

Navy Environmental Health Center
Industrial Hygiene Air Sample Survey Form - NEHC Form 5100/13
Explanations and Definitions
(Version 4/03)

Industrial Hygiene Air Sample Survey Form (One Worker, Multiple Stressors) - NEHC Form 5100/13 - This form is used to record information collected while performing air sampling with air sampling pumps and/or passive monitors. Analytical information is provided by the laboratory. As many as four samples with up to five stressors may be listed on each form, but only one worker. Personal breathing zone and area samples may be listed on the same form.

Form fields marked in this Explanations and Definitions as “QA Scored”, are fields that are evaluated at NEHC for Industrial Hygiene Air Sample Data Quality. Form fields marked in this Explanations and Definitions as “Required” are fields that are thought to be important information. Some of the “Required” fields have conditions listed. If those conditions are not applicable, those fields are either not applicable or optional. Form fields marked in this Explanations and Definitions as “Optional” are fields that provide useful but extra information or are only used by some industrial hygiene groups. On the actual survey form, the “Optional” fields are shaded.

FIELD NAME	DEFINITION
Laboratory (Required)	The name and address of the laboratory to which the sample is sent or enter “in-house” if analysis is performed in-house.
IH Group (Required) (QA Scored)	The complete name (including any particular section) and address of the command requesting the sample analysis.
IH POC (Required) (QA Scored)	The industrial hygienist to contact in case there are questions concerning the sample.
IH Comm/DSN Phone (Required) (QA Scored)	The complete commercial and DSN phone numbers of the IH POC.
IH Fax (Optional)	The fax number of the IH POC.
Sample Date (Required)	The date the sample is collected.
IH UIC (Required) (QA Scored)	The Unit Identification Code (UIC) of the command providing industrial hygiene support to the sampled command.

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FIELD NAME	DEFINITION
Activity (Required)	The name of the sampled command receiving industrial hygiene support.
UIC (Required) (QA Scored)	The UIC of the sampled command receiving industrial hygiene support.
Field Office (Optional)	A city or other descriptive identifier of the location of the activity being sampled. This is useful in situations where the command has multiple field locations, and the activity name, UIC and building/location do not provide sufficient detail to discern between different field offices of the command. This field is optional and is currently used by only a few IH field activities.
Bldg./Hull # (Required)	The building number of the shore command or the hull number of the ship where the individual being sampled works or where the sample is being collected.
Shop Location (Required)	The room number or ship compartment number of the shop where the individual being sampled works or where the sample is collected.
Shop Code/Name (Required)	The number and/or name of the shop where the individual being sampled works or where the sample is being collected
Employee Name (Last, First, MI) (Required for personal samples) (QA Scored)	The complete name of the individual being sampled.
SEG Population ID (Optional)	Similar Exposure Group (SEG) Population Identification: A number or name of a similarly exposed group as that of the individual being sampled or for the sampled operation. A SEG is defined by the industrial hygienist. This field is optional and is currently used by only a few IH field activities.
Gender (Required for personal samples)	Record whether the individual being sampled is male or female. Circle "M" for male or "F" for female.
SSN/Badge # (SSN (or other number for foreign nationals) - Required for personal samples) (QA Scored) (Badge # - Optional, if SSN or other identification number (for foreign nationals) is used)	It is preferred that the full social security number (SSN) be documented for the individual being sampled. However, at least, the last 4 digits of the SSN should be documented. The badge number can also be documented for the individual being sampled, particularly if the individual is does not have a SSN for some reason (e.g., foreign national, etc.).
Job Title (Required for personal samples)	The job title of the individual being sampled.

