

File 1. Demographic File , UAB synthetic rubber industry 6-plant cohort, men and women combined (21,087 records*)			
Variable name	Description	Type (Char/Num)	Valid values
ID†	Identification number	N	1 - 21087
YEAR_BIRTH	Year of birth	N	1877 - 1971
SEX	Sex	C	M=Male; F=Female
RACE	Race	N	1 = white/unknown; 2 = other
LEUK_CODE	Leukemia indicator	N	0 = not leukemia 1 = lymphoid leukemia 2 = myeloid leukemia 3 = other/unknown type of leukemia
MM_CODE	Multiple myeloma indicator	N	0 = not a multiple myeloma 1 = multiple myeloma
NHL_CODE	Non-Hodgkin lymphoma indicator	N	0 = not non-Hodgkin lymphoma 1 = Non-Hodgkin lymphoma
BLADDER_CODE	Bladder/other urinary tract cancer indicator	N	0 = not non-renal urinary tract cancer 1 = bladder cancer 2 = other non-renal urinary tract cancer only (no bladder cancer)
LUNG_CODE	Lung cancer indicator	N	0 = not a lung cancer 1 = lung cancer
AGE_START	Age (decimalized years) at start of follow-up, computed as (follow-up start date – birth date)	N	13.5578 - 71.2088
AGE_END	Age (decimalized years) at end of follow-up, computed as (follow-up end date – birth date)	N	18.4038 - 109.5770
*One female subject, included in previous analyses of the 6-plant cohort, excluded due to determining that she worked at plant 2, then at plant 6. Workers ever employed at plants 2 or 5 were not eligible for inclusion in the 6-plant cohort because monomer exposure estimates were not developed for those 2 plants. †Same randomly generated ID used for File #1 as used for File #2.			

File 2. Exposure History File, UAB synthetic rubber industry 6-plant cohort, men and women combined (386,837 records) (sequential job records; jobs spanning >1 calendar year are split by calendar year)

Variable name	Description	Type (N=Num)	Valid values
ID	Identification number (random number)	N	1 - 21087
PLANT	Plant identification code	N	1= American Synthetic 3= Copolymer 4= Firestone 6=Goodyear 7= Polysar 8= Ameripol Synpol
JOB_SEQ	Sequential job segment sequence number; determined by start date of job segment	N	1 - 100
JOB_YEAR	Calendar year of job segment; each job segment can span only 1 calendar year	N	1943-1991
JOBGRP	Job group code	N	Missing (for women only; indicates a period of inactive employment) [‡] ; Nonmissing: see appendix for valid values
JOB_DUR	Duration of job in days	N	0 - 366
BD_ppm	BD 8-hr TWA (ppm) for this job	N	0 - 421.89169
BD_HITS	BD annual number of high-intensity tasks	N	0 - 4819.4297
BD_ppm_AT	BD 8-hr TWA above the threshold	N	0 - 401.87958
BD_ppm_BT	BD 8-hr TWA below the threshold	N	0 - 73.77380
STY_ppm	STY 8-hr TWA (ppm)	N	0 - 67.85346
STY_HITS	STY annual number of high-intensity tasks	N	0 - 10828.1
STY_ppm_AT	STY 8-hr TWA above the threshold	N	0 - 53.0734
STY_ppm_BT	STY 8-hr TWA below the threshold	N	0 - 26.8575

‡For men, the file does not include a job segment for periods of inactive employment (layoff, illness, transfer to other company facilities, etc.).

