

Standardizing Industrial Hygiene Data Collection Forms Used by Workers' Compensation Insurers

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Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group

Data Element	Definition
A. Facility/Site Information	
A-1* Company/Organization	Name of the company or organization that operates or is directly responsible for the facility (work establishment, work site, or premises).
A-2* Facility Name	Legal name of facility (work establishment, work site, or premises).
A-3* Facility Address	Facility street, city, state/province, and zip code/postal code.
A-4* SIC Code	Four-digit Standard Industrial Classification code for the facility (work establishment, site, or premises). Seven-digit SIC code may be used when available.
A-5* Industrial Category	Text description of the overall purpose(s), product(s), service(s), and activity(ies) of the facility (work establishment, site, or premises). Information supplements the more generic SIC code as recorded above.
A-6* Contractor Information	If survey involves contractor employees inside a larger facility (e.g., construction or maintenance contractors), record name, type, and SIC of contractor, and name of main contractor if necessary.
A-7* Number of Employees	Total number of employees in facility (establishment, site). If contractor in a larger workplace, also record number of contractor employees.
B. Survey Tracking Information	
B-1* Survey Number (Reference Number)	A unique number for tracking the survey and any associated report(s).
B-2* Survey Date	Date(s) survey was performed.
B-3* Person Performing Survey	Name, unique identifier (e.g., SSN, employee number), and position of the person responsible for the survey.
B-4 Report Number	Link to report with conclusions and recommendations of the survey.
B-5 Is Follow-up Required?	Do survey results or observations require follow-up? Coded: Yes, follow-up is required. No, follow-up is not required.
B-6 Follow-up Summary	Text summarizing the specific follow-up action(s) required or recommended (e.g., routine monitoring, protective equipment, installation of controls, medical surveillance, etc.).
B-7 Person(s) Responsible for Follow-up	Name, position, and SSN or employee number of the person(s) responsible for follow-up.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
B-8 Date Follow-up Completed	The date(s) when follow-up action(s) were completed.
B-9* Quality Control Review	Name, position, and SSN or employee number of the person who reviewed the survey data for accuracy and completeness.
B-10* Date of Quality Control Review	The date the quality control review was performed.
B-11 General Survey Comments	Additional comments.
C. Work Area Information	
C-1* Building/Zone	A distinct part of the facility (work establishment, work site). May be a building or a distinct zone within the facility (work establishment, work site). It is possible to have multiple building zones for a mobile employee.
C-2* Room/Area	Specific room or area within the building or zone. It is possible to have multiple rooms/areas for a mobile employee.
C-3* Department	Organizational or functional assignment of work area (e.g., assembly department, shipping and receiving department). Note that department may or may not represent a distinct physical area.
C-4* Type of Work Area	<p>Type of work area.</p> <p>Coded:</p> <ul style="list-style-type: none"> Open air. Enclosed indoor space (e.g., typical workroom or walled work area). Confined space (restricted space with reduced ventilation). Describe with text. Equipment cab (e.g., crane, bulldozer). Other. Describe with text.
C-5 Location Comments	Additional text regarding the work area (e.g., windows open or closed, air-conditioned area or equipment cab).
C-6 Climatic Conditions	Relative humidity, temperature(s), barometric pressure, and any other relevant climatic conditions measured indoors and/or outdoors as relevant. A range may be recorded. The units must be noted (Celsius or Fahrenheit).