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FIELD NAME	DEFINITION
Mil/Civ/FORNAT (Required for personal samples)	Record whether individual being sampled is military, civilian or a foreign national. Circle "M" for military, "C" for civilian or "FN" for foreign national.
TAD (Required for personal samples)	Record whether the individual being sampled is at the activity on temporarily assigned duty (TAD). This gives you information so that sampling information, SF600s or other notifications can be sent or the proper (parent) activity.
Parent Activity (Required for personal samples, if TAD is yes)	When an individual being sampled is at an activity on TAD, the parent activity is the name of the command to which an individual normally belongs. This gives you information so that sampling information, SF600s or other notifications can be sent or the proper (parent) activity.
Parent UIC (Required for personal samples, if TAD is yes)	When an individual being sampled is at an activity on TAD, the parent UIC is the UIC of the command to which an individual normally belongs. This gives you information so that sampling information, SF600s or other notifications can be sent or the proper (parent) activity.
SF600 Sent to: (Optional) (Computer applications such as IHIMS might require this field for some sample types)	The name of the clinic to which the standard form 600 is sent in order to be included in the medical record of the individual being sampled.
Shift (Required)	The shift that the individual being sampled is working. Mark the appropriate number code box on the form. 1 = Day 2 = Evening 3 = Night
Frequency of Operation (Required)	The frequency of the sampled operation. Mark the appropriate number code box on the form. 1 = Daily 2 = 2-3 Times/Week 3 = Weekly 4 = 2-3 Times/ Month 5 = Monthly 6 = 2-3 Times/Year 7 = Yearly 8 = Special Occasions

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FIELD NAME	DEFINITION
<p>Duration of Operation (Required)</p>	<p>The duration of the sampled operation. Mark the appropriate number code box on the form. This is the usual or normal time it takes to perform the operation.</p> <p>1 = 0 - 15 minutes 2 = 15 - 30 minutes 3 = 30 - 60 minutes 4 = 1 - 2 hours 5 = 2 - 4 hours 6 = 4 - 6 hours 7 = 6 - 8 hours 8 = >8 hours</p>
<p>Personal or Area (Required)</p>	<p>Record whether this is a personal air or general area air sample. Circle "Personal" or "Area".</p>
<p>Worksite (Optional) (Computer applications such as IHIMS might require this field for some sample types)</p>	<p>A description of the location inside the room or ship compartment where the sample is actually collected.</p>
<p>Distance from Source (Optional) (Recommended for general area samples) (Computer applications such as IHIMS might require this field for some sample types)</p>	<p>The distance, in feet, between the source of contamination and the sample collection location.</p>
<p>Boundary (Optional) (Computer applications such as IHIMS might require this field for some sample types)</p>	<p>Record whether the sample is collected inside or outside any boundaries or whether there is no boundary present. Circle "In" for inside the boundary, "Out" for outside the boundary or "No" for no boundary present.</p>
<p>OPCODE (Required) (QA Scored)</p>	<p>The operation code, which most closely matches the operation being sampled. The list of operation codes can be found in the Industrial Hygiene Field Operations Manual, Appendix 3-A.</p>
<p>Operation (Required) (QA Scored)</p>	<p>The operation name from the operation code list, which most closely matches the operation being sampled. The list of operations can be found in the Industrial Hygiene Field Operations Manual, Appendix 3-A.</p>
<p>Task (Required)</p>	<p>A short descriptive identifier that further defines the sampled operation, providing more detail.</p>
<p>Related Shop SOP (Optional)</p>	<p>A number or name of any standards of practice (SOP) used during the sampled operation. This field is optional and is currently used by only a few IH field activities.</p>

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FIELD NAME	DEFINITION
Materials/Products Used (Required)	A description of the materials or product used during the sampled operation that contain the sampled stressors (e.g., welding rod, spray paint, degreaser, etc.). If no materials/products are used, state “None”.
Ventilation Description (Required) (QA Scored)	From the following list, select the most closely matching ventilation type to that being used during the sampled operation: a. Natural b. General c. Small Booth d. Large Booth, non-walk-in e. Large Booth, walk-in f. Canopy Hood g. Glove Box h. Laboratory Hood i. Free Hanging j. Lateral Slot k. Push-Pull l. Downdraft m. Metal Working/Wood Working n. Low Volume-High Velocity
Ventilation Used (Required) (QA Scored)	Record whether the ventilation present is used during the sampled operation. Circle “Yes” or “No”.
Ventilation Meets Specs (Required) (QA Scored)	Based on measurements, record whether the ventilation present meets applicable standards or guidelines. Circle “Yes”, “No” or “Unknown”.
Respirator # (Required for personal samples, if respirator is used) (QA Scored)	The NIOSH approval number (“TC-“ number) for the respirator used, if any, by the individual being sampled.
Respirator Description (Required for personal samples) (QA Scored)	A description of the respirator used, if any, by the individual being sampled, including: manufacturer, model, respirator type, facemask type, seal fit, air delivery type, escape provision, cartridge type, filter type, etc. If no respirator is used, state “None”.
PPE Code(s) (Optional)	The code(s) of the personal protective equipment used, if any, by the individual being sampled. The list of codes to use can be found in Industrial Hygiene Field Operations Manual, Appendix 3-A.
PPE Description (Required for personal samples) (QA Scored)	A description of any personal protective equipment used, if any, by the individual being sampled. If no personal protective equipment is used, state “None”.
Sample Duration (Required) (QA Scored)	The length of the sample, in minutes, calculated from the sampling pump or passive monitor “on” and “off” times.

