



APPENDIX AVAILABLE ON REQUEST

Research Report 132

**An Updated Study of Mortality Among North American
Synthetic Rubber Industry Workers**

Delzell et al

**Appendix F. Uncertainty Analysis—Random Selection of Percentiles and
Creation of 1,000 Uncertainty Analysis Datasets**

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HEI Appendix F
Was authors' Appendix E

Uncertainty Analysis – Random Selection of Percentiles and
Creation of 1,000 Uncertainty Analysis Datasets

Figure E1. Creation of 1000 datasets for uncertainty analyses

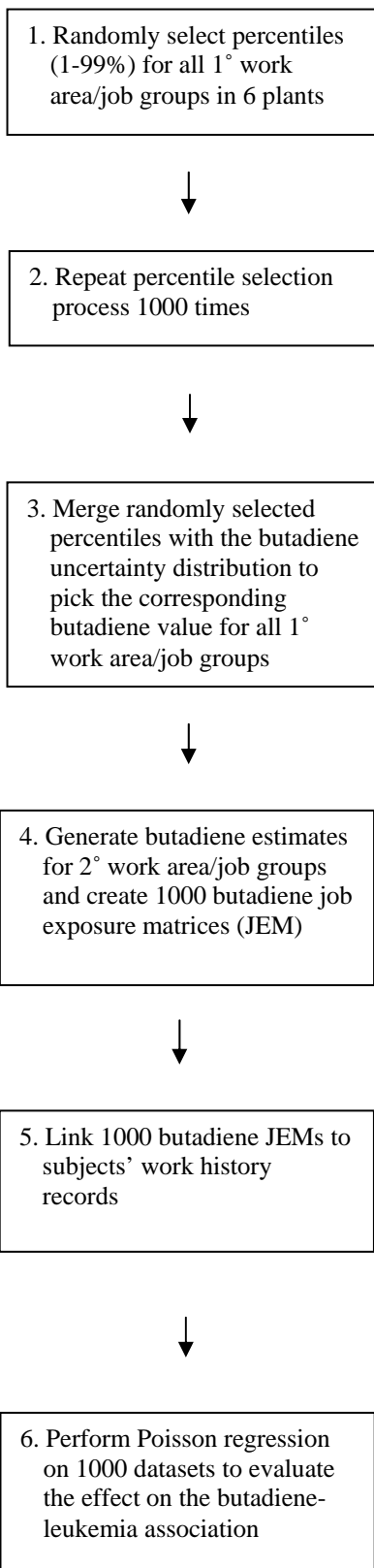


Table E1. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 1

WAJG	Total obs	Selected percentiles													
		Min	Max	Med	Mean	1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
100	1000	1	99	49.5	49.1	202	20	202	20	208	21	199	20	189	19
200	1000	1	99	52.0	50.6	190	19	188	19	207	21	217	22	198	20
209	1000	1	99	51.0	50.6	191	19	207	21	184	18	196	20	222	22
210	1000	1	99	49.0	49.4	201	20	195	20	207	21	196	20	201	20
212	1000	1	99	51.0	50.9	177	18	204	20	210	21	199	20	210	21
300	1000	1	99	50.5	49.8	188	19	208	21	200	20	213	21	191	19
400	1000	1	99	52.0	50.3	165	17	218	22	222	22	217	22	178	18
410	1000	1	99	51.0	50.8	177	18	221	22	186	19	198	20	218	22
420	1000	1	99	49.0	49.3	209	21	206	21	183	18	204	20	198	20
500	1000	1	99	49.0	49.1	196	20	202	20	216	22	209	21	177	18
502	1000	1	99	50.0	50.0	183	18	221	22	194	19	200	20	202	20
504	1000	1	99	48.0	48.8	202	20	207	21	206	21	194	19	191	19
505	1000	1	99	49.0	49.9	180	18	215	22	212	21	205	21	188	19
509	1000	1	99	49.0	49.5	196	20	214	21	190	19	205	21	195	20
512	1000	1	99	48.0	48.9	205	21	216	22	189	19	191	19	199	20
513	1000	1	99	46.0	48.0	217	22	219	22	183	18	186	19	195	20
514	1000	1	99	49.0	49.6	204	20	198	20	194	19	205	21	199	20
519	1000	1	99	53.0	51.9	182	18	187	19	193	19	211	21	227	23
570	1000	1	99	48.0	48.7	213	21	188	19	214	21	201	20	184	18
582	1000	1	99	51.0	50.3	189	19	197	20	208	21	196	20	210	21
600	1000	1	99	48.0	49.2	195	20	214	21	196	20	209	21	186	19
610	1000	1	99	51.5	50.7	199	20	193	19	180	18	205	21	223	22
620	1000	1	99	49.0	50.3	210	21	207	21	174	17	170	17	239	24
630	1000	1	99	49.0	49.7	195	20	213	21	189	19	193	19	210	21
640	1000	1	99	50.0	49.8	201	20	196	20	195	20	209	21	199	20
810	1000	1	99	51.0	50.7	183	18	208	21	187	19	216	22	206	21
813	1000	1	99	52.0	50.5	195	20	197	20	199	20	202	20	207	21
814	1000	1	99	54.0	51.8	174	17	183	18	204	20	228	23	211	21
815	1000	1	99	51.0	50.8	175	18	193	19	225	23	213	21	194	19
817	1000	1	99	49.0	50.0	189	19	204	20	210	21	187	19	210	21
820	1000	1	99	50.0	50.2	185	19	208	21	204	20	192	19	211	21

Table E1. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 1

WAJG	Total obs	Selected percentiles													
		Min	Max	Med	Mean	1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
834	1000	1	99	52.0	51.2	186	19	186	19	203	20	211	21	214	21
835	1000	1	99	51.0	50.0	192	19	202	20	211	21	203	20	192	19
839	1000	1	99	50.0	49.7	210	21	182	18	199	20	210	21	199	20
862	1000	1	99	50.0	50.2	186	19	215	22	196	20	197	20	206	21
865	1000	1	99	51.0	50.5	191	19	190	19	210	21	204	20	205	21
870	1000	1	99	51.0	50.2	185	19	185	19	228	23	219	22	183	18
872	1000	1	99	52.5	50.7	172	17	193	19	222	22	227	23	186	19
874	1000	1	99	51.0	49.7	193	19	206	21	192	19	213	21	196	20
883	1000	1	99	50.0	50.3	195	20	203	20	186	19	209	21	207	21
915	1000	1	99	51.0	49.6	199	20	194	19	191	19	227	23	189	19
950	1000	1	99	49.0	49.4	190	19	204	20	213	21	192	19	201	20
960	1000	1	99	49.0	49.9	188	19	198	20	210	21	196	20	208	21
991	1000	1	99	51.0	50.7	185	19	195	20	210	21	201	20	209	21
992	1000	1	99	48.0	49.9	201	20	213	21	182	18	190	19	214	21
993	1000	1	99	51.0	50.8	178	18	210	21	203	20	193	19	216	22
994	1000	1	99	51.0	50.0	193	19	202	20	198	20	204	20	203	20
995	1000	1	99	51.0	50.1	187	19	203	20	209	21	211	21	190	19