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
D. Employee Information	
D-1* Employee (Worker) Name	Last, first, and maiden or any other previous names of the employee being monitored. (If not employee, indicate if visitor, intern, contract worker, etc.)
D-2* Unique Identifying Number	Social security number or other unique identifying number for the employee being monitored. A facility (contractor, union) employee identification number, if available, may also be included. (Numbers link to separate databases containing employee demographic information, work histories, medical histories, etc.)
D-3* Administrative Job Title	Administrative identifier of the job held by the employee during the survey. This identifier is typically of an administrative nature and used for work history, payroll, and other administrative records. It is rarely descriptive of the exposure potential or the nature of the work performed by the employee. It should be linked to and supplemented by exposure-relevant occupational titles. See below and accompanying text.
D-4* Occupational Title	Abbreviated descriptive identifier of work performed by the employee (e.g., pot tender, drying machine operator, MIG welder, dry cleaner, operator, etc.). Ideally, these descriptors or titles would be standardized codes developed by national statistical agencies, companies, trade associations, etc. Code uniformity and compatibility within and across industries are highly desirable whenever appropriate. Note that because they are descriptive of the work performed, occupational titles are supplements to, and distinct from, administrative job titles (above), but must be explicitly linked to them.
D-5* Work or Task Description	Brief text description of specific activity(ies) or task(s) performed by the employee during the survey. This variable should briefly summarize what the employee did; how and why it was done; and the machinery, equipment, and tools used to do it. The variable supplements the abbreviated occupational title above.
D-6 Similar Exposure Groups (SEGs)	SEGs are groups of workers performing a task, or a group of tasks, which are sufficiently similar in purpose, methods, tools and other variables to be considered part of the same population, with all individuals in the group assumed to have similar exposure. SEGs are linked to a database which contains supporting documentation (i.e., how the SEGs are defined, which jobs belong in each, statistical definition, if applicable). See accompanying text.
D-7* Shift	The time the employee started and time ended the work shift on the day of the survey. Use 24-hour (military) time.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
D-8 Union	Union affiliation (necessary for construction workers or others whose work history and personal records may not be kept by employer).
D-9 Training	Has employee received health and safety training for job? (Links to separate database containing details of training received by employees). Coded: Yes. No.
D-10 Comments	Additional comments (e.g., Is employee engaged in his/her routine activity? Is he/she in a rotating shift?).
E. Process and Operation Information	
E-1* Process	A process is defined as a distinct combination of tasks or operations which produces some form of material or intellectual product. For example, baking a cake is a process.
E-2* Task	Task is defined as one of several specific activities or operations that when performed together are a process. For example, cracking an egg, mixing the batter, or pouring the batter into a pan are tasks associated with the process of baking a cake.
E-3* Frequency of Process	How often the process being surveyed is conducted. Coded: Continuously. Number of times per unit of time (example, 10 times per day, week, month, etc.).
E-4 Comments on Process	Comments on the process (e.g., process temperature, throughput, etc. For construction, may record phase of project, material handling, etc.).
E-5* Chemical Source	Nature of the source of the chemical being monitored (identify all that apply). Coded: Single point source directly associated with employee (e.g., source is a single piece of equipment or machinery in the area, and the employee is directly involved with it). Single point source(s) directly associated with employee and additional contributing point sources (e.g., employee works on one machine in an area with multiple machine/sources). Single point source distant from the employee (i.e., employee is in the area with source, but does not work directly with it). Multiple point sources distant from the employee (e.g., many similar machines in a large work area, but employee is not directly involved with any). Other (text explanation required).
Data Element	Definition

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

F. Chemical Agent Information	
F-1* Chemical Agent Name	Common name(s) of chemical(s) agent(s) monitored.
F-2* CAS Number	Chemical Abstract Service number. If there is no CAS number, then an ID number is generated internally and documented.
F-3* Material/Product	Common and/or trade name of the raw material or product of which the chemical(s) monitored is a constituent. Links to a repository of material safety data sheets for additional information. Also indicate if the chemical is an intermediate or by-product.
F-4* Occupational Exposure Limit	Occupational exposure limit(s) serving as a point of reference for interpreting sample results. Linked to a database of occupational exposure limit(s) containing their description, date(s) of applicability, basis, source (OSHA, NIOSH, in-house, other), etc. There may be multiple relevant limits (i.e., each triggering different requirements regarding exposure levels, training, medical surveillance, etc.). See accompanying text and Appendix C.
F-5* Sampling and Analytical Method(s)	Unique code(s) or brief name(s) identifying the sampling and analysis method(s) used to measure the agent (e.g., NIOSH Method x-xxx). Links to database that contains details of these methods.
G. Exposure Modifier Information	
G-1* Exposure Representative?	Variable records whether sample is representative of the exposure of a similar exposure group or other grouping. Group must be identified, and basis of determination should be recorded (e.g., based on observation only, confirmed by statistical tests, etc.). Coded: Yes, sample exposure was representative (e.g , a random sample from a defined SEG or other grouping). Identify relevant SEG or other group. No, sample exposure was not representative. (Text is required to explain why sample is not representative of a given group, i.e., worst case exposure, unusual task.) Unknown (text explanation required).
G-2* Exposure Representativeness Comments	Comments about the representativeness of the sample.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
G-3* Exposure Conditions	<p>Estimate of whether exposure conditions during the sample were typical of routine activities. For example, exposure conditions may be deemed “lower than normal” because the process is operating at lower than normal throughput based upon interviews with production crew, review of production records, etc.</p> <p>Coded</p> <ul style="list-style-type: none"> Exposure conditions were typical. Exposure conditions were higher than normal. Exposure conditions were lower than normal. Unknown.
G-4 Basis for Estimate of Exposure Conditions	Text justification of judgment of exposure conditions.
G-5* Exposure Pattern on Day of Sample	<p>Pattern of exposure for the employee(s) being monitored on the day of sample.</p> <p>Coded:</p> <ul style="list-style-type: none"> Continuous exposure throughout the day. Continuous throughout part of the day (specify portion). Intermittent (specify frequency during the day and approximate duration). Other (text explanation required).
G-6* Exposure Frequency Over Extended Time Period	<p>Typical frequency of exposure for employee being monitored over extended time period.</p> <p>Coded:</p> <ul style="list-style-type: none"> Daily (measured exposure occurs every day). Regular frequency (specify typical frequency of measured exposures in days/week, days/month, etc.). Occasional (e.g., turn-around, shutdown, nonroutine maintenance. Estimate frequency in day/month, days/year, etc.). Other (specify).
G-7* Other Routes of Exposure	<p>Potential for other routes of exposure. Check all that apply.</p> <p>Coded:</p> <ul style="list-style-type: none"> Dermal exposure potential. Ingestion exposure potential. Other (specify).
G-8 Comment on Other Routes of Exposure	Additional observations regarding dermal or oral exposure on the day of sample (e.g., were these exposures observed?).