Appendix

Work Area/Job Groups

List of abbreviations for work area/job titles

ABS	ACRYLONITRILE BUTADIENE STYRENE
AO PLANT	AMERIPOL SYNPOL PLANT
B&Y	BUILDING AND YARD
BAL	BALANCE
BD	1,3-BUTADIENE
BG	BUILDING SERVICES
BL	BLACKSMITH
BO	BOILERMAKER
BS	BLACKSMITH
CA	CARPENTER
CHEM	CHEMIST
COMP	COMPRESSION/COMPRESSORS
CONST	CONSTRUCTION OPERATOR
CONT	CONTROL
CONVEY	CONVEYER
COORD	COORDINATOR
CS	CONSTRUCTION
DESOLV	SOLVENT OPERATIONS
DEWAT	DEWATERING
DRYR	DRYERS
EL	ELECTRICIAN
ENG	ENGINEER
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQUIP/VEH OP	EQUIPMENT/ VEHICLE OPERATOR
EXP	EXPOSURE
FOREM	FOREMAN
FP	FEED PREP
GAR ME	GARAGE MECHANIC
GEN	GENERAL
IN	INSULATOR/INSTRUMENTMAN
IR	IRON WORKER
LER	LIGHT ENDS RECOVERY
LIQ POLY	LIQUID POLYMER
LP	LATEX PLANT
MA	MACHINIST
MA	MASON
ME	MECHANIC
MET	METERMAN
METAL	METAL WORKER
MI	MAINTENANCE INSPECTION/ MILLWRIGHT
MIN	MINIMAL
MISC	MISCELLANEOUS

List of abbreviations for work area/job titles

N.S. SUPERVISOR	NIGHT SHIFT SUPERVISOR
OI	OILER
OPER	OPERATOR
PA	PAINTER
PACK	PACKING
PANEL BRD	PANEL BOARD
PETROCHEM	PETROCHEMICALS
PF	PIPEFITTER
PL	PLUMBER
POLY BD	POLYMERS BUTADIENE/ BD POLYMERS
PS GENL	POLYSAR GENERAL
PUR	PURIFICATION
R&D	RESEARCH AND DEVELOPMENT
REC	RECOVERY
RECL	RECLAIM/RECYCLE
REFRIG	REFRIGERATION
RG	RIGGER
SBR	STYRENE-BUTADIENE RUBBER
SF	SCAFFOLDMAN
SH	SHEETMETAL
SOLV	SOLVENT
SP	CRISTOL SP (ANTIOXIDANT)/SOLUTION POLYMER
ST	STEAMFITTER
SUPER	SUPERVISOR
SUPERV	SUPERVISOR
US/UNSPEC	UNSPECIFIED
WE	WELDER

A1. Work Area/Job Title Group Codes

Table A1. Work area/job title group codes

100	ADMINISTRATION GENERAL
109	ADMINISTRATION LABOR
110	ADMINISTRATION MULTIPLE AREAS
200	SERVICE GENERAL
209	SERVICE LABOR
210	SAFETY SBR/ SP/ LATEX FIREMAN INSPECTOR
211	SAFETY SBR/ SP/ LATEX GUARD MARSHALL ENG
212	SAFETY SBR/SP/LATEX
219	SAFETY LABOR
300	WAREHOUSE DISTRIBUTION
309	WAREHOUSE DISTRIBUTION LABOR
400	ENGINEERING SBR/SP/LATEX
410	DESIGN ENGINEERING GENERAL
420	PROCESS ENGINEERING SBR
430	PROCESS CONTROL SBR
500	MAINTENANCE UNSPEC/SHOP NO EXPOSURE
501	MAINTENANCE UNSPEC/SHOP MIN. EXPOSURE
502	MAINTENANCE UNSPEC/SHOP OPERATIVE UNSPEC
503	MAINTENANCE UNSPEC/SHOP PL/PA/CA/EL/IN/ST
504	MAINTENANCE UNSPEC/SHOP/ IR/SH/WE
505	MAINTENANCE UNSPEC/SHP
509	MAINTENANCE UNSPEC/SHOP LABOR
510	MAINTENANCE FIELD NO EXPOSURE
511	MAINTENANCE FIELD MIN. EXPOSURE
512	MAINTENANCE FIELD IN/MET/EL/MI
513	MAINTENANCE FIELD PF/OI/ME/BO/BL
514	MAINTENANCE FIELD DRIVER/MISC/UNSPEC
519	MAINTENANCE FIELD LABOR
520	MAINTENANCE BUTADIENE NO EXPOSURE
521	MAINTENANCE BUTADIENE MIN EXPOSURE
522	MAINTENANCE BUTADIENE IN/MET/EL/MI
523	MAINTENANCE BUTADIENE PF/OI/ME/BO/MA
524	MAINTENANCE BUTADIENE OPERATIVE UNSPEC
529	MAINTENANCE BUTADIENE LABOR
530	MAINTENANCE REACTOR NO EXPOSURE
531	MAINTENANCE REACTOR MIN EXPOSURE
532	MAINTENANCE REACTOR IN/MET/EL/MI
533	MAINTENANCE REACTOR PF/OI/ME/BO/MA
539	MAINTENANCE REACTOR LABOR

