENGTH	0	0	0	0
SP/GR WT/GAL.	.871 7.255	.880 7.332	.919 7.659	.826 6.879
NON VOLATILE	21.8%	20.4%	44.7%	13.2%
GALS OIL PER GAL.	0	0	0	0
LBS GUM PER GAL.	VM-432 .932 VM-433 .651	VM-432 1.50	VM-431 3.42	VM-430 .908
GALS RED. PER GAL.	S-43 .733	S-43 .799	S-43 .337	S-43 .778
COMPOSITION %				
OILS	0	0	0	0
GUMS	0	0	0	0
SOLVENTS	S-43 66.70%	S-43 71.99%	S-43 29.04%	S-43 74.60%
MISC.	VM-432 17.57% VM-433 15.73%	VM-432 28.01%	VM-431 70.96%	VM-430 25.40
% METALS	Pb 4.39% Mn .94%	Pb 7.00%	Zn 5.68%	Co 1.52%
USES				

APRIL 8, 1946

GLD38335

LIQUID DRIERS

DRIER NO.	D-68	D-69		
OIL LENGTH	0	0		
SP/GR WT/GAL.	.829 6.906	.913 7.602		
NON VOLATILE	15.2%	49.5%		
GALS OIL PER GAL.	0	0		
LBS GUM PER GAL.	VM-433 1.05	VM-434 3.76		
GALS RED. PER GAL.	S-43 .770	S-43 .519		
<u>COMPOSITION %</u>				
OILS	0	0		
GUMS	0	0		
SOLVENTS	S-43 73.34%	S-43 45.05%		
MISC.	VM-433 26.66%	VM-434 54.95%		
% METALS	MN 1.60%	FE 3.30%		
USES				

APRIL 8, 1946

GLD38336

DRIER	OIL LENGTH	SP. GR. #1 GAL. BE.	N.V.	GAL. OIL P. GAL	GAL. RED P. GAL	# GUM P. GAL	COMPOSITION OILS GUMS		SOL- VENTS	MISC.	% METALS	G H BODY	USE
D 2 A	0	.872 7.26 30.5	30	0	.762	2.12	0	R 26.3	61.6	CO(NO3)9.25 NA OH 2.3	CO 1.6	A-1½	D 44
D 3	0	.914 7.62 23.2	27	0	.775	2.0	0	R24.9	V69.3	MNSO4 2.72 NA OH 2.95	MN 1.6	A-½	D-468
D 4		.991 8.26 11.3	40	.253	0	0	L.22.9	0	G.T. 61.5	PbO 15.5	Pb 14	A-1	2 3/8 VM432-A 2 5/8 S 43
D 5	12.5	.876 7.30 29.75	41	.176	.703	1.4	L.17.8	R 13-8 K4.6	V 29.8 N28.9	Pb304 2.49 MNO 2.49 NA2 CO3.23	Pb 2.3 MN 1.57	A-2	1 5/8 D 30 A 1 1/8 VM433A 2 ½ S 42
D 6	0	.864 7.20 32.0	38	0	.754	2.73	0	HR 35.5	N 56.9 V.4.9	Pb304 0.45 MNO 2.24	Pb 40 MN 1.42 CA 1.0	A-1	3 1/8 D 468 3/8 D 30-A 1/2 S 42
D 7	33.3	.814 6.76 42.0	25	.142	.782	.427	L 4.1 W 12.7	FK 6.4	N74.5	MNRES 1.07 NOT MNO.26 PbO 1.07		A-1	3/4 D 30 A 5/8 D - 468 3 5/8 S 42
D 9	100	1.00 8.33 0	45	.270	.698	.270	124.4	33.2	GT 27.5 N27.1	PbO 6.79 PbO4 9.10 MNO 2.60	PB 14.3 MN 1.57	A-1	2 3/4 VM432-A 1 1/8 VM433-A 1 1/8 S 43
D 10	12.5	.819 6.82 41	25	.094	.815	.750	S10.6	HR 11.0	N75.3	PbO 1.58 MNO 1.58	Pb 1.42 MNO .95 C/O .22	A-1½	1.83 OA ← 1.0 D30A 2 7/8 D 468 1 1/8 S 42
D 13 B	69.4	.904 7.53 24.75	42	.262	.694	.377	L26.5	K4.1 R0.8	N45.9 V 11.6	PbO 9.08 MNO 2.07	Pb 8.17 MN 1.24	B	1 1/4 VM 432-A 1 VM 433-A 2 3/4 S 43
D 15	12.5	.875 7.29 30.0	41	.170	.680	1.36	L17.3	R6.0 D 11.9	V58.1	PELIN 3.00 PbO 2.25 MNO 1.50	Pb 3.1 MN 0.32	A-1½	2 1/4 D 30-A 7/8 D 468 1 7/8 S 43
D 29	0	.857 7.14 33.3	22	0	.857	1.57	0		V78-0	PO-LIN SOLIGEN 22%	Pb 4.50 MN .96	A-3	D 29.A
D 30	0	.870 7.23 32.5	20	0	.887	1.48	0		V79-6	Pb SOLIGEN 20.4	Pb 6.94	A-2	D 30-A
D 31	0	.854 7.12 34	61	0	.427	Co. SOL. 1.14 Zn SOL 3.19			S39.2	Co SOLIGEN 16.0 Zn SOLIGEN 44.8	Co 0.96 Zn 3.13	A-1	3 D-44 1 D 38 ½ S-43
D 33	0	.819 6.85 41	12.0	0	.909	.819	0		37-8	Pb Co SOLIGEN 12.1%	Pb 30 Co .33	A-1	2 D 30-A 1 D 44 2 S 43

