

**DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
POLICY AND PROCEDURES MANUAL**

AIR SAMPLING REPORT

P&P C-91
Issue Date:
6/30/94
Revised: 8/1/94,
7/1/95

AUTHORITY: Not applicable.

POLICY: It is the policy of the Division of Occupational Safety and Health to use the Air Sampling Report, OSHA Form 91(S), as a sampling and exposure documentation worksheet to record facts pertaining to workplace safety and health hazards.

PROCEDURES:

A. USE

1. The Air Sampling Report consolidates sampling data, exposure summary information, pre and post-sampling calibration records, laboratory results and field notes into one documentation form. See Attachment A.
2. Compliance personnel shall use the OSHA Form 91(S) to document all samples sent to the laboratory for analysis, not just air samples.

NOTE: Compliance personnel may use the OSHA Form 91(S) in place of the Cal/OSHA Form 1E.

3. When compliance personnel collect samples for laboratory analysis, compliance personnel shall use the OSHA 91S in conjunction with the Cal/OSHA Form 1H (Laboratory Sample Analysis Request) and the Cal/OSHA Form 1HS (Sample Seal).

B. OFFICE PROCEDURES

1. Compliance personnel shall complete the OSHA Form 91S according to the instructions set forth in Section D. and in Attachment B.

NOTE: If more space is required, compliance personnel shall use additional OSHA Form 91(S)s. On each additional OSHA Form 91(S), compliance personnel shall mark through the pre-printed

Sampling Number and enter the Sampling Number from the first Form 91(S) used. Other continuation sheets may also be used. Do not, however, complete Exposure Summary (Items 27-39), on any continuation sheet(s) other than the OSHA Form 91(S).

2. After completion of the OSHA Form 91(S), compliance personnel shall give the Form 91(S) to Office Support Staff for submission to OMDS for data entry.

C. FORM DISTRIBUTION

1. Office Support Staff shall mail each Form 91(S) to OMDS when they receive the Form 91(S) from compliance personnel.
2. The original OSHA Form 91S shall be placed in the employer case file.

D. FORM COMPLETION

MOD/Date

Complete this item only when it is necessary to change an OSHA Form 91(S) previously submitted to OMDS. If modifications to the Form 91(S) are made, compliance personnel shall mark the modifications in red ink on the Form 91(S), enter "M" in the MOD box, enter the date of the modification in the "DATE" box and give the modified Form to Office Support Staff for submission to OMDS.

1. Reporting ID

Enter the Reporting ID of the submitting office.

2. Inspection Number

Enter the Inspection Number from the related Cal/OSHA Form 1.

3. Sampling Number

This is a pre-printed number unique to each OSHA Form 91(S). It identifies each sampling experience. This number must always be used when modifying the information on a sampling form.

4. Establishment Name

Enter the name of the establishment as it appears on the Cal/OSHA Form 1.

NOTE: Only the first form of each set submitted to the lab need contain the legal name. A shortened version may be entered on the subsequent sheets to aid in the identification of the appropriate case file in the District Office and in OMDS.

5. Person Performing Sampling (Signature)

Compliance personnel who is performing the sampling must sign or initial the sampling form to verify that the appropriate sampling method(s) lab have been followed.

6. CSE/IH ID

Enter the Identification Number of the safety engineer or industrial hygienist actually performing the sampling.

7. Sampling Date

Enter the month, day and year the sample(s) were collected.

8. Shipping Date

Enter the month, day and year the sample(s) were transmitted to the lab for analysis, if applicable.

9. Employee (Name, Address, Telephone Number)

Enter the name, address (including ZIP Code) and telephone number of the employee being sampled.

10. Job Title

Enter a descriptive, concise (no more than 20 characters) and legible job title for the employee being sampled. For area, bulk, or wipe samples, enter the job title of the employee(s) who are most at risk from exposure. If one cannot be determined, enter the area of the worksite sampled.

11. Occupation Code

If known, enter an appropriate occupation code that corresponds to the job title in item 10.

12. PPE (Type and Effectiveness)

Enter the type(s) and the effectiveness of any personal protective equipment (PPE) the sampled employee is using, including the manufacturer's name and model number, the approval number, if available, and the type and concentration of the contaminant against which it protects. If no PPE is in use, enter "NONE."

13. Exposure Information

a. Number

Estimate the number of employees who are suspected to be over-exposed to the hazard. Include the sampled employee as well as employees potentially over-exposed on all shifts. This number represents a subjective assessment of the scope of the exposure problem at the time the samples were taken.

Enter this number only once for each hazard area by entering the appropriate number on the first OSHA Form 91(S) for a particular hazard area and leaving this item blank on all subsequent OSHA Form 91(S)s for the same area.