Table A1. Work area/job title group codes

540	MAINTENANCE RECOVERY NO EXPOSURE
541	MAINTENANCE RECOVERY MIN EXPOSURE
542	MAINTENANCE RECOVERY IN/MET/EL/MI
543	MAINTENANCE RECOVERY PF/OI/ME/BO/MA
549	MAINTENACE RECOVERY LABOR
550	MAINTENANCE FINISHING NO EXPOSURE
551	MAINTENANCE FINISHING MIN EXPOSURE
552	MAINTENANCE FINISHING IN/MET/EL/MI
553	MAINTENANCE FINISHING PF/OI/ME/BO/MA
559	MAINTENANCE FINISHING LABOR
560	MAINTENANCE PILOT PLANT NO EXPOSURE
561	MAINTENANCE PILOT PLANT MIN EXPOSURE
562	MAINTENANCE PILOT PLANT IN/MET/EL/MI
563	MAINTENANCE PILOT PLANT PF/OI/ME/BO/MA
569	MAINTENANCE PILOT PLANT LABOR
570	B & Y OPERATOR
571	B & Y/LABOR UNSPEC FORMAN/SUPER
578	B & Y JANITOR/YARDMAN
579	B & Y/LABOR UNSPEC LABORER
580	MAINTENANCE UTILITES NO EXPOSURE
581	MAINTENANCE UTILITES MIN EXPOSURE
582	MAINTENANCE UTILITES OPERATIVE
589	MAINTENANCE UTILITES LABOR
583	MAINTENANCE LATEX NO EXPOSURE
584	MAINTENANCE LATEX MIN EXPOSURE
585	MAINTENANCE LATEX OPERATIVE
586	MAINTENANCE LATEX LABOR
600	UTITLITES OPERATIVE UNSPEC/MISC
609	UTILITIES LABOR
610	UTILITIES MIN EXPOSURE
620	UTILITIES POWERHOUSE
630	UTILITIES PUMP HOUSE
640	UTILITIES REFRIGERATION
700	BUTADIENE PRODUCTION OPERATIVE UNSPEC
701	BUTADIENE PRODUCTION MIN EXPOSURE
702	BUTADIENE PRODUCTION TANK FARM
703	BUTADIENE PRODUCTION DEHYDRO
704	BUTADIENE PRODUCTIONEXTRACTION
707	BUTADIENE REFRIGERATION COMPRESSION
709	BUTADIENE PRODUCTION LABOR
705	POLYETHYLENE NO/MIN EXPOSURE
706	POLYETHYLENE OPERATIVE

Table A1. Work area/job title group codes

800	PRODUCTON SBR NO EXPOSURE
801	PRODUCTON SBR MIN EXPOSURE
802	PRODUCTON SBR OPERATIVE UNSPEC
803	PRODUCTON SBR PRODUCTION CONTROL
809	PRODUCTON SBR LABOR
810	POLYMERIZATION SBR NO EXPOSURE
811	POLYMERIZATION SBR MIN EXPSOURE
812	POLYMERIZATION SBR OPERATIVE UNSPEC
813	POLYMERIZATION SBR TANK FARM
814	POLYMERIZATION SBR PIGMENT PREP
815	POLYMERIZATION SBR REACTOR
816	POLYMERIZATION SBR REACTOR RECOVERY
817	POLYMERIZATION SBR RECOVERY
819	POLYMERIZATION SBR LABOR
820	COAGULATION SBR
829	CARBON BLACK UNLOADER
830	FINISHING SBR NO EXPOSURE
831	FINISHING SBR MIN EXPOSURE
832	FINISHING SBR OPERATIVE UNSPEC
833	FINISHING SBR FILTER
834	FINISHING SBR DRYER
835	FINISHING SBR BALDER
839	FINISHING SBR LABOR
840	AO PLANT NO EXPOSURE
841	AO PLANT MIN EXPOSURE
842	AO PLANT OPERATOR
850	LATEX PLANT NO EXPOSURE
851	LATEX PLANT MIN EXPOSURE
852	LATEX PLANT OPERATOR
859	LATEX PLANT LABOR
860	PRODUCTION LP NO EXPOSURE
861	PRODUCTION LP MIN EXPOSURE
862	PRODUCTION LP OPERATIVE
865	PRODUCTION SP NO EXPOSURE
866	PRODUCTION SP MIN EXPOSURE
867	PRODUCTION SP OPERATIVE
870	POLYMERIZATION SP NO EXPOSURE
871	POLYMERIZATION SP MIN EXPOSURE
872	POLYMERIZATION SP OPERATIVE UNSPEC
873	POLYMERIZATION SP SOLV CHARGE/PUR/REC
874	COAGULATION SP DESOLV/DEWAT/CRUMB
875	COAGULATION SP EXP/CONVEY/PANEL BRD
879	POLYMERIZATION SP LABOR