Table E2. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 3

WAJG	Total obs	Selected percentiles													
		Min	Max	Med	Mean	1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
100	1000	1	99	49.0	49.0	204	20	200	20	209	21	191	19	196	20
109	1000	1	99	51.0	51.0	176	18	213	21	190	19	207	21	214	21
200	1000	1	99	49.0	49.4	203	20	200	20	201	20	203	20	193	19
209	1000	1	99	51.0	50.8	178	18	206	21	190	19	219	22	207	21
210	1000	1	99	50.0	50.4	177	18	213	21	205	21	208	21	197	20
212	1000	1	99	50.0	50.3	179	18	203	20	214	21	212	21	192	19
300	1000	1	99	52.0	51.1	188	19	187	19	202	20	195	20	228	23
309	1000	1	99	51.0	50.8	189	19	202	20	186	19	194	19	229	23
400	1000	1	99	51.0	50.9	195	20	186	19	188	19	215	22	216	22
410	1000	1	99	51.0	50.3	200	20	181	18	201	20	216	22	202	20
420	1000	1	99	50.0	49.1	203	20	198	20	205	21	205	21	189	19
500	1000	1	99	52.0	51.4	193	19	188	19	188	19	199	20	232	23
504	1000	1	99	48.0	48.5	207	21	202	20	209	21	194	19	188	19
509	1000	1	99	50.0	48.7	205	21	186	19	225	23	204	20	180	18
512	1000	1	99	52.0	51.3	176	18	184	18	214	21	224	22	202	20
513	1000	1	99	49.0	49.4	191	19	208	21	208	21	204	20	189	19
514	1000	1	99	49.0	49.7	193	19	199	20	208	21	199	20	201	20
522	1000	1	99	48.0	48.8	202	20	207	21	209	21	189	19	193	19
523	1000	1	99	51.0	50.4	190	19	199	20	201	20	202	20	208	21
532	1000	1	99	52.0	51.8	171	17	209	21	180	18	225	23	215	22
542	1000	1	99	53.0	52.3	169	17	188	19	211	21	206	21	226	23
543	1000	1	99	50.0	49.9	195	20	205	21	198	20	204	20	198	20
559	1000	1	99	49.0	49.1	196	20	206	21	201	20	212	21	185	19
562	1000	1	99	49.0	49.4	195	20	206	21	203	20	209	21	187	19
563	1000	1	99	50.5	50.4	194	19	197	20	201	20	202	20	206	21
600	1000	1	99	50.0	50.4	183	18	204	20	207	21	203	20	203	20
609	1000	1	99	50.0	50.1	190	19	203	20	206	21	200	20	201	20
610	1000	1	99	50.5	50.7	188	19	206	21	194	19	196	20	216	22
620	1000	1	99	51.0	50.0	196	20	198	20	202	20	203	20	201	20
630	1000	1	99	49.0	49.9	194	19	200	20	210	21	191	19	205	21
702	1000	1	99	50.0	50.0	183	18	200	20	213	21	218	22	186	19

Table E2. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 3

WAJG	Total obs	Min	Max	Med	Mean	Selected percentiles									
						1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
703	1000	1	99	50.0	50.4	147	15	223	22	244	24	214	21	172	17
704	1000	1	99	52.0	50.8	181	18	198	20	202	20	215	22	204	20
709	1000	1	99	50.0	50.7	174	17	206	21	209	21	207	21	204	20
809	1000	1	99	48.0	49.7	188	19	215	22	194	19	201	20	202	20
810	1000	1	99	53.0	51.3	185	19	200	20	192	19	207	21	216	22
813	1000	1	99	50.0	49.8	194	19	193	19	212	21	204	20	197	20
814	1000	1	99	50.0	50.7	176	18	212	21	199	20	213	21	200	20
815	1000	1	99	47.0	48.2	203	20	222	22	199	20	195	20	181	18
817	1000	1	99	53.0	51.4	182	18	191	19	197	20	206	21	224	22
820	1000	1	99	50.0	50.4	198	20	192	19	199	20	201	20	210	21
833	1000	1	99	52.0	50.3	190	19	193	19	212	21	200	20	205	21
835	1000	1	99	48.0	49.3	193	19	219	22	201	20	185	19	202	20
839	1000	1	99	47.0	48.4	222	22	189	19	199	20	204	20	186	19
909	1000	1	99	49.0	49.1	196	20	206	21	198	20	201	20	199	20
919	1000	1	99	50.0	49.7	191	19	190	19	232	23	209	21	178	18
920	1000	1	99	51.0	50.6	174	17	196	20	232	23	200	20	198	20
929	1000	1	99	49.0	49.3	196	20	223	22	178	18	198	20	205	21
930	1000	1	99	48.0	48.2	207	21	212	21	200	20	206	21	175	18
939	1000	1	99	50.5	49.8	176	18	219	22	218	22	192	19	195	20
950	1000	1	99	53.0	51.5	175	18	207	21	193	19	209	21	216	22
959	1000	1	99	47.0	48.7	190	19	227	23	213	21	179	18	191	19
991	1000	1	99	49.0	49.6	189	19	211	21	203	20	203	20	194	19
992	1000	1	99	52.0	51.2	187	19	183	18	207	21	212	21	211	21
994	1000	1	99	51.0	50.9	179	18	196	20	209	21	211	21	205	21

