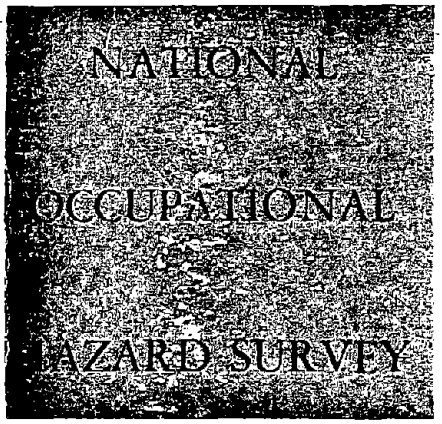
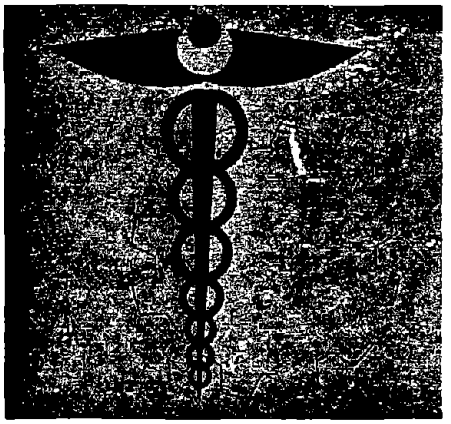
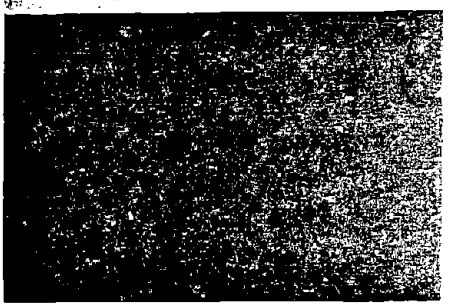
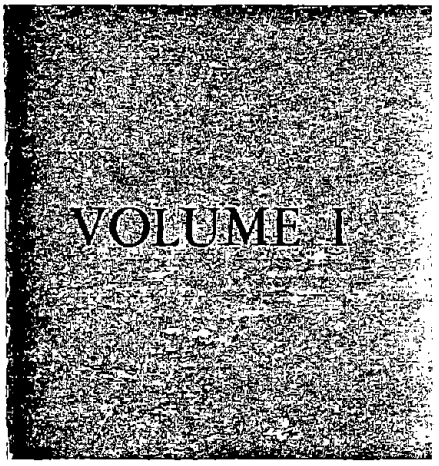
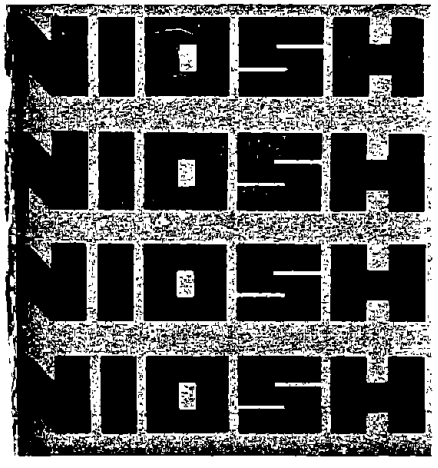