NOTE: It is essential that this number not be repeated on sample forms relating to the same hazard area. Repeated entries will result in multiple counting and will invalidate the IMIS data.

b. Duration

Enter the length of time that the alleged violation has existed. This number indicates how long the hazard(s) has existed, not how long the sampled employee has been exposed to the hazard. It is not necessary to enter the duration on all OSHA-91(S)s for an area unless the information is different.

c. Frequency

Describe, as concisely as possible, the general frequency of exposure in the sampling area. Convey the complete picture for all over-exposed employees, not just that of the sampled employee.

Several frequency descriptions and the number exposed at each frequency may be required.

EXAMPLE: 4 for 8 hrs/day or 2 for 6 hrs/week.

14. Weather Conditions

Enter, when necessary, the temperature, altitude and other weather conditions existing during the sampling period which may affect the sample data.

15. Photo

If a photo(s) was taken, circle the "Y."

16. Pump Checks and Adjustments

Enter the time(s) at which the flow rate was checked. If the flow rate changed, enter the time and the rotameter setting before adjustment.

17. Job Description, Operation, Work Location(s), Ventilation and Controls

Enter a detailed description of the work environment of the sampled employee. Include all pertinent information about the work being performed, such as the operation, the equipment associated with the hazard (including identifying numbers), and the work location(s). Include information such as the employee's activities during non-sampling periods when it might affect the exposure, general observations of work practices and environment, unusual events which the compliance personnel observes. Be sure to include observations on the following when they affect exposure or the issuance of a citation:

- a. Employee comments, recorded verbatim if possible, on the exposure (including how long they have worked at the job and the frequency of their exposure to the hazard) or the employer's health and safety program. Be sure to include notes on symptoms exhibited or mentioned by the employee.
- b. Account of employee movements and duties in each area of the plant.
- c. Typical production rate, rate on day of survey, machine speed, specific item being made, etc.
- d. Notes on visible dust, fumes, vapors, etc.
- e. Source of exposure.

- f. Ventilation and other significant air movements affecting contaminant concentrations. Include measurements and descriptions.
- g. Refer to all pages with additional sampling data (either Cal/OSHA's or the employer's) related to this exposure, for example, wipe samples documented on another page.
- h. Refer to all pages with documentation of records related to this exposure, e.g., Log 300 and medical records.
- i. Engineering and/or administrative controls, present and feasible.
- j. Employer knowledge of the hazard.
- k. Other employer information. If the employer neither created nor controlled the hazardous condition, state the name of the responsible party and the relationship to the employer.

Begin your description in Item 17 and continue on the back or on additional pages. Always precede the continuation with the appropriate item number and indicate to which sampling form it relates, e.g.,

"Jones-Item 17" for the job description of employee Jones who is wearing the pump, or

"p.4-17" for Item 17 on field page number 4, or

"21763-17" for the continuation of Sampling Number 21763.

Cont'd

When the case file has been organized and the pages numbered, enter the case file page number(s) in the Cont'd box to indicate where any continuation page for this job description can be found. This is not necessary if the continuation page directly follows the sample form.

18. Pump Number

Enter the pump's serial number for reference during sampling.

SAMPLING DATA

Items 19-26 are entered in columns, one column for each sample taken including area, bulk or wipe samples.

19. Sample Type/Media

Indicate the type of sample taken or the media used in the column above the sample data to which it relates.

Code	Type of Sample
------	----------------

A	Area
---	------

B	Bulk
---	------

L	Blood
---	-------

P	Personal
---	----------

S	Screening
---	-----------

U	Urine
---	-------

W	Wipe
---	------

20. Filter/Tube Number

Enter the filter or tube number assigned by compliance personnel to aid in the identification of samples in the field.

21. Sample Submission Number

Enter the sample number assigned to each sample by compliance personnel for submission to the lab.

22. Time On/Off

Enter the time(s) the pump is turned on or turned off.

NOTE: If the pump is turned on and off during the course of the day and the filter or other sampling media is not changed, enter the subsequent times in the same column or in adjacent columns.

23. Total Time (in minutes)

Enter the total sampling time in minutes.

24. Flow Rate

Enter the flow rate at which the pump is operated. Indicate what units are correct by marking an "X" in the appropriate box, either l/min or

cc/min. If a change in the flow rate is observed during pump checks, enter that value in Item 16, Pump Checks and Adjustments.

NOTE: Refer to the Cal/OSHA IH Tech Manual to determine what flow rate to use if adjustments have been made or if pre- and post-sampling calibrations were different.

25. Volume (in liters)

Enter the total air volume sampled (in liters). This should be the volume the lab will use in its calculations. If the sampled air volume needs correction for temperature or pressure, enter the corrected air volume sampled (in liters). The volume should be recorded to three (3) significant figures, in the units sampled (for example, 625 or 62.5 or 6.25).

26. Net Sample Weight (in mg)

Leave blank.