Table A1. Work area/job title group codes

880	FINISHING SP NO EXPOSURE
881	FINISHING SP MIN EXPOSURE
882	FINISHING SP OPERATIVE UNSPEC
883	FINISHING SP PACK/BAL/RECL
889	FINISHING SP LABOR
890	PRODUCTION SBR/SP NO EXPOSURE
891	PRODUCTION SBR/SP MIN EXPOSURE
892	PRODUCTION SBR/SP OPER FINISHING
893	PRODUCTION SBR/SP OPER PACK/BAL
894	PRODUCTION SBR/SP OPERATIVE UNSPEC
899	PRODUCTION SBR/SP LABOR FINISHING
900	TECHNICAL TECHNICIAN
901	TECHNICAL CHEMIST
902	TECHNICAL NO EXPOSURE
909	TECHNICAL LABOR
910	RUBBER CONTROL TECHNICIAN
911	RUBBER CONTROL CHEMIST
912	RUBBER CONTROL NO EXPOSURE
913	RUBBER CONTROL SAMPLER
914	RUBBER CONTROL SOLIDS TESTER
915	RUBBER CONTROL PHYSICAL TESTER
919	RUBBER CONTROL LABOR
920	BD CONTROL TECHNICIAN
921	BD CONTROL CHEMIST
922	BD CONTROL NO EXPOSURE
929	BD CONTROL LABOR
930	APPLICATIONS RESEARCH TECHNICIAN
931	APPLICATIONS RESEARCH CHEMIST
932	APPLICATIONS RESEARCH NO EXPOSURE
939	APPLICATIONS RESEARCH LABOR
940	RESEARCH TECHNICIAN
941	RESEARCH CHEMIST
942	RESEARCH NO EXPOSURE
949	RESEARCH LABOR
950	PILOT PLANT TECHNICIAN
951	PILOT PLANT CHEMIST
952	PILOT PLANT NO EXPOSURE
959	PILOT PLANT LABOR
960	LIQ POLY LAB TECHNICIAN
961	LIQ POLY LAB CHEMIST
962	LIQ POLY LAB NO EXPOSURE

Table A1. Work area/job title group codes

970	POLYETHYLEN LAB TECHNICIAN
971	POLYETHYLEN LAB CHEMIST
972	POLYETHYLEN LAB NO EXPOSURE
979	POLYETHYLEN LAB LABOR
980	SBR PROCESS CONT TECHNICIAN
981	SBR PROCESS CONT CHEMIST
982	SBR PROCESS CONT COORD/FOREM/SUPER