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FIELD NAME	DEFINITION
Flow Rate (Required) (QA Scored)	The lower of the calibration flow rates of the sampling pump, or the <u>equivalent flow rate of the passive monitor</u> , in liters per minute.
Volume (Required) (QA Scored)	The total volume of air collected for the sample, in liters.
Sample # (Required) (QA Scored)	The unique number used by the IH group to identify and track the sample.
Laboratory # (Not Required for IH) – Filled in by laboratory	The unique number used by the laboratory to identify and track the sample. This information is provided by the laboratory.
CAS #/Stressor (Required) (QA Scored)	<p>The Chemical Abstracts Service (CAS) registry number of the stressor being sampled. A list of stressors with CAS numbers and exposure standards is in the Industrial Hygiene Field Operations Manual Appendix A Table Z-1-A and Table Z-2, the Industrial Hygiene Field Operations Manual Appendix B Table 1.</p> <p>The stressor is the chemical, physical or biological contaminant being sampled. Lists of chemical stressors with exposure standards is in the Industrial Hygiene Field Operations Manual, Appendix A, Table Z-1-A and Table Z-2 and the Industrial Hygiene Field Operations Manual Appendix B Table 1.</p>
Analytical Method (Not Required for IH) – Filled in by laboratory	The method used by the laboratory to analyze a sample for a particular stressor. More than one method can be used per sample. This information is provided by the laboratory.
LOD (Not Required for IH) – Filled in by laboratory	The limit of detection of the analytical method used by the laboratory to analyze a particular stressor. This information is provided by the laboratory.
Result (Not Required for IH) – Filled in by laboratory	The analytical result of a sample for a particular stressor. This information is provided by the laboratory.
Concentration (Required)	The concentration of the particular stressor of a sample.
8-hour TWA (Required for personal samples, if appropriate for combined sample durations and stressor)	The calculated 8-hour time weighted average of a particular chemical stressor sampled for the individual being sampled on the particular sample date (to be calculated by the sampler or reviewing IH).
Received By (Not Required for IH) – Filled in by laboratory	The printed name and signature of the person receiving the sample at the laboratory. This information is provided by the laboratory.

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FIELD NAME	DEFINITION
Date Received (Not Required for IH) – Filled in by laboratory	The date the laboratory received the sample. This information is provided by the laboratory.
Analyzed By (Not Required for IH) – Filled in by laboratory	The printed name(s) and signature(s) of the analyst(s) performing the laboratory analysis(es). This information is provided by the laboratory.
Date Analyzed (Not Required for IH) – Filled in by laboratory	The date(s) the laboratory analyzed the sample. This information is provided by the laboratory.
Analyses Reviewed By (Not Required for IH) – Filled in by laboratory	The printed name and signature of the analysts' reviewing supervisor. This information is provided by the laboratory.
Date Reported (Not Required for IH) – Filled in by laboratory	The date(s) the laboratory reported the results of a sample to the command requesting the sample analysis. This information is provided by the laboratory.
Lab Comments (Not Required for IH) – Filled in by laboratory	Explanatory comments by the analyst(s) about the sample or analysis. This information is provided by the laboratory.
Pre Cal Date (Required) (QA Scored)	The date the sampling pump is pre calibrated. This must be the same date as the post calibration date and sample date unless sampling is performed across the midnight hour.
Post Cal Date (Required) (QA Scored)	The date the sampling pump is post calibrated. This must be the same date as the pre calibration and sample date unless sampling is performed across the midnight hour.
Field Calibrated By (Required) (QA Scored)	The printed name and signature of the person performing field calibration on the sampling pump.
Field # (Optional)	The number used to identify the sample in the field.
Pump Type (Optional)	The type of sampling pump (e.g., high flow, low flow, etc.) or passive monitor.
Pump Mfg. (Required) (QA Scored)	The manufacturer of the sampling pump or passive monitor.
Pump Model (Required) (QA Scored)	The model of the sampling pump or passive monitor.
Pump Serial # (Required) (QA Scored)	The serial number of the sampling pump or passive monitor.
Calibrator Mfg. (Required, if applicable) (QA Scored)	The manufacturer of the calibration device.
Calibrator Model (Required, if applicable) (QA Scored)	The model of the calibration device.