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
G-9* Observed Work Load	Average exertion by the employee during the time surveyed (based on ACGIH threshold limit values, 1995). Coded: Light (up to 200 kcal/h, e.g., sitting or standing to control machines, light hand or arm work). Moderate (200-350 kcal/h, e.g., walking about with moderate lifting or pushing). Heavy (350-500 kcal/h, e.g., pick and shovel work).
G-10 Exposure Modifier Comments	Text to further describe exposure modifiers.
H. Sample Information	
H-1* Sample Collected?	Samples do not necessarily have to be collected during an exposure assessment survey. The survey could be of a qualitative nature. Coded: Yes, a sample was collected (remainder of sample information must be collected). No, a sample was not collected.
H-2* Reason No Sample Collected	Text describing why a sample was not collected (e.g., previous monitoring data are sufficiently below the OEL and exposure conditions have not changed; previous experience in similar situations indicates well-controlled exposures; grab samples suggest exposures are well controlled). When no sample is collected, many of the observational data elements may nonetheless be collected to document the decision that collecting a sample is not necessary.
H-3* Sample Number	Unique number for tracking the sample. The sample number is linked to the survey number.
H-4* Sample date	Date sample was taken.
H-5* Sample Duration	Sample start and stop times. Use 24-hour (military) time.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
H-6* Reason for the Sample	Reason the sample was collected. Check all that apply. Coded: Baseline (first sample collected for process/job/task). Scheduled (sample is part of a routine sampling plan) Complaint (response to an employee complaint). Compliance (parallel sample with OSHA, or sample to check for compliance with OSHA standards). Diagnostic (check effectiveness of engineering controls). Emergency (response to a spill or catastrophic event). Unusual activity or task. Describe with text. Other (e.g., validate sampling/analytical procedure. Text explanation required.).
H-7* Type of Sample (Duration)	Type of Sample (Duration). Coded: Single sample for full-shift TWA determination. Multiple partial-period samples for TWA determination (associated samples must be linked). Task sample (partial period sample for specific task). STEL (short-term exposure limit). Ceiling. Peak sample. Blank sample. Other (text explanation required).
H-8* Type of Sample (Location)	Where the sample was collected. Coded: Personal (in breathing zone and outside the hood or respirator if one is used). Personal (in breathing zone and inside hood or respirator if one is used). Area (sample attributed to an area, not an employee). Source (sample close to source but not related to employee location or breathing zone). Bulk (sample of raw material, product, etc.). Wipe (sample collected from surface in work area). Describe methods with text. Other (text explanation required).
H-9 Sample Information Comments	Text about the sample not already addressed