EXPOSURE SUMMARY

After sampling has been conducted and analyzed, complete the Exposure Summary Items 27-39, whether or not a citation will be issued. If the samples documented on an OSHA Form 91(S) do not meet the criteria for submission to OMDS, write "VOID," or some other sign, across the Exposure Summary box signifying that these forms will not be sent to OMDS.

27. Line Number

This Item is a sequential number used to identify a particular exposure in the computer record. Each unique exposure must be assigned a line number and this number must be used in referring to individual records for modifications or retrieval.

28. Substance Code

Enter the appropriate code for the substance being reported.

NOTE: Hazardous substance codes are provided in P&P C-170 & 170A Attachment E.

29. Requested

Enter an "L" to indicate that analysis for the particular substance was requested of the laboratory by compliance personnel. If the analysis was not requested, leave this item blank. If compliance personnel did the analysis, enter a "C."

30. Sample Type

Enter a code, as follows, to indicate what kind of sample was taken:

Code	Type of Sample
A	Area
B	Bulk
L	Blood
P	Personal
S	Screening
U	Urine
W	Wipe

31. Exposure Code

Enter a code, as follows, to indicate what kind of exposure is being reported.

Code	Exposure Type
A	Not Analyzed
C	Ceiling
D	Done
F	Not Detected (N/D) or Not Found (N/F)
L	Short Term Exposure Limit
P	Peak
T	Full Shift Time Weighted Average (TWA)

V Not Valid

Bulk, Wipe, Blood or Urine Samples

If none of the above codes apply because the sample was a bulk, wipe, blood, or urine sample, leave this item blank.

Not Detected, Not Analyzed or Not Valid

If the lab reports a "less than" or "nondetectable" level, enter "F" in this item. If the sample is not sent to the lab for analysis or if the samples were sent to the lab and were not analyzed, enter "A" in this item. If the sample was considered invalid for some reason, for instance, it was contaminated at the site, enter "V" in this item. If either "F," "A" or "V" is entered in this item, leave Items 32 through 36 blank.

More than One Type of Exposure for the Same Substance

If a TWA (time weighted average), ceiling and/or peak are calculated for the same substance code, each value must be entered on a unique line.

More than One of the Same Exposure Type for the Same Substance

If more than one ceiling, peak or other exposure type is calculated for the same substance code, enter only the highest exposure for each type measured.

32. Exposure Level

The exposure determined by sampling. Time-weighted averages (TWAs) shall be based on the full shift. This value must be entered regardless of whether an overexposure exists.

33. Units

Enter the appropriate code from the following list to indicate the unit of measure in which the Exposure Level and the PEL are expressed for the substance identified in Item 28:

Code	Unit of Measure
C	Picocuries per liter (radon)
D	Milligrams per deciliter (blood)
F	Fibers per cubic centimeter
G	Million particles per cubic foot
L	Milligrams per liter (urine)
M	Milligrams per cubic meter
P	Part per million
%	Percentage
0	Specify Unit(s)

If the Exposure Level or PEL is expressed in micrograms, it must be converted to milligrams before submittal to OMDS.

34. PEL

The appropriate PEL or other standard against which the exposure is being evaluated. The PEL entered here must correspond to the type of exposure reported in Item 31. If the exposure is evaluated in relation to an Action Level, enter the Action Level here. (Be sure to use the appropriate substance code in Item 28). If the PEL must be adjusted because of a novel work schedule or other unusual circumstance, enter the adjusted PEL. If there is no level against which to evaluate the exposure, enter zero (0) in PEL and leave Severity Item 36, blank.

35. Adjusted

Mark if the PEL was adjusted. If not, leave blank.

36. Severity

The severity of exposure, for example, Full Shift TWA divided by PEL, calculated to two (2) significant figures. This value must be recorded even if it is less than 1.

37. Citation Information Mark as many of the following box(es) as apply regarding citation issuance.

No Citation. No citation was issued as a result of this sample.

FTA (Failure to Abate). An additional penalty was assessed for the employer's failure to abate a previous violation.

Over Exposure. A citation was issued for over exposure to the hazardous substance identified in Item 28 Substance Code.

Engineering. A citation was issued for lack of or faulty engineering and/or administrative controls.

PPE. A citation was issued for lack of, or faulty, personal protective equipment.

Training. A citation was issued for lack of adequate training.

Medical. A citation was issued for lack of medical surveillance.

Other. A citation was issued for other reasons.

38. Additives

If substances, due to their similar physiological effects, are considered additive, and if a citation results from the additive effects, enter the line numbers from Item 27 (1, 2, 3, etc.) of the substances identified in Item 28 that are additive.

NOTE: On the same line, under Severity Item 36, enter the equivalent exposure for the mixture, as referenced in 8 CCR §5155. This value is equivalent to the sum of the severity ratios for each substance contributing to the additive effect. Then mark an "X" in the appropriate box(es) under Citation Information Item 37.