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FIELD NAME	DEFINITION
Calibrator Serial # (Required, if applicable) (QA Scored)	The serial number of the calibration device.
Pre Cal Flow Rate (Required) (QA Scored)	The average flow rate during sampling pump pre calibration, in liters per minute.
Post Cal Flow Rate (Required) (QA Scored)	The average flow rate during sampling pump post calibration, in liters per minute.
Lower Flow Rate (Required) (QA Scored)	<p>The lower of the pre and post sampling pump calibration flow rates, in liters per minute. The lower flow rate is used when calculating sample volume. The difference between pre and post calibration values should not exceed 5% when calculated by the equation:</p> $\% \text{ error} = \frac{\text{high value} - \text{low value}}{\text{low value}} \times 100$ <p>For passive monitors, enter the manufacturer's listed equivalent flow rate, in liters per minute.</p>
Media (Required) (QA Scored)	The type of media used to collect the sample (e.g., MCEF, CT, 3M 3500 OVM, etc.).
Media Lot/Tube # (Required)	The manufacturer's lot or tube number for the sampling media.
Media Expiration Date (Required)	The expiration date of the sampling media, if any. If no expiration date is listed state "None".
Time Off (Required) (QA Scored)	The time the sampling period ended for each sample (i.e., when the sampling pump or passive monitor is turned off or closed, or the sampling media is removed from the individual being sampled).
Time On (Required) (QA Scored)	The time the sampling period began for each sample (i.e., when the sampling pump or passive monitor is turned on or opened, or the sampling media is placed on the individual being sampled).
Pump Check(s) (Required) (QA Scored)	The <u>time(s)</u> when the sampling pump is checked to ensure proper operation.
Calculations (Optional)	Any calculations associated with sample collection, equipment calibration, sample results or time weighted averages.
Exposure during the unsampled period is (Required for personal samples)	The exposure for the individual being sampled during the unsampled period on the sample date. Mark the appropriate box on the form: "Same as sample period", "Zero" or "Other". For "Other", please specify conditions.

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FIELD NAME	DEFINITION
Shift Length (Optional) (Computer applications such as IHIMS might require this field for some sample types)	The length of the shift that the individual being sampled works.
Actual Length of Sampled Work (Required for personal samples)	The actual amount of time the operation being sampled is performed on the sample date. This may or may not correspond to the sample duration.
Time Course of Events/Comments (Required) (QA Scored)	A <u>detailed</u> chronological description of the operation being sampled and any other comments or observations about the sample period. Anyone reading this time course of events should be able to develop a mental image of what occurred during the operation.
Sampler (Required) (QA Scored)	The printed name and signature of the industrial hygienist, industrial hygiene technician or workplace monitor performing the sampling.
Date Completed (Required) (QA Scored)	The date the form is signed by the industrial hygiene technician, workplace monitor or industrial hygienist performing the sampling.
Reviewing IH (Required) (QA Scored)	The printed name and signature of the industrial hygienist reviewing the sample form.
Date Reviewed (Required) (QA Scored)	The date the form is signed by the industrial hygienist reviewing the sample form.
Data Entered By (Optional)	The printed name and signature of the person entering the sampling form information into the sample database. This only applies if the IH group utilizes a sample database.
Date Entered (Optional)	The date the sampling form information is entered into the sample database. This only applies if the IH group utilizes a sample database.
Sent to Lab By (Required)	The printed name and signature of the person sending the sample to the laboratory.
Date Sent (Required)	The date the command requesting the sample analysis sent the sample to the laboratory.
Privacy Act Statement (Optional) (But may be required by some Commands for legal purposes)	To be read, signed, and dated by the individual(s) being sampled, if required by your Command.