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
I. Sampling Device Information	
I-1* Sampling Device Type	Type of sampling device. Coded: Direct reading air monitor (instantaneous or grab sample). Datalogging air monitor (dosimeter with detailed data-storing capability). Passive or diffusion monitor (e.g., passive/diffusion dosimeter). Sampling pump. Direct reading noise monitor (grab sample). Data logging noise monitor (dosimeter). Impact noise meter. Other (text explanation required).
I-2* Sampling Device Identification	Unique identifying number for sampling device used for the sample. This links to: - Name of sampling device. - Manufacturer of sampling device. - Model of sampling device.
I-3* Calibration Documentation	Link to detailed information about calibration such as: - Calibration device and method. - Presurvey and post survey calibration (results and units). - Name of person performing calibration.
I-4* Flow Rate Used for Calculations	To calculate concentration, the actual flow used for calculations must be included in the record.
I-5* Sampling Media	Brief identifier of type of sampling media used for the sample (e.g., polyester filter, charcoal tube). Links to a database with information such as manufacturer, batch number, supplier, etc.
I-6 Comments	Comments on sampling device.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
J. Administrative/Engineering Controls Information	
J-1* Administrative Controls Coded:	Coded: Yes. Describe with text. No.
J-2* Type of Engineering Controls (Chemical)	Check all that apply: Full enclosure. Local exhaust ventilation. Dilution ventilation. Wetting. Remote control. None. Other (text explanation required).
J-3* Type of Engineering Controls (Acoustic)	Check all that apply: Enclosure. Isolation (e.g., springs). Dampening. Noise absorption. Noise cancellation. None. Other (text explanation required).
J-4 Specific Engineering Controls	Link to a database with detailed information about the specific engineering controls including: - Device description. - Manufacturer. - Date installed. - Operating specifications - Maintenance records.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
J-5 Estimated Effectiveness of Engineering Controls	<p>Effectiveness is based upon evaluation of the engineering control. For an engineering control to be effective, <i>it must meet all the “effective” criteria below</i>. Check all that apply. Data element may need to be completed separately for different controls.</p> <p>Coded:</p> <ul style="list-style-type: none"> Effective (meets criteria of proper choice, proper design, good condition, and proper use). Not Effective (fails to meet one or more of criteria below. Check all that apply). <ul style="list-style-type: none"> Improper choice.* Improper design.* Improperly installed.* Poor condition.* Improperly modified.* Improper use.* Not working according to design specifications.* Other.* Not evaluated.
J-6 Comments About the Effectiveness of Engineering Controls	<p>*Requires text explanation below</p> <p>Text describing lack of effectiveness of engineering controls.</p>
K. Personal Protective Equipment Information	
K-1* Respirator Worn?	<p>Coded:</p> <ul style="list-style-type: none"> Respirator worn. Respirator not worn.
K-2* Respirator Requirements	<p>Respiratory protection is required by regulation or company determination.</p> <p>Coded:</p> <ul style="list-style-type: none"> Respirator is required. Respirator not required. Determination not made.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
K-3* Respirator Type	General type of respirator worn by the employee during the survey. Check only one. Coded: Supplied air-self-contained breathing apparatus (SCBA). Supplied air-air line. Powered air purifying. Negative pressure-full face. Negative pressure-half face. Negative pressure-disposable. Other (text explanation required).
K-4 Comments on Respirator Type	Used to supply additional detail regarding respirator type (e g , demand or pressure-demand, head and neck cover, etc.).
K-5* Respirator Filter	Text describing the filter used for a powered air purifying or negative pressure respirator (e.g., HEPA, organic vapor/acid gas with dust pre-filter, etc.).
K-6 Specific Respirator	Link to a database with detailed information about the specific respirator including device model, manufacturer, protection factor and sources, filter breakthrough, cartridge life, etc.
K-7 Estimated Effectiveness of Respirator	<p>Effectiveness is based upon evaluation of the respirator. To be effective, it must meet all the “effective” criteria below.</p> <p>Coded:</p> <ul style="list-style-type: none"> Effective (meets criteria of proper choice, good condition, proper use, worn when required, properly fit tested). Not effective <ul style="list-style-type: none"> Improper choice.* Poor condition.* Improper use.* Not worn when required.* Not properly fit tested.* Other.* Not evaluated. <p>*Requires text explanation below.</p>
K-8 Comments	Text about the effectiveness of respirators, if required.
K-9 Respiratory Protection Program	Links to detailed specifications of respiratory protection program (e.g., program specifications, fit test records, etc.).