3 D0
1/2 D68
7

DRIER	OIL LENGTH	SP. GR. 71 GAL BE.	N. V.	GAL. OIL P. GAL	GAL. RED. P. GAL	# GUM P. GAL	COMPOSITION OILS	COMPOSITION GUMS	SOL. VENTS	MISC.	METALS	G. H. BODY	USE
D 35	6	.875 7.27 30	41	.115	.650	1.835	L 12.3	R 25.2	V58.9	LITHARGE 2.40 COAC1.55	CO 0.37 PB 2.23	A-1	1 D 44 4 S 43
D 36		.870 7.25 31							S	FE LINOLEATE	FE 3.3	A-1	D-69
D 41		.880 7.30 30								IN OILSO LATE	MN 3.0	A-1	
D 42		.880 7.30 30								CO OILSOLATE	CO 3.0	A-1	
D 44		.819 6.82 41	26		.778	1.75			V74.3	CO SOLIGEN 25.7	CO 1.56	A-1	
D 68											MN-1.6%		
D 69											IRON NAPHTHANE		
D 93											ZINC-5%		

10/7/38

<u>OLD LINE DRIERS</u>	<u>USE</u>	<u>OLD LINE DRIERS</u>	<u>USE</u>
D-1	7/8--VM-432-A 3-1/4--D-68 7/8--S-43	D-15	2-1/4--D-30 7/8--D-68 1-7/8--S-43
D-2-A	D-44	D-16	Discontinued
D-3	D-68	D-17	"
D-4	2-3/8--VM-432-A 2-5/8--S-43	D-18	"
D-5	1-5/8--D-30-A 1-1/8--VM-433-A 2-1/4--S-42	D-19	"
D-6	4 1/8--D-68 3/8--D-30-A 1/2--S-42	D-20	"
D-7	3/4--D-30-A 5/8--D-68 3-5/8--S-42	D-21	"
D-8	Same as D-7	D-22	"
Same as D-7 except for thinner Discontinued		D-23	3-1/2--D-68 1-1/2--D-30-A
D-9	2-3/4--VM-432-A 1-1/8--VM-433-A 1-1/8--S-43	D-24	Dead
D-10	1--D-30-A 2-7/8--D-68 1-1/8--S-42	D-25	"
D-11	2--VM-432-A (A substitute) 3--D-68	D-26	"
D-12	D-44	D-27	Dead, Use D-14 3-3/8--D-30 1-5/8--S-43
Discontinued		D-28	Dead
D-13-B	1-1/4--VM-432-A 1--VM-433-A 2-3/4--S-43	D-29	D-29-A
D-14	4--D-30 1--S-43	D-30	D-30-A
		D-31	3--D-44 1-1/2--D-38 1/2--S-43
		D-32	2-1/2--D-30-A 3/4--VM-433-A 1-3/4--S-43
		D-33	2--D-30-A 1--D-44 2--S-43
		D-34	VM-430
		D-35	1--D-44 4--S-43
		D-36	D-1
		D-37	(N.Y.C.R.R. Spec. Not tanked)

10/7/38

-3-

OLD LINE DRIERS USE

D-38 D-38

D-39 3-1/2--VM-432-A
 1-1/2--VM-433-A

D-40 3-1/2--VM-432-A
 1-1/2--VM-430

D-41 (now purchased in small lots
 no recommendation)

D-42 " " " " "

D-43 2-1/4--D-38
 2-3/4--S-43

D-44 D-44

D-45 (To be discontinued)

D-46 (No code)

D-47 2-1/4--VM-430
 2-3/4--S-43

D-48 (No code)

D-49 (No code)

D-50 1-1/4--VM-432-A
 1-1/4--VM-433-A
 2-1/2--S-43

D-51 1/4--D-30-A
 1-1/2--D-68
 3-1/4--S-43

D-52 (No code)

D-53 " "

D-54 " "

D-55 " "

D-56 " "

D-57 " "

D-58 " "

D-59 " "

D-60 3/4--D-30-A
 2--D-68
 2-1/4--S-43

OLD LINE DRIERS USE

D-61 3/4--D-30-A
 3/4--D-68
 3-1/2--S-43

D-62 Dead

D-63-S 2-1/2--D-44
 2-1/2--S-43

D-64 1-1/4--D-30-A
 3-3/4--S-43

D-65 Dead

D-66 Dead

D-67-A 2-1/4--D-30-A
 2-3/8--D-68
 3/8--D-44

D-68 (No code) MANGANESE

D-69 " "

D-70 Dead

D-71 2--VM-432-A
 3--D-68

D-72 (No code)

D-73 Dead

D-74 Dead

D-75 (No code)

D-76 " "

D-77 " "

D-78 " "

D-79 " "

D-80 Dead

D-81 Dead

D-82 NXL Japan (Not a true drier)

All parts in above list are by volume.

GLD38340