39. Total Number of Lines

The total number of line entries made in the Exposure Summary section. This total includes both the total number of entries made in Item 28 and Item 38, if completed. If multiple pages are used, enter on the first page the total number of lines entered on all related pages of the

OSHA Form 91(S), then leave this item blank on all the subsequent pages.

40. Date Results Received from Laboratory

The month, day and year the results of the analysis were received from the lab, if applicable.

Case File Page. The page number of this form after the case file has been organized.

PRE-SAMPLING CALIBRATION RECORDS

If compliance personnel use the Cal/OSHA Form 1E, all pertinent information must be transferred to the OSHA Form 91(S).

41. Pump MFG & SN

Enter the manufacturer and serial number of the pump which will be used to perform the sampling.

42. Voltage Checked?

Leave blank.

43. Location/t & ALT

If the pump is calibrated in the office, enter "Office." If calibrated elsewhere, enter the address of the location at which the calibration is performed. Include altitude and temperature, when necessary. Refer to the Cal/OSHA IH Tech Manual for guidance.

NOTE: If all the pumps are calibrated at the same location, the address should be noted on the first form used and a slash drawn through this item on subsequent forms.

44. Flow Rate Calculations

The space provided here may be used to perform the calculations made during the pre-sampling calibration. (The rotameter or other setting may be entered here rather than in Item 45.)

45. Flow Rate

The flow rate which will be used in the sampling, including the rotameter or other setting.

46. Method

Indicate the method used to calibrate the pump by marking an "X" in either "Bubble," for bubble meter, or "PR" for precision rotameter.

47. Initials

The person performing the pre-sampling calibration must certify that standard calibration procedures have been followed by initialing the form in this space. Refer to the Cal/OSHA IH Tech Manual for standard procedures.

48. Date/Time

Enter the date and time of the pre-sampling pump calibration.

POST-SAMPLING CALIBRATION RECORDS

Be sure to use the same calibration method for pre- and post-sampling calibration. If compliance personnel use the Cal/OSHA Form 1E, all pertinent information must be transferred to the OSHA Form 91(S).

49. Location/T & ALT

If the pump is calibrated in the office, enter "OFFICE." If calibrated elsewhere, enter the address of the location at which the calibration is performed. Include temperature and altitude, when necessary.

If all the pumps are calibrated at the same location, the address should be noted on the first form used and a slash drawn through this item on subsequent forms.

If the pre- and post-sampling calibrations were both done at the same location, draw a slash through this item, but enter the temperature, if needed, on the first form used.

50. Flow Rate Calculations

The space provided may be used to perform the calculations made during the post-sampling calibration.

51. Flow Rate

Enter the flow rate of the pump as determined by post-sampling calibration.

52. Initials

The person performing the post-sampling calibration must certify that standard calibration procedures have been followed by initialing the form in this space. Refer to the Cal/OSHA IH Tech Manual for standard procedures.

53. Date/Time

The date and time of the post-sampling pump calibration.

SAMPLE WEIGHT CALCULATIONS

Leave Items 54. through 59. blank.

LABORATORY RESULTS

60. Lab Sample Number

(Not assigned by compliance personnel). The lab may assign a Lab Sample Number to each sample on the Cal/OSHA 1H. Transfer that information to Item 60.

61. Substance

A list, in priority order, of the names of the substances for which you want the samples analyzed. The lab will report the results of their analysis in the columns to the right of each substance.

62. Interferences and IH Comments to Lab

Identify any known or suspected substances present during sampling which might affect the lab's analysis, and enter any additional information which the lab may need such as special handling and storage instructions, etc.

Include here the name of any lab personnel consulted on sampling strategy. Also enter the name of the office to which the results should be

sent if different from that office entered in Item 1. For liquid sorbents whose substance names cannot fit into Item 19, identify the sorbent here.

63. Chain of Custody

Leave blank. (This information is on the Cal/OSHA Form 1H).

64. Supporting Samples

Transfer this information from the Cal/OSHA Form 1H.

If a supporting sample does not relate to all the samples identified on the Form 91(S), indicate to which samples it refers by entering the appropriate sample number(s) in parentheses after the reference number. The lab needs a separate blank for each type of analysis. If a single blank supports more than one sample form, the blank's reference number should be entered on each form. Indicate other supporting samples, such as area samples.

65. Analyst's Comments

Leave blank.

66. Calculations and Field Notes

This space is provided for performing calculations of TWA, severity, correction factors, sampling and analytical errors, etc. Perform all calculations according to instruction in the Cal/OSHA Industrial Hygiene Technical Manual.

Attachments:

A -- [OSHA 91\(S\) Page One](#), [OSHA 91\(S\) Page Two](#)

B -- [When to Submit an OSHA-91\(S\) to OMDS](#)