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
K-10* Gloves Worn?	Coded: Gloves worn. Gloves not worn.
K-11* Glove Requirement	Glove use is required by regulation or company determination. Coded: Gloves required. Gloves not required. Determination not made.
K-12* Glove Material	Text describing the glove material (e.g., nitrile, PVC, cotton, etc.).
K-13 Specific Gloves	Link to a database with detailed information about the specific gloves including model number, manufacturer, permeation rates, etc.
K-14 Estimated Effectiveness of Gloves	Effectiveness is based upon evaluation of the gloves. To be effective, it must meet all the “effective” criteria.Coded: Effective (must meet criteria for proper choice, good condition, proper use, worn when required). Not effective. Check all that apply below: Improper choice.* Poor condition.* Improper use.* Not worn when required.* Other.* Not evaluated.*Requires text explanation below.
K-15 Comments	Text about the effectiveness of gloves, if required.
K- 16* Protective Clothing Worn?	Coded: Protective clothing worn. Protective clothing not worn.
K-17* Protective Clothing Requirements	Protective clothing is required by regulation or company determination. Coded: Protective clothing required. Protective clothing not required. Determination not made.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
K-18* Protective Clothing Type	Coded: Full body, one piece. Full body, two pieces. Shirt/jacket only. Other (text explanation required).
K-19* Protective Clothing (Material)	Text describing the material used for the protective clothing (e.g., Tyvek, PVC, cotton, etc.).
K-20 Protective Clothing (Specific)	Link to a database with detailed information about the specific protective clothing including model number, manufacturer, data about permeation rates, manufacturer’s literature, etc.
K-21 Estimated Effectiveness of Protective Clothing	Effectiveness is based upon evaluation of the protective clothing. To be effective, they must meet all the “effective” criteria. Coded: Effective (must meet criteria for proper choice, good condition, proper use, worn when required). Not effective. Check all that apply below: Improper choice.* Poor condition.* Improper use.* Not worn when required.* Other.* Not evaluated.
K-22 Comments About Effectiveness of Protective Clothing	*Requires text explanation below. Text about the effectiveness of protective clothing, if required.
K-23* Hearing Protection Worn?	Coded: Hearing protection worn. Hearing protection not worn.
K-24* Hearing Protection Requirements	Hearing protection is required by regulation or company determination. Coded: Hearing protection required. Hearing protection not required. Determination not made.
Data Element	Definition

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

K-25* Hearing Protection Type	<p>Coded: Plugs/inserts. Muffs. Plugs and muffs Other (text explanation required).</p>
K-26 Hearing Protection (Specific)	<p>Link to a database with detailed information about the specific hearing protection including model number, manufacturer, noise reduction rating (NRR), manufacturer’s literature, etc.</p>
K-27 Estimated Effectiveness of Hearing Protection	<p>Effectiveness is based upon evaluation of the hearing protection. To be effective, it must meet all the “effective” criteria. Coded: Effective (must meet criteria for proper choice, good condition, proper use, worn when required). Not effective. Check all that apply below: Improper choice.* Poor condition.* Improper use.* Not worn when required.* Other.* Not evaluated.</p>
K-28 Comments About Effectiveness of Hearing Protection	<p>*Requires text explanation below. Text about the effectiveness of hearing protection, if required.</p>
K-29* Eye/Face Protection Worn?	<p>Coded: Eye/face protection worn. Eye/face protection not worn.</p>
K-30* Eye/Face Protection Requirements	<p>Eye/face protection is required by regulation or company determination. Coded: Eye/face protection required. Eye/face protection not required. Determination not made.</p>

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
K-31* Eye/Face Protection Type	Coded: Safety glasses. Goggles. Face shield. Welding helmet. Other (text explanation required).
K-32 Eye/Face Protection (Specific)	Link to a database with detailed information about the specific eye/face protection including model number, manufacturer, manufacturer’s literature, etc.
K-33 Estimated Effectiveness of Eye/Face Protection	Effectiveness is based upon evaluation of the eye/face protection. To be effective, it must meet all the “effective” criteria.Coded: Effective (must meet criteria for proper choice, good condition, proper use, worn when required). Not effective. Check all that apply below: Improper choice.* Poor condition.* Improper use.* Not worn when required.* Other.* Not evaluated.*Requires text explanation below.
K-34 Comments About Effectiveness of Eye/Face Protection	Text about the effectiveness of eye/face protection, if required.
K-35 Foot Protection Worn?	Coded: Foot protection worn. Foot protection not worn.
K-36 Foot Protection Requirements	Foot protection is required by regulation or company determination. Coded: Foot protection required. Foot protection not required. Determination not made.