Table E3. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 4

WAJG	Total obs	Selected percentiles													
		Min	Max	Med	Mean	1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
100	1000	1	99	52.0	51.2	178	18	200	20	205	21	195	20	222	22
200	1000	1	99	51.0	50.0	190	19	199	20	209	21	194	19	208	21
209	1000	1	99	51.0	50.9	198	20	186	19	196	20	197	20	223	22
210	1000	1	99	51.5	50.9	176	18	211	21	211	21	180	18	222	22
212	1000	1	99	49.0	49.6	198	20	194	19	208	21	208	21	192	19
300	1000	1	99	50.0	48.9	202	20	199	20	213	21	198	20	188	19
309	1000	1	99	48.0	49.4	203	20	191	19	208	21	200	20	198	20
400	1000	1	99	48.5	50.1	179	18	221	22	193	19	212	21	195	20
410	1000	1	99	51.0	50.2	195	20	195	20	199	20	201	20	210	21
420	1000	1	99	47.0	48.9	208	21	208	21	194	19	187	19	203	20
500	1000	1	99	49.0	49.8	193	19	199	20	212	21	200	20	196	20
504	1000	1	99	51.0	50.2	186	19	205	21	201	20	207	21	201	20
505	1000	1	99	50.0	50.2	193	19	215	22	170	17	214	21	208	21
509	1000	1	99	50.0	49.6	202	20	190	19	207	21	212	21	189	19
510	1000	1	99	50.0	49.9	195	20	203	20	201	20	207	21	194	19
512	1000	1	99	51.0	50.9	190	19	187	19	209	21	196	20	218	22
513	1000	1	99	49.0	49.4	201	20	200	20	194	19	210	21	195	20
514	1000	1	99	51.0	51.3	189	19	180	18	204	20	209	21	218	22
539	1000	1	99	51.0	50.4	184	18	208	21	200	20	202	20	206	21
542	1000	1	99	51.0	50.4	188	19	201	20	205	21	197	20	209	21
549	1000	1	99	50.0	49.8	195	20	204	20	190	19	213	21	198	20
559	1000	1	99	51.0	49.8	196	20	197	20	204	20	203	20	200	20
582	1000	1	99	49.5	49.8	187	19	198	20	220	22	202	20	193	19
600	1000	1	99	50.0	50.0	184	18	221	22	195	20	192	19	208	21
609	1000	1	99	49.5	50.0	199	20	194	19	195	20	205	21	207	21
610	1000	1	99	50.0	50.0	196	20	189	19	214	21	202	20	199	20
620	1000	1	99	52.0	50.0	195	20	202	20	199	20	196	20	208	21
630	1000	1	99	50.0	50.4	194	19	198	20	191	19	203	20	214	21
800	1000	1	99	49.0	49.6	187	19	211	21	197	20	208	21	197	20
801	1000	1	99	48.5	49.2	208	21	201	20	200	20	185	19	206	21
810	1000	1	99	51.0	48.5	232	23	170	17	219	22	194	19	185	19

Table E3. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 4

WAJG	Total obs	Min	Max	Med	Mean	Selected percentiles									
						1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
813	1000	1	99	48.5	48.9	195	20	214	21	208	21	195	20	188	19
814	1000	1	99	52.0	50.6	200	20	181	18	201	20	208	21	210	21
815	1000	1	99	48.5	48.9	217	22	182	18	213	21	199	20	189	19
817	1000	1	99	50.0	50.0	185	19	216	22	199	20	204	20	196	20
839	1000	1	99	50.0	50.3	197	20	188	19	205	21	202	20	208	21
865	1000	1	99	50.0	49.9	192	19	191	19	214	21	200	20	203	20
871	1000	1	99	50.0	51.0	169	17	213	21	203	20	197	20	218	22
872	1000	1	99	50.0	50.1	180	18	207	21	214	21	194	19	205	21
873	1000	1	99	51.0	50.5	185	19	201	20	212	21	191	19	211	21
874	1000	1	99	49.0	49.0	201	20	205	21	205	21	204	20	185	19
881	1000	1	99	49.0	50.2	177	18	224	22	194	19	204	20	201	20
882	1000	1	99	50.0	50.2	184	18	202	20	205	21	214	21	195	20
883	1000	1	99	52.0	51.1	193	19	177	18	216	22	192	19	222	22
911	1000	1	99	50.5	50.0	185	19	194	19	241	24	179	18	201	20
915	1000	1	99	52.0	50.9	187	19	200	20	200	20	190	19	223	22
991	1000	1	99	50.0	50.8	181	18	211	21	198	20	195	20	215	22
992	1000	1	99	51.0	50.9	182	18	188	19	206	21	220	22	204	20
993	1000	1	99	48.0	48.4	202	20	209	21	205	21	207	21	177	18
995	1000	1	99	49.0	49.4	206	21	201	20	196	20	186	19	211	21
1831	1000	1	99	51.0	50.8	185	19	201	20	192	19	211	21	211	21
1832	1000	1	99	50.0	50.0	193	19	197	20	199	20	222	22	189	19
1833	1000	1	99	50.0	49.8	188	19	202	20	211	21	210	21	189	19

Table E4. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 6

WAJG	Total obs	Selected percentiles													
		Min	Max	Med	Mean	1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
100	1000	1	99	47.5	49.1	202	20	223	22	174	17	203	20	198	20
200	1000	1	99	51.0	50.9	187	19	196	20	191	19	207	21	219	22
210	1000	1	99	51.0	50.8	185	19	184	18	224	22	208	21	199	20
212	1000	1	99	49.0	50.7	178	18	207	21	207	21	189	19	219	22
300	1000	1	99	52.0	50.8	189	19	197	20	197	20	206	21	211	21
309	1000	1	99	48.0	48.5	209	21	206	21	210	21	195	20	180	18
400	1000	1	99	50.0	50.0	189	19	206	21	204	20	205	21	196	20
410	1000	1	99	49.0	49.4	203	20	194	19	202	20	209	21	192	19
420	1000	1	99	48.0	48.9	206	21	191	19	208	21	214	21	181	18
500	1000	1	99	49.0	49.4	202	20	201	20	187	19	214	21	196	20
504	1000	1	99	48.0	48.0	239	24	163	16	216	22	202	20	180	18
505	1000	1	99	47.0	48.3	191	19	223	22	222	22	187	19	177	18
512	1000	1	99	50.0	50.4	194	19	200	20	192	19	196	20	218	22
513	1000	1	99	49.0	48.8	197	20	208	21	218	22	187	19	190	19
519	1000	1	99	52.0	50.9	187	19	191	19	205	21	215	22	202	20
570	1000	1	99	49.0	48.8	197	20	216	22	210	21	194	19	183	18
578	1000	1	99	51.0	50.5	177	18	219	22	199	20	205	21	200	20
582	1000	1	99	51.0	50.1	193	19	198	20	201	20	200	20	208	21
600	1000	1	99	52.0	51.1	196	20	176	18	201	20	198	20	229	23
610	1000	1	99	50.0	50.0	192	19	204	20	203	20	201	20	200	20
640	1000	1	99	50.0	49.8	185	19	213	21	202	20	207	21	193	19
810	1000	1	99	51.0	50.9	182	18	196	20	208	21	200	20	214	21
813	1000	1	99	52.0	51.0	190	19	200	20	184	18	212	21	214	21
814	1000	1	99	53.0	51.5	182	18	186	19	204	20	211	21	217	22
815	1000	1	99	49.0	49.5	198	20	203	20	196	20	203	20	200	20
817	1000	1	99	49.0	49.1	202	20	199	20	205	21	200	20	194	19
820	1000	1	99	48.5	48.4	193	19	231	23	228	23	155	16	193	19
834	1000	1	99	52.0	51.1	193	19	182	18	202	20	213	21	210	21
835	1000	1	99	50.0	50.2	192	19	200	20	207	21	199	20	202	20
839	1000	1	99	50.0	50.9	187	19	192	19	212	21	188	19	221	22
840	1000	1	99	52.0	51.4	185	19	195	20	202	20	204	20	214	21