ADDITIONAL GROUPS FOR CANADIAN PLANT

301	WAREHOUSE BUTYL
302	WAREHOUSE PS GENL
303	WAREHOUSE LABOR BUTYL
304	WAREHOUSE LABOR PS GEN
401	ENGINEERING BD
402	ENGINEERING STYRENE
403	ENGINEERING PETROCHEMICALS
404	ENGINEERING UTILITIES / BUTYL/ABS/FP
405	ENGINEERING FIELD UNSPEC
406	ENGINEERING MISC/UNSPEC
421	PROCESS ENGINEERING ABS
422	PROCESS ENGINEERING BD
423	PROCESS ENGINEERING BUTYL/FP
424	PROCESS ENGINEERING PETROCHEMICALS
425	PROCESS ENGINEERING LATEX
426	PROCESS ENGINEERING STEREO
427	PROCESS ENGINEERING STYRENE
428	PROCESS ENGINEERING UTILITIES
429	PROCESS ENGINEERING GEN/UNSPEC
431	PROCESS CONTROL BD
432	PROCESS CONTROL BUTYL/FEED PREP
433	PROCESS CONTROL ABS
434	PROCESS CONTROL PETROCHEMICALS
435	PROCESS CONTROL STEREO
436	PROCESS CONTROL STYRENE
437	PROCESS CONTROL UTILITIES
438	PROCESS CONTROL GEN/UNSPEC
440	ABS MAINTENANCE NO/MIN EXP
441	ABS MAINTENANCE OPERATIVE
310	ABS TECHNICAL TECHNICIAN
311	ABS TECHNICAL NO EXP/CHEM
710	ABS PRODUCTION NO EXP
711	ABS PRODUCTION MIN EXP
712	ABS PRODUCTION OPERATIVE
719	ABS PRODUCTION LABORER

Table A1. Work area/job title group codes

450	BUTYL MAINTENANCE NO/MIN EXP
451	BUTYL MAINTENANCE OPERATIVE
459	BUTYL MAINTENANCE LABORER
320	BUTYL TECHNICAL TECHNICIAN
321	BUTYL TECHNICAL NO/MIN EXP
720	BUTYL PRODUCTION NO/MIN EXP
721	BUTYL PRODUCTION OPERATIVE
729	BUTYL PRODUCTION LABORER
460	PETROCHEM MAINTENANCE NO EXP
461	PETROCHEM MAINTENANCE MIN EXP
462	PETROCHEM MAINTENANCE OPERATIVE
469	PETROCHEM MAINTENANCE LABORER
730	PETROCHEM PRODUCTION NO EXP
731	PETROCHEM PRODUCTION MIN EXP
732	PETROCHEM PRODUCTION OPERATIVE
739	PETROCHEM PRODUCTION LABORER
470	FP OTHER NO/MIN EXP
471	FP OTHER OPERATIVE
479	FP OTHER LABORER
740	FP OTHER PRODUCTION NO/MIN EXP
741	FP OTHER PRODUCTION OPERATIVE
749	FP OTHER PRODUCTION LABORER
472	FP LER MAINTENANCE OPERATIVE
750	FP LER PRODUCTION NO/MIN EXP
751	FP LER PRODUCTION OPERATIVE
759	FP LER PRODUCTION LABORER
473	FP K1 MAINTENANCE OPERATIVE
760	FP K1 PRODUCTION NO EXP
761	FP K1 PRODUCTION MIN EXP
762	FP K1 PRODUCTION OPERATIVE
769	FP K1 PRODUCTION LABORER
480	STEREO MAINTENANCE NO EXP
481	STEREO MAINTENANCE MIN EXP
482	STEREO MAINTENANCE OPERATIVE
489	STEREO MAINTENANCE LABORER
330	STEREO TECHNICAL TECHNICIAN
331	STEREO TECHNICAL MIN EXP/CHEM
332	STEREO TECHNICAL NO EXP/SUPERV
770	STEREO PRODUCTION NO EXP