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
K-37 Foot Protection Type	Coded: Street shoes. Boots with steel toes and/or metatarsal guards. Rubber boots (chemical protection). Other (text explanation required).
K-38 Foot Protection (Specific)	Link to a database with detailed information about the specific foot protection including model number, manufacturer, manufacturer's literature, etc.
K-39 Estimated Effectiveness of Foot Protection	Effectiveness is based upon evaluation of the foot protection. To be effective, it must meet all the "effective" criteria. Coded: Effective (must meet criteria for proper choice, good condition, proper use, worn when required). Not effective. Check all that apply below Improper choice.* Poor condition.* Improper use.* Not worn when required.* Other.* Not evaluated. *Requires text explanation below.
K-40 Comments About Effectiveness of Foot Protection	Text about the effectiveness of foot protection, if required.
K-41 Comments About Personal Protective Equipment	Text about the personal protective equipment used.
K-42 Sanitary Facilities	Availability of sanitary facilities and services to prevent dermal and/or carry-home exposures. Check all that apply. Coded: Locker rooms provided. Shower and change facilities provided. Clean work uniforms provided. Change of clothes required. Other (describe).

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
L. Chemical Exposure Results	
L-1* Concentration Measured	Average concentration for the time period sampled (may be reported directly by the laboratory as concentration or calculated from raw laboratory results).
L-2* Particle Size Fraction	For particulate sample, indicate appropriate size fraction if available (e.g., respirable, thoracic, etc.).
L-3* Limit of Detection	Smallest measurable concentration of contaminant under actual sample conditions (i.e., specific to chemical, method of analysis, air volume collected, etc.). Note that the basis of the limit of detection of the specific sampling and analytical methods can be found in supporting data sources.
L-4* Assumptions About Limit of Detection	If the laboratory results are at or below the limit of detection, the assumptions about how the measured concentration was used to estimate the TWA must be noted. Coded: Assume concentration equal to zero. Assume concentration equal to limit of detection. Assume concentration equal to limit of detection/2. Assume concentration equal to limit of detection/ $\sqrt{2}$. Other (text explanation required).
L-5* Concentration Units	Concentration units. Coded: $\mu\text{g}/\text{m}^3$. mg/m^3 . ppm. ppb. fibers/centimeter ³ . Other (text explanation required).
L-6* Calculated/Estimated TWA Concentration	Calculated or estimated TWA. This variable allows a record of a calculated/estimated TWA for a period of time different from that of any single sample.
L-7* TWA Time	Time period in minutes for which TWA concentration was calculated/estimated above (i.e., 460 minutes for full 8-hour time period, shorter TWA for specific task, other).

Supplemental Table 1. Recommended Data Elements from ACGIH-AIHA Joint Task Group, continued

Data Element	Definition
L-8* TWA Assumptions	Assumptions for non-sampled time for TWA calculations. Coded: Full TWA period sample (i.e., sample covered the entire TWA period). Assume zero concentration for unsampled time. Assume equal concentration for unsampled time. Other (text explanation required).
L-9* Analytical Laboratory	Link to data source containing information regarding analytical laboratories, including laboratory name, address, phone number, point of contact, etc.
L-10 Comments	Comments regarding results.
M. Noise Exposure Results	
M-1* Noise Exposure Dose	Noise exposure dose in percent. Need to note basis (e.g., based upon 100% equal to 90 dBA).
M-2* Doubling Rate	Doubling rate of noise measuring device (basis of noise integration).
M-3* L AVERAGE	TWA noise exposure.
M-4 Maximum Noise Level	Maximum noise level measured by noise dosimeter.
M-5 Sound Level Meter Measurements	Sound level meter measurements: - Sound level (decibels). - Scale (A, B, C). - Response (slow, fast). - Doubling rate.
M-6 Impact Noise Measurements	Record of impact noise measurements (levels, frequency, etc.).
M-7 Comments	Comments regarding noise results.

*Critical data element for the current study