Table E4. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 6

WAJG	Total obs	Min	Max	Med	Mean	Selected percentiles									
						1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
841	1000	1	99	51.0	50.5	196	20	191	19	202	20	203	20	208	21
842	1000	1	99	53.0	51.5	169	17	209	21	199	20	212	21	211	21
852	1000	1	99	49.0	49.1	193	19	224	22	197	20	199	20	187	19
915	1000	1	99	51.0	49.9	196	20	187	19	212	21	211	21	194	19
941	1000	1	99	52.0	50.9	191	19	195	20	187	19	210	21	217	22
980	1000	1	99	51.0	50.2	189	19	203	20	197	20	203	20	208	21
991	1000	1	99	49.0	49.5	195	20	212	21	191	19	194	19	208	21
992	1000	1	99	49.0	49.3	197	20	205	21	194	19	209	21	195	20
993	1000	1	99	49.0	49.6	187	19	221	22	197	20	205	21	190	19

Table E5. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 7

WAJG	Total obs	Selected percentiles													
		Min	Max	Med	Mean	1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
100	1000	1	99	53.0	51.5	185	19	196	20	189	19	209	21	221	22
109	1000	1	99	50.0	50.5	206	21	189	19	186	19	192	19	227	23
210	1000	1	99	50.0	49.5	198	20	198	20	215	22	195	20	194	19
212	1000	1	99	50.5	49.6	191	19	195	20	225	23	202	20	187	19
300	1000	1	99	50.0	50.0	192	19	193	19	218	22	193	19	204	20
309	1000	1	99	50.0	49.7	192	19	206	21	204	20	200	20	198	20
310	1000	1	99	50.0	49.9	203	20	190	19	205	21	198	20	204	20
320	1000	1	99	48.0	49.1	189	19	219	22	205	21	195	20	192	19
321	1000	1	99	50.0	50.5	177	18	209	21	211	21	201	20	202	20
330	1000	1	99	50.0	50.0	173	17	208	21	223	22	209	21	187	19
340	1000	1	99	53.0	51.4	197	20	184	18	175	18	228	23	216	22
353	1000	1	99	51.0	48.9	219	22	188	19	191	19	215	22	187	19
359	1000	1	99	51.0	50.0	191	19	196	20	210	21	206	21	197	20
399	1000	1	99	50.0	50.2	190	19	205	21	203	20	207	21	195	20
400	1000	1	99	47.0	48.7	221	22	196	20	197	20	180	18	206	21
401	1000	1	99	51.0	49.6	196	20	199	20	202	20	216	22	187	19
402	1000	1	99	51.0	50.9	175	18	207	21	203	20	205	21	210	21
403	1000	1	99	50.5	50.8	193	19	196	20	192	19	198	20	221	22
404	1000	1	99	50.0	50.4	185	19	195	20	213	21	197	20	210	21
405	1000	1	99	51.0	50.4	185	19	205	21	196	20	209	21	205	21
406	1000	1	99	48.5	49.4	184	18	219	22	203	20	201	20	193	19
410	1000	1	99	52.0	50.3	200	20	191	19	186	19	220	22	203	20
421	1000	1	99	50.0	50.2	186	19	208	21	196	20	209	21	201	20
423	1000	1	99	51.0	49.7	215	22	179	18	190	19	220	22	196	20
425	1000	1	99	47.5	48.7	187	19	232	23	203	20	198	20	180	18
426	1000	1	99	54.0	51.2	179	18	202	20	186	19	234	23	199	20
428	1000	1	99	48.5	49.3	200	20	202	20	205	21	200	20	193	19
429	1000	1	99	51.0	50.7	188	19	194	19	196	20	227	23	195	20
432	1000	1	99	51.0	49.0	214	21	188	19	192	19	223	22	183	18
437	1000	1	99	53.5	51.5	186	19	174	17	206	21	228	23	206	21
450	1000	1	99	51.5	50.4	192	19	198	20	195	20	204	20	211	21

Table E5. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 7

WAJG	Total obs	Min	Max	Med	Mean	Selected percentiles									
						1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
451	1000	1	99	50.0	49.7	189	19	209	21	188	19	222	22	192	19
459	1000	1	99	49.0	49.7	190	19	200	20	208	21	201	20	201	20
460	1000	1	99	47.0	48.4	189	19	233	23	201	20	190	19	187	19
470	1000	1	99	48.0	49.5	187	19	212	21	208	21	196	20	197	20
471	1000	1	99	49.0	49.2	202	20	209	21	193	19	208	21	188	19
472	1000	1	99	54.0	52.4	172	17	194	19	203	20	204	20	227	23
479	1000	1	99	48.0	48.8	196	20	207	21	214	21	205	21	178	18
480	1000	1	99	49.0	49.4	179	18	222	22	215	22	180	18	204	20
500	1000	1	99	49.5	50.4	203	20	190	19	203	20	176	18	228	23
504	1000	1	99	50.0	50.1	168	17	222	22	212	21	220	22	178	18
505	1000	1	99	49.0	50.3	164	16	216	22	224	22	209	21	187	19
514	1000	1	99	52.0	51.1	178	18	197	20	212	21	218	22	195	20
520	1000	1	99	48.0	48.5	213	21	210	21	188	19	195	20	194	19
560	1000	1	99	50.0	50.4	189	19	209	21	196	20	192	19	214	21
561	1000	1	99	48.0	49.0	207	21	214	21	189	19	190	19	200	20
562	1000	1	99	48.0	48.5	210	21	209	21	187	19	204	20	190	19
563	1000	1	99	52.0	51.3	176	18	195	20	203	20	221	22	205	21
570	1000	1	99	50.5	49.3	204	20	196	20	201	20	212	21	187	19
580	1000	1	99	50.0	49.9	189	19	211	21	194	19	203	20	203	20
581	1000	1	99	51.0	50.0	191	19	201	20	207	21	205	21	196	20
582	1000	1	99	53.0	51.5	179	18	166	17	234	23	222	22	199	20
583	1000	1	99	53.0	51.9	177	18	198	20	202	20	190	19	233	23
589	1000	1	99	50.0	50.0	190	19	204	20	202	20	201	20	203	20
590	1000	1	99	49.0	49.8	188	19	215	22	196	20	204	20	197	20
591	1000	1	99	50.0	49.1	218	22	182	18	208	21	192	19	200	20
593	1000	1	99	53.0	50.9	181	18	190	19	210	21	223	22	196	20
594	1000	1	99	50.0	49.7	196	20	191	19	209	21	216	22	188	19
595	1000	1	99	51.0	50.4	194	19	201	20	192	19	205	21	208	21
598	1000	1	99	49.0	49.0	213	21	199	20	187	19	210	21	191	19
600	1000	1	99	50.0	49.7	206	21	179	18	219	22	192	19	204	20
609	1000	1	99	52.0	50.9	183	18	198	20	193	19	209	21	217	22
610	1000	1	99	49.0	49.9	191	19	194	19	221	22	191	19	203	20