Table A1. Work area/job title group codes

771	STEREO PRODUCTION MIN EXP
772	STEREO PRODUCTION OPERATIVE
773	STEREO REFRIG/COMP OPERATIVE
490	STYRENE MAINTENANCE MIN EXP
791	STYRENE MAINTENANCE OPERATIVE
499	STYRENE MAINTENANCE LABORER
340	STYRENE TECHNICAL TECHNICIAN
341	STYRENE TECHNICAL MIN EXP/CHEM
342	STYRENE TECHNICAL NO EXP/SUPERV
780	STYRENE PRODUCTION NO EXP
781	STYRENE PRODUCTION MIN EXP
782	STYRENE PRODUCTION TANK FARM
783	STYRENE PRODUCTION ETHYLBENZENE
784	STYRENE PRODUCTION CRACKING
785	STYRENE PRODUCTION FINISHING
786	STYRENE PRODUCTION MISC/UNSPEC
789	STYRENE PRODUCTION LABORER
590	PS GENL/RUBBER UNSPEC MAINTENANCE NO EXP
591	PS GENL/RUBBER UNSPEC MAINTENANCE MIN EXP SHOP/BG/CS/US
592	PS GENL/RUBBER UNSPEC MAINTENANCE MIN EXP FIELD
593	PS GENL/RUBBER UNSPEC MAINTENANCE EQUIP/VEH OP/ GAR ME
594	PS GENL/RUBBER UNSPEC MAINTENANCE CONST/BG/RG/SF/PA/CA/MA/IN
595	PS GENL/RUBBER UNSPEC MAINTENANCE METAL/MA/WE/MI
596	PS GENL/RUBBER UNSPEC MAINTENANCE PF/ME/BK/BS/OI
597	PS GENL/RUBBER UNSPEC MAINTENANCE EL/IN
598	PS GENL/RUBBER UNSPEC MAINTENANCE OPER MISC/UNSPEC
599	PS GENL/RUBBER UNSPEC MAINTENANCE LABORER NON EXPOSED
350	PS GENL/RUBBER UNSPEC TECHNICAL TECHNICIAN
351	PS GENL/RUBBER UNSPEC TECHNICAL CHEM
352	PS GENL/RUBBER UNSPEC TECHNICAL NO EXP/SUPERV
353	PS GENL/RUBBER UNSPEC TECHNICAL SAMPLER
354	PS GENL/RUBBER UNSPEC TECHNICAL FIELD/MOONEY
355	PS GENL/RUBBER UNSPEC TECHNICAL NON EXPOSED
359	PS GENL/RUBBER UNSPEC TECHNICAL LABOR
399	PS GENL/RUBBER EXP MAINTENACE LABORER
790	PS GENL/RUBBER UNSPEC PRODUCTION NO EXP
791	PS GENL/RUBBER UNSPEC PRODUCTION MIN EXP
792	PS GENL/RUBBER UNSPEC PRODUCTION OPER FINISHING
793	PS GENL/RUBBER UNSPEC PRODUCTION OPER OTHER/UNSPEC
794	PS GENL/RUBBER UNSPEC SAFETY OPER
799	PS GENL/RUBBER UNSPEC PRODUCTION
605	COPOLYMER EFFLUENT OPERATIVE

Table A1. Work area/job title group codes

641	POLYSAR REFRIGERATION/COMPRESSION UNSPECIFIED
650	LABORATORY EMULSION POLYMERS R&D TECHNICIAN
651	LABORATORY EMULSION POLYMERS R&D MIN EXP/CHEMIST
652	LABORATORY EMULSION POLYMERS R&D SUPERVISOR
659	LABORATORY EMULSION POLYMERS R&D LABOR
660	LABORATORY POLY BD, EPDM, SOLUTIONS N.S. TECHINICIAN
661	LABORATORY POLY BD, EPDM, SOLUTIONS N.S. MIN EXP/CHEMIST
662	LABORATORY POLY BD, EPDM, SOLUTIONS N.S.SUPERVISOR
669	LABORATORY POLY BD, EPDM, SOLUTIONS N.S. LABOR
670	LABORATORY BOTTLE POLYMERIZATION/BATCH REACTORS TECHNICIAN
671	LABORATORY BOTTLE POLYMERIZATION/BATCH REACTORS MIN EXP/CHEM
672	LABORATORY BOTTLE POLYMERIZATION/BATCH REACTORS SUPERVISOR
679	LABORATORY BOTTLE POLYMERIZATION/BATCH REACTORS LABOR
680	LABORATORY HYDROCARBON R&D TECHNICIAN
681	LABORATORY HYDROCARBON R&D MIN EXP/CHEMIST
682	LABORATORY HYDROCARBON R&D SUPERVISOR
689	LABORATORY HYDROCARBON R&D LABOR
690	LABORATORY LOW EXPOSURE POLYMER R&D TECHNICIAN
691	LABORATORY LOW EXPOSURE POLYMER R&D MIN EXP /CHEMIST
692	LABORATORY LOW EXPOSURE POLYMER R&D SUPERVISOR
699	LABORATORY LOW EXPOSURE POLYMER R&D LABOR
