



Guidelines for Writing Occupational Hygiene Reports 3rd Edition

1. Purpose of the Guidelines

The purpose of this Guideline is to inform Occupational Hygienists and their clients of the minimum recommended contents of Occupational Hygiene Reports.

2. Scope of the Guidelines

This Guideline is **limited to common contents** that should be included in Occupational Hygiene Reports. **It does not prescribe a specific report format.** The purpose of an individual report may vary; however, the basic contents remain the same.

3. General Report Writing Guidance

The general principles for good report writing include:

- Write the report in plain English and keep it as short and concise as possible, while ensuring the essential information is included
- Ensure all question(s) raised in the scope of work are adequately addressed
- The details should satisfy the technical reader that the work was properly conducted and appropriate conclusions were drawn
- Reports should be proof read to ensure they are free of spelling or grammatical errors
- Reports should clearly identify any required actions
- All figures (including photographs) and tables should have a concise title. The title of tables should be located at the top of the table and the title of figures should be located at the bottom of the figure. Figures and tables should be numbered.

For further guidance on report writing principles, readers may also like to make reference to the British Occupational Hygiene Society guide titled "*Clear and concise report writing: guidance for occupational hygienists*".

4. Typical Format of Hygiene Reports

The typical report is divided into the following contents:

- Title Page
- Executive Summary
- Table of Contents
- List of Tables and/or Figures
- List of Terms and Abbreviations
- Introduction
- Relevant Legislation
- Process Description
- Methods and Measurements
- Results and Discussion
- Conclusions and Recommendations
- References
- Appendices

4.1 Title Page

The report should include a title page with the following information:

- Title summarising the nature of the survey e.g. *"Assessment of risk arising from employee's exposure to XYZ..."*
Date of report e.g. 12 March 2017
- Name and address of company and/ or department commissioning the work (the client)
- Name, address and qualifications of person/ organisation carrying out the work (the hygienist)
- Name and signature of person who prepared the report e.g. "Signed by..." (the hygienist)
- Where appropriate, the name and signature of the consultant or manager who reviewed or approved the report should also be added e.g. "Approved by..." or "Reviewed by ..." (the senior consultant, manager or Certified Occupational Hygienist COH[®]).

4.2 Executive Summary

The Executive Summary is an important part of the report and should be included in most reports (except small reports e.g. less than 7 pages). An executive summary enables the client and others to obtain an overview of the report contents. The executive summary should be no more than one page and should describe the aims and objectives (purpose), findings and recommendations of the scope of work covered in the report. The executive summary should be written in simple, plain English and avoid complex scientific terminology, where possible, to maximise its readability to non-technical audiences. Any required action should be made clear as the Executive Summary may be the only part of the report that is read.

4.3 Table of Contents

The table of contents should contain a list of all the major sections and sub sections in the report with the page number listed so the reader can find the relevant section.

4.4 List of Tables

The list/table of tables should contain a list of all the tables in the report with the page number listed so the reader can find the relevant section.

4.5 List of Figures

The list/ table of figures should contain a list of all the figures and photographs presented in the report with the page number listed so the reader can find the relevant section.

4.6 List of Terms and Abbreviations

This should be a list of all the abbreviations and terms that are used in the report that need defining for the average report audience.

4.7 Introduction

To assist the reader, it is important to explain why the report was needed (the purpose or aims and objectives), the terms of reference under which the report was commissioned and what information was provided e.g. *"the company requested that an assessment be done as some employees had reported symptoms..."*; *"...an Inspector requested on Improvement Notice No 123, that the company assess the risk arising from employee's exposure to XYZ"*.

Also, the name of the hygienist who completed the work, the name of the person who commissioned the work (e.g. client), date(s) of visit(s) and the site(s) visited should be clearly identified.

The introduction should also include a description of any potential adverse health impacts from exposure to the hazard(s), including reference to the relevant exposure standard(s).

4.8 Process Description

Where a survey of an area, plant or process is conducted the following should be described:

- Area/plant/process surveyed e.g. *"a survey of the area known as cold press or CP was conducted"*.
- Summary of the conditions and process in place at the time, particularly focusing on details relevant for worker exposures, including existing controls e.g. *"usual operator unavailable"*, *"shutdown"*, *"worst case situation, with no controls"*, *"as normal, believed to be a representative working day"*, *"only Blender No 2 was operating"*, *"no protective equipment worn other than overalls"*.
- Identify any items examined e.g. *"Toolmaster serial number 123"*, *"machine called the hot block curer"*.
- Number of employees, duration of workshift(s) and task frequency and duration e.g. *"Nine employees work an 8-hour day, 5-day week with 2 hours overtime worked infrequently"*, *"it takes about 30 minutes for five bags to be opened and poured daily"*.

Diagrams and photographs are useful for clarifying sampling locations and conditions. This section of the report should provide an overall picture for the reader of the working conditions and the work activities being carried at the time of the visit(s).

4.9 Relevant Legislation

It may be useful to include a section that summarises for the reader the relevant legislation. This may be required where the reader(s) are not expected to have a good understanding of the legislation that applies. If part of the aim of the report is to assess compliance with the legislation, this section should be included. The section can quote or summarise relevant sections of the legislation and can provide the reader with guidance on where to obtain further information and access to the legislation. Any applicable legislation should be listed in the reference list.