Table E5. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 7

WAJG	Total obs	Min	Max	Med	Mean	Selected percentiles									
						1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
620	1000	1	99	50.5	50.6	212	21	175	18	188	19	206	21	219	22
630	1000	1	99	51.0	50.8	192	19	181	18	215	22	195	20	217	22
640	1000	1	99	49.5	50.6	179	18	209	21	208	21	176	18	228	23
669	1000	1	99	49.5	50.4	187	19	196	20	205	21	205	21	207	21
679	1000	1	99	53.0	51.8	178	18	190	19	201	20	216	22	215	22
689	1000	1	99	48.0	48.7	218	22	204	20	184	18	198	20	196	20
690	1000	1	99	49.5	49.7	185	19	212	21	216	22	194	19	193	19
691	1000	1	99	50.0	50.7	185	19	209	21	200	20	193	19	213	21
692	1000	1	99	50.0	50.1	189	19	193	19	209	21	211	21	198	20
703	1000	1	99	50.0	49.6	191	19	206	21	214	21	197	20	192	19
704	1000	1	99	49.5	50.4	180	18	205	21	213	21	198	20	204	20
707	1000	1	99	49.0	49.6	193	19	193	19	217	22	214	21	183	18
709	1000	1	99	51.0	50.1	198	20	195	20	199	20	203	20	205	21
712	1000	1	99	49.0	48.9	196	20	207	21	214	21	207	21	176	18
720	1000	1	99	51.0	49.9	212	21	185	19	195	20	205	21	203	20
721	1000	1	99	51.0	50.4	195	20	181	18	211	21	204	20	209	21
729	1000	1	99	52.0	50.9	179	18	203	20	206	21	196	20	216	22
730	1000	1	99	50.0	49.5	195	20	201	20	210	21	196	20	198	20
731	1000	1	99	49.0	50.2	179	18	213	21	201	20	216	22	191	19
732	1000	1	99	50.0	50.2	172	17	196	20	246	25	189	19	197	20
739	1000	1	99	51.0	50.4	180	18	213	21	198	20	213	21	196	20
740	1000	1	99	54.0	51.8	172	17	188	19	200	20	233	23	207	21
741	1000	1	99	48.0	48.8	205	21	191	19	204	20	202	20	198	20
749	1000	1	99	49.0	50.6	188	19	201	20	204	20	190	19	217	22
750	1000	1	99	49.0	50.0	193	19	192	19	219	22	195	20	201	20
751	1000	1	99	52.0	51.5	179	18	188	19	201	20	217	22	215	22
759	1000	1	99	50.0	49.6	207	21	185	19	215	22	188	19	205	21
760	1000	1	99	50.0	50.5	200	20	192	19	196	20	190	19	222	22
762	1000	1	99	51.0	50.6	199	20	189	19	193	19	197	20	222	22
782	1000	1	99	51.0	50.4	186	19	197	20	210	21	200	20	207	21
783	1000	1	99	50.5	50.2	199	20	194	19	214	21	188	19	205	21
784	1000	1	99	50.0	50.5	191	19	194	19	207	21	200	20	208	21

Table E5. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 7

WAJG	Total obs	Min	Max	Med	Mean	Selected percentiles									
						1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
785	1000	1	99	48.0	49.4	200	20	218	22	186	19	190	19	206	21
789	1000	1	99	50.0	51.3	171	17	214	21	201	20	190	19	224	22
790	1000	1	99	49.0	49.5	191	19	202	20	206	21	221	22	180	18
809	1000	1	99	53.0	51.9	179	18	183	18	196	20	226	23	216	22
810	1000	1	99	49.0	49.5	190	19	205	21	214	21	201	20	190	19
813	1000	1	99	48.0	49.0	209	21	197	20	191	19	221	22	182	18
814	1000	1	99	49.0	49.3	211	21	197	20	197	20	195	20	200	20
815	1000	1	99	50.0	50.1	201	20	199	20	180	18	212	21	208	21
817	1000	1	99	51.0	51.2	169	17	212	21	216	22	182	18	221	22
819	1000	1	99	50.0	50.2	186	19	209	21	202	20	190	19	213	21
820	1000	1	99	50.0	50.3	182	18	203	20	214	21	205	21	196	20
833	1000	1	99	47.5	48.7	198	20	217	22	213	21	189	19	183	18
835	1000	1	99	49.0	50.2	188	19	212	21	177	18	217	22	206	21
839	1000	1	99	51.0	50.3	185	19	197	20	215	22	205	21	198	20
852	1000	1	99	51.0	51.5	167	17	206	21	207	21	205	21	215	22
859	1000	1	99	43.5	48.4	172	17	223	22	212	21	187	19	206	21
919	1000	1	99	51.0	50.2	186	19	207	21	206	21	194	19	207	21
929	1000	1	99	49.0	48.8	231	23	188	19	170	17	215	22	196	20
931	1000	1	99	50.5	50.3	176	18	209	21	214	21	205	21	196	20
932	1000	1	99	50.0	50.1	181	18	212	21	211	21	191	19	205	21
942	1000	1	99	48.0	48.7	203	20	213	21	201	20	195	20	188	19
949	1000	1	99	48.0	48.6	195	20	211	21	230	23	181	18	183	18
959	1000	1	99	53.0	51.1	182	18	189	19	205	21	215	22	209	21
999	1000	1	99	53.0	51.2	189	19	185	19	199	20	223	22	204	20
1000	1000	1	99	48.0	48.7	211	21	193	19	210	21	202	20	184	18
1001	1000	1	99	50.0	50.2	172	17	211	21	215	22	217	22	185	19
1002	1000	1	99	49.0	49.8	191	19	214	21	188	19	202	20	205	21
1003	1000	1	99	47.0	49.3	183	18	231	23	197	20	195	20	194	19
1004	1000	1	99	51.0	50.2	198	20	189	19	195	20	221	22	197	20
1005	1000	1	99	50.0	49.4	192	19	212	21	203	20	195	20	198	20
1006	1000	1	99	50.0	49.7	198	20	199	20	206	21	197	20	200	20
1007	1000	1	99	53.0	50.7	187	19	189	19	199	20	226	23	199	20

Table E5. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 7

WAJG	Total obs	Min	Max	Med	Mean	Selected percentiles									
						1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
1008	1000	1	99	49.0	49.6	190	19	220	22	196	20	183	18	211	21
1009	1000	1	99	49.5	50.0	186	19	205	21	208	21	195	20	206	21
1010	1000	1	99	50.0	50.0	183	18	202	20	212	21	204	20	199	20
1011	1000	1	99	51.0	49.9	199	20	193	19	208	21	199	20	201	20
1012	1000	1	99	51.0	49.8	210	21	184	18	196	20	215	22	195	20
1013	1000	1	99	49.0	49.6	196	20	199	20	208	21	192	19	205	21
1014	1000	1	99	49.0	49.0	213	21	186	19	197	20	217	22	187	19
1101	1000	1	99	51.0	50.2	189	19	208	21	202	20	202	20	199	20
1201	1000	1	99	51.0	49.9	189	19	204	20	208	21	200	20	199	20
1202	1000	1	99	47.0	48.0	209	21	203	20	226	23	181	18	181	18
1203	1000	1	99	51.5	50.5	186	19	193	19	202	20	230	23	189	19
2901	1000	1	99	51.0	49.7	187	19	197	20	223	22	213	21	180	18
2902	1000	1	99	50.0	50.3	193	19	198	20	195	20	206	21	208	21
2903	1000	1	99	51.5	51.0	192	19	197	20	177	18	216	22	218	22
2904	1000	1	99	48.0	49.4	211	21	191	19	200	20	188	19	210	21
2905	1000	1	99	51.0	51.1	161	16	209	21	219	22	207	21	204	20
2971	1000	1	99	50.0	49.0	202	20	220	22	173	17	207	21	198	20
2972	1000	1	99	50.0	50.2	185	19	205	21	211	21	198	20	201	20
2974	1000	1	99	49.0	49.3	206	21	199	20	192	19	194	19	209	21
2981	1000	1	99	50.0	50.5	183	18	210	21	200	20	199	20	208	21
2982	1000	1	99	50.0	49.9	189	19	205	21	204	20	201	20	201	20
2984	1000	1	99	49.0	50.4	181	18	199	20	212	21	203	20	205	21
2985	1000	1	99	49.0	50.0	209	21	193	19	178	18	204	20	216	22

Table E6. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 8

WAJG	Total obs	Selected percentiles													
		Min	Max	Med	Mean	1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
100	1000	1	99	49.0	50.0	193	19	207	21	204	20	188	19	208	21
200	1000	1	99	50.5	49.7	204	20	201	20	189	19	207	21	199	20
209	1000	1	99	52.0	50.9	183	18	209	21	192	19	194	19	222	22
210	1000	1	99	50.0	49.5	195	20	215	22	200	20	183	18	207	21
212	1000	1	99	51.0	50.4	184	18	198	20	215	22	217	22	186	19
300	1000	1	99	50.0	49.6	203	20	194	19	206	21	202	20	195	20
309	1000	1	99	51.0	50.5	189	19	186	19	214	21	208	21	203	20
400	1000	1	99	51.0	50.6	185	19	203	20	191	19	212	21	209	21
410	1000	1	99	49.0	50.1	185	19	205	21	223	22	181	18	206	21
420	1000	1	99	48.5	49.9	188	19	223	22	183	18	205	21	201	20
500	1000	1	99	51.0	50.1	188	19	199	20	207	21	196	20	210	21
504	1000	1	99	51.0	51.7	157	16	208	21	214	21	204	20	217	22
505	1000	1	99	50.5	49.9	185	19	205	21	201	20	218	22	191	19
509	1000	1	99	51.0	50.0	193	19	205	21	199	20	189	19	214	21
512	1000	1	99	50.0	50.0	198	20	198	20	211	21	196	20	197	20
513	1000	1	99	49.0	49.9	191	19	207	21	207	21	191	19	204	20
514	1000	1	99	52.0	50.5	180	18	201	20	198	20	221	22	200	20
531	1000	1	99	50.0	50.3	187	19	192	19	223	22	195	20	203	20
543	1000	1	99	53.0	51.2	190	19	185	19	195	20	220	22	210	21
559	1000	1	99	50.0	50.0	184	18	209	21	205	21	200	20	202	20
560	1000	1	99	49.0	49.4	197	20	201	20	205	21	197	20	200	20
561	1000	1	99	50.0	50.6	176	18	212	21	196	20	209	21	207	21
563	1000	1	99	50.0	49.5	197	20	200	20	199	20	211	21	193	19
578	1000	1	99	49.0	49.6	206	21	202	20	181	18	198	20	213	21
582	1000	1	99	49.0	49.8	186	19	210	21	199	20	205	21	200	20
600	1000	1	99	49.5	49.5	199	20	199	20	201	20	206	21	195	20
610	1000	1	99	50.0	49.7	192	19	203	20	203	20	199	20	203	20
620	1000	1	99	50.0	50.3	188	19	209	21	193	19	185	19	225	23
630	1000	1	99	52.0	51.5	170	17	195	20	212	21	218	22	205	21
640	1000	1	99	50.0	49.7	197	20	203	20	202	20	204	20	194	19
705	1000	1	99	49.0	49.0	212	21	203	20	196	20	191	19	198	20

Table E6. Distribution of percentiles selected to specify 1,000 butadiene JEMs by primary work area/job group (WAJG), plant 8

WAJG	Total obs	Min	Max	Med	Mean	Selected percentiles									
						1-19 th		20-39 th		40-59 th		60-79 th		80 th +	
						N	%	N	%	N	%	N	%	N	%
706	1000	1	99	51.0	49.6	194	19	211	21	188	19	218	22	189	19
810	1000	1	99	49.0	49.4	190	19	213	21	205	21	195	20	197	20
813	1000	1	99	50.0	50.1	189	19	201	20	210	21	201	20	199	20
814	1000	1	99	49.0	48.9	205	21	192	19	197	20	227	23	179	18
815	1000	1	99	51.0	50.5	184	18	203	20	193	19	214	21	206	21
817	1000	1	99	50.0	50.0	203	20	189	19	200	20	203	20	205	21
820	1000	1	99	51.0	49.1	206	21	195	20	204	20	218	22	177	18
829	1000	1	99	49.0	48.3	215	22	207	21	201	20	205	21	172	17
834	1000	1	99	49.0	49.0	217	22	194	19	194	19	200	20	195	20
835	1000	1	99	50.0	50.4	191	19	188	19	206	21	211	21	204	20
839	1000	1	99	51.0	49.9	201	20	202	20	201	20	205	21	191	19
852	1000	1	99	52.0	51.2	181	18	196	20	199	20	217	22	207	21
909	1000	1	99	50.0	49.7	192	19	208	21	201	20	202	20	197	20
910	1000	1	99	48.0	48.6	199	20	213	21	196	20	196	20	196	20
915	1000	1	99	50.0	50.2	185	19	214	21	192	19	203	20	206	21
940	1000	1	99	54.0	51.0	194	19	193	19	178	18	213	21	222	22
949	1000	1	99	50.0	50.0	190	19	195	20	210	21	208	21	197	20
950	1000	1	99	49.0	49.0	207	21	197	20	209	21	204	20	183	18
970	1000	1	99	48.5	50.5	181	18	200	20	228	23	174	17	217	22
971	1000	1	99	50.0	50.4	179	18	214	21	201	20	206	21	200	20
972	1000	1	99	50.0	49.5	215	22	193	19	185	19	200	20	207	21
979	1000	1	99	48.0	49.3	199	20	199	20	209	21	206	21	187	19
991	1000	1	99	50.0	49.4	195	20	191	19	226	23	196	20	192	19
992	1000	1	99	50.0	50.8	166	17	220	22	204	20	203	20	207	21
993	1000	1	99	50.0	50.2	195	20	204	20	203	20	187	19	211	21
994	1000	1	99	48.0	48.6	208	21	197	20	213	21	198	20	184	18