4.10 Methods and Measurement

Where exposure or other measurements are conducted, the following should be included:

- Detail the sampling procedures, analytical procedures and relevant technical standard(s) used. If a relevant published and validated method exists, it should be used in preference to a novel method. If it is necessary to use a novel method, a full explanation (including summary of validation) should be provided.
- When detailing the equipment used in the sampling include the make, model and serial number of all equipment used, including calibration equipment. Include the date of last calibration or statement about the calibration status of the equipment used. Copies of calibration certificates can be provided as appendices to the report.
- Locations, times and duration of personal sampling and the names of the individuals concerned. If area/static sampling was also conducted similar details along with the reasons should be provided.
- The identification of any similar exposure groups (SEGs).
- A description of statistical methodology used to estimate variability of results.
- Specify the source of the exposure standard to which results will be compared. If there is no relevant exposure standard, it will be necessary to either modify or adapt an existing guideline or develop a guideline. The rationale justifying the guideline used should be provided.
- If required, a description of method used to adjust exposure standards for extended workshifts.

4.11 Results and Discussion

- Results may be presented in the body of the report or as appendices (e.g. raw data may be presented in the appendices with a summary of the results, including tables and figures presented in the body of the report). The level of information, considering the complexity of the processes, tasks and risks, should satisfy the technical reader but not unnecessarily complicate the report. Results should be traceable to the original field notes to enable verification of supporting data (e.g. identity of equipment used, calibration, etc.) should this be needed.
- Results of personal sampling should be compared with the relevant exposure standard.
- The use of an appropriate statistical technique will help communicate the degree of sampling variability and the likelihood that population exposures exceed or fall below the exposure standard. Tools such as the AIHA's IHSTAT can be useful in completing the statistical analysis of results.
- Results should be compared with any previous surveys at the premises and data from similar premises and/or the scientific literature, if available e.g. "*...the process produced results that are similar to other coating operations*". An explanation of general trends and unusually high or low trends should be included. Any citations should be appropriately referenced.
- Any potential bias or limitations with the results should be discussed. For example, sample size, whether workers sampled were randomly selected, any unusual work conditions, etc.
- The level of risk should be determined (preferably quantitatively) to allow for the adequacy of controls to be assessed and the prioritisation of control options. The document titled 'Simplified Occupational Hygiene Risk Management Strategies' (published by the AIOH) provides some basic tools to conduct a risk assessment.
- Limitations of the assessment approach should be listed and discussed.

4.12 Conclusions and Recommendations

Conclusions should be drawn about whether or not the relevant exposure standard(s) have been exceeded and if the work could harm employee health, e.g. *"Exposure is likely to approach and may exceed the exposure standard and there is a significant risk."*, *"It is believed that exposures are unlikely to approach the exposure standard and the risk is not significant."*, *"The risk is uncertain due to the state of knowledge (or level of exposure)"*. Any issues of non-compliance with regulatory requirements should be listed here.

Conclusions should also be drawn about adequacy of control and any further practical actions to eliminate or reduce the assessed risk so far as is reasonably practicable e.g. *"existing controls are adequate if maintained"..... "existing controls are not adequate and need to be upgraded"*.

Recommendations should be selected using the hierarchy of control approach (personal protective equipment being the last resort) and guidance on an appropriate implementation time frame (e.g. urgent, short, medium or long term) should be provided e.g. *"Temporarily cease work on No 123 process until corrective actions (see below) have been implemented"*, *"Personal protection is a short term interim control. In the longer term engineering controls..."*, *"A preventive maintenance program should be implemented as soon as practicable."*, *"Periodic reviews to determine if control measures need to be modified should occur at least once a year."*

Recommendations arising from regulatory requirements or similar guidelines should reference the relevant source document(s) e.g. *"The Victorian Occupational Health and Safety Regulations 2017 require that..."*, *"AS/NZS 4114.1:2003 Spray Painting Booths, designated spray painting areas and paint mixing rooms Part 1: Design, construction and testing, states that a minimum velocity of ..."*.

4.13 References

A complete list of sources, including standards, guidelines and legislation cited in the report needs to be listed here using the appropriate referencing scheme defined e.g. Harvard, APA, Vancouver, etc. .

4.14 Appendices

Appendices provide additional information and detail (e.g. site plan, full sampling details, photographs, calibration certificates, raw results, etc.). Appendices should be numbered, reference should be made to appendices within the body of the report and they should be listed in the Table of Contents.

This Guidance Note was developed by the Australian Institute of Occupational Hygienists (AIOH) and recommended for use by Occupational Hygienists and their clients. The AIOH is the professional organisation for Occupational Hygienists in Australia. A list of occupational hygiene consultants, including Certified Occupational Hygienists (COH), is available from www.aioh.org.au.



Note: This guidance material has been prepared using the best information available to AIOH. Any information about legislative obligations or responsibilities included in this material is only applicable to the circumstances described in the material. You should always check the legislation referred to in this material and make your own judgement about what action you may need to take to ensure you have complied with the law. Accordingly, the AIOH extends no warranties as to the suitability of the information for your specific circumstances.