Table E7. Distribution of percentiles selected to specify 1,000 butadiene JEMs by dataset number and plant, first 50 datasets

Dataset number		Plant					
		1 Percentile	3 Percentile	4 Percentile	6 Percentile	7 Percentile	8 Percentile
1	Min	4	3	1	5	1	2
	Max	99	97	97	99	99	99
	Median	44.0	56.0	62.0	59.0	40.0	61.0
	Mean	56.5	55.5	51.0	57.8	43.6	56.3
2	Min	1	1	7	3	1	2
	Max	98	99	99	96	99	98
	Median	40.0	64.0	28.0	59.0	56.0	68.0
	Mean	49.3	54.8	36.2	49.0	53.5	58.7
3	Min	2	3	1	1	1	1
	Max	99	99	99	99	98	98
	Median	45.0	52.0	53.0	60.0	49.0	14.0
	Mean	47.4	52.3	50.0	56.5	48.9	31.3
4	Min	3	2	1	1	1	2
	Max	95	99	96	98	99	99
	Median	57.0	54.0	49.0	68.0	46.0	43.0
	Mean	50.8	58.0	44.5	55.8	48.4	44.5
5	Min	1	5	3	2	1	3
	Max	97	99	99	95	99	93
	Median	64.0	68.0	65.0	49.0	56.0	63.0
	Mean	53.1	60.7	64.3	45.2	49.3	60.0
6	Min	1	1	2	1	2	4
	Max	99	95	99	98	99	99
	Median	33.0	42.0	79.0	73.0	41.0	32.0
	Mean	43.1	45.5	64.0	62.3	44.8	39.3
7	Min	1	1	1	4	1	2
	Max	98	98	94	99	99	98
	Median	70.0	61.0	55.0	48.0	45.0	58.0
	Mean	57.0	50.9	46.4	49.8	47.5	48.0
8	Min	1	2	1	8	1	1
	Max	99	98	98	99	99	89
	Median	55.0	46.0	22.0	52.0	43.0	38.0
	Mean	58.7	45.2	31.3	53.6	46.5	45.6
9	Min	1	1	5	1	1	2
	Max	99	98	99	99	99	98
	Median	44.0	57.0	63.0	41.0	53.0	58.0
	Mean	54.7	60.3	53.9	47.1	52.6	62.4

Table E7. Distribution of percentiles selected to specify 1,000 butadiene JEMs by dataset number and plant, first 50 datasets

Dataset number		Plant					
		1 Percentile	3 Percentile	4 Percentile	6 Percentile	7 Percentile	8 Percentile
10	Min	2	2	1	3	1	1
	Max	99	98	99	99	99	98
	Median	54.0	49.0	31.0	58.0	47.0	47.0
	Mean	49.9	50.7	35.3	54.3	48.7	52.1
11	Min	1	1	1	1	1	1
	Max	98	97	95	99	99	97
	Median	44.0	41.0	39.0	41.0	66.0	44.0
	Mean	52.4	44.4	41.1	53.6	57.8	48.5
12	Min	3	2	4	3	1	1
	Max	99	96	99	96	99	99
	Median	55.0	43.0	61.0	53.0	59.0	30.0
	Mean	52.1	46.2	56.5	50.9	51.1	42.9
13	Min	3	1	3	1	1	1
	Max	98	98	99	97	99	99
	Median	30.0	45.0	51.0	41.0	55.0	59.0
	Mean	39.8	48.3	53.9	40.5	47.4	60.9
14	Min	1	3	3	1	1	1
	Max	99	96	97	99	99	99
	Median	45.0	56.0	47.0	55.0	46.0	36.0
	Mean	49.1	51.7	41.6	53.6	43.9	44.7
15	Min	1	2	1	2	1	3
	Max	99	96	99	99	99	99
	Median	27.0	36.0	51.0	61.0	54.0	56.0
	Mean	37.2	42.2	45.5	62.7	51.5	53.8
16	Min	1	5	3	1	2	2
	Max	98	99	87	98	99	98
	Median	72.0	55.0	25.0	29.0	49.0	34.0
	Mean	58.6	47.9	31.8	47.1	50.0	48.6
17	Min	2	4	1	5	1	3
	Max	99	96	99	98	99	99
	Median	39.0	51.0	54.0	53.0	53.0	56.0
	Mean	41.9	51.2	54.1	58.6	47.4	57.0
18	Min	2	5	1	5	1	2
	Max	98	99	95	98	99	99
	Median	36.0	55.0	51.0	66.0	49.0	43.0
	Mean	49.9	52.1	48.9	58.0	49.5	47.9

Table E7. Distribution of percentiles selected to specify 1,000 butadiene JEMs by dataset number and plant, first 50 datasets

Dataset number		Plant					
		1 Percentile	3 Percentile	4 Percentile	6 Percentile	7 Percentile	8 Percentile
19	Min	2	1	4	1	1	4
	Max	97	99	98	97	99	99
	Median	56.0	57.0	45.0	51.0	53.0	40.0
	Mean	51.3	54.8	53.4	53.1	50.7	49.9
20	Min	2	1	3	3	2	3
	Max	99	96	98	97	99	99
	Median	44.0	36.0	51.0	70.0	47.0	80.0
	Mean	51.6	37.6	56.4	61.4	49.3	54.0
21	Min	7	1	4	8	1	2
	Max	98	99	98	98	99	99
	Median	48.0	58.0	69.0	47.0	48.0	39.0
	Mean	47.2	56.5	63.2	53.1	45.6	38.2
22	Min	3	1	3	6	1	2
	Max	86	96	99	95	99	99
	Median	49.0	52.0	46.0	70.0	42.0	39.0
	Mean	41.9	52.4	52.0	60.3	46.4	44.6
23	Min	2	5	1	1	1	1
	Max	96	99	99	97	99	97
	Median	51.0	53.0	70.0	32.0	45.0	70.0
	Mean	50.5	52.7	60.6	47.8	48.7	55.3
24	Min	4	1	1	2	1	4
	Max	97	99	98	99	99	99
	Median	43.0	45.0	43.0	73.0	58.0	62.0
	Mean	53.7	48.1	47.3	66.8	54.0	61.6
25	Min	2	1	4	3	1	3
	Max	99	97	97	95	99	95
	Median	47.0	45.0	37.0	77.0	60.0	47.0
	Mean	46.1	43.4	40.4	64.7	54.4	46.8
26	Min	1	1	13	1	1	3
	Max	96	99	98	95	99	98
	Median	40.0	49.0	74.0	55.0	46.0	24.0
	Mean	42.8	45.6	64.5	49.2	50.1	39.1
27	Min	1	2	1	1	3	1
	Max	97	99	99	97	98	99
	Median	53.0	40.0	38.0	59.0	38.0	59.0
	Mean	51.0	48.6	42.1	54.5	42.5	61.5

Table E7. Distribution of percentiles selected to specify 1,000 butadiene JEMs by dataset number and plant, first 50 datasets

Dataset number		Plant					
		1 Percentile	3 Percentile	4 Percentile	6 Percentile	7 Percentile	8 Percentile
28	Min	2	3	2	5	1	1
	Max	99	96	99	99	99	98
	Median	46.0	34.0	68.0	50.0	54.0	52.0
	Mean	45.9	40.2	55.6	48.5	52.0	54.4
29	Min	1	1	1	1	1	4
	Max	92	99	94	97	99	99
	Median	37.0	62.0	47.0	39.0	40.0	48.0
	Mean	42.4	58.2	45.8	49.7	46.4	48.6
30	Min	2	3	1	1	1	3
	Max	99	98	98	98	98	99
	Median	58.0	56.0	52.0	66.0	48.0	69.0
	Mean	41.1	57.1	52.0	60.4	44.7	62.9
31	Min	2	1	2	1	1	1
	Max	94	98	98	99	98	98
	Median	36.0	45.0	49.0	83.0	48.0	61.0
	Mean	44.3	50.3	48.0	67.0	49.1	54.7
32	Min	8	4	3	2	1	2
	Max	97	99	95	99	99	97
	Median	53.0	49.0	50.0	24.0	55.0	43.0
	Mean	48.2	49.2	55.2	35.1	52.5	49.5
33	Min	1	5	4	8	1	4
	Max	98	97	99	99	99	99
	Median	42.0	58.0	41.0	61.0	38.0	32.0
	Mean	47.5	53.8	48.7	69.6	42.3	43.1
34	Min	1	2	3	1	1	1
	Max	96	99	99	99	99	99
	Median	59.0	56.0	52.0	47.0	58.0	72.0
	Mean	55.0	52.5	48.8	50.6	49.8	61.6
35	Min	1	3	2	4	2	1
	Max	97	99	97	95	99	99
	Median	55.0	56.0	58.0	22.0	54.0	67.0
	Mean	46.5	55.5	55.7	36.3	51.6	57.8
36	Min	4	2	4	2	1	1
	Max	92	99	97	93	99	98
	Median	58.0	57.0	53.0	35.0	44.0	58.0
	Mean	55.7	53.8	51.8	43.2	45.8	59.2

Table E7. Distribution of percentiles selected to specify 1,000 butadiene JEMs by dataset number and plant, first 50 datasets

Dataset number		Plant					
		1 Percentile	3 Percentile	4 Percentile	6 Percentile	7 Percentile	8 Percentile
37	Min	1	1	2	1	3	4
	Max	98	98	99	98	99	98
	Median	45.0	63.0	41.0	31.0	49.0	45.0
	Mean	39.4	57.4	39.3	36.1	51.5	49.6
38	Min	1	1	2	5	1	1
	Max	99	97	96	99	99	94
	Median	75.0	50.0	35.0	40.0	49.0	45.0
	Mean	59.4	47.7	44.8	45.3	50.3	50.2
39	Min	3	2	3	1	1	3
	Max	91	98	97	99	99	98
	Median	57.0	40.0	22.0	67.0	61.0	36.0
	Mean	56.5	42.0	32.0	57.8	57.9	39.3
40	Min	9	2	2	2	1	1
	Max	98	99	96	99	99	99
	Median	63.0	56.0	56.0	60.0	47.0	34.0
	Mean	55.9	58.4	54.5	61.2	49.6	39.3
41	Min	1	1	3	6	1	1
	Max	99	99	99	98	99	95
	Median	55.0	32.0	60.0	65.0	52.0	71.0
	Mean	60.8	36.2	59.7	55.0	50.9	60.7
42	Min	8	3	1	1	2	1
	Max	99	96	95	93	99	96
	Median	58.0	42.0	68.0	33.0	36.0	77.0
	Mean	55.0	50.1	55.9	33.2	46.7	64.3
43	Min	5	1	2	7	1	1
	Max	99	97	99	98	99	99
	Median	66.0	61.0	55.0	64.0	40.0	36.0
	Mean	56.1	55.5	54.0	58.8	41.9	41.2
44	Min	2	1	2	1	3	1
	Max	98	97	99	96	98	99
	Median	54.0	48.0	36.0	37.0	66.0	60.0
	Mean	52.2	46.1	44.9	45.0	58.1	58.8
45	Min	2	1	1	6	1	3
	Max	97	99	93	99	96	99
	Median	46.0	43.0	51.0	50.0	44.0	50.0
	Mean	46.5	45.1	45.1	49.2	49.3	50.3

Table E7. Distribution of percentiles selected to specify 1,000 butadiene JEMs by dataset number and plant, first 50 datasets

Dataset number		Plant					
		1 Percentile	3 Percentile	4 Percentile	6 Percentile	7 Percentile	8 Percentile
46	Min	1	4	1	6	1	1
	Max	94	97	99	98	99	99
	Median	40.0	59.0	54.0	60.0	56.0	34.0
	Mean	45.0	57.4	56.3	48.9	50.8	37.2
47	Min	3	1	2	1	1	1
	Max	99	99	95	94	99	99
	Median	47.0	68.0	67.0	62.0	49.0	61.0
	Mean	54.0	57.6	56.8	59.1	49.5	56.3
48	Min	3	4	3	8	1	2
	Max	97	99	95	99	99	96
	Median	38.0	35.0	46.0	34.0	52.0	47.0
	Mean	43.9	44.9	47.5	41.1	51.7	54.9
49	Min	1	1	3	2	1	1
	Max	99	98	99	98	99	97
	Median	25.0	50.0	32.0	53.0	50.0	65.0
	Mean	40.4	46.2	41.3	56.8	50.0	57.6
50	Min	1	2	2	1	1	2
	Max	99	99	95	98	99	99
	Median	42.0	62.0	45.0	32.0	43.0	51.0
	Mean	43.4	59.9	47.5	45.2	45.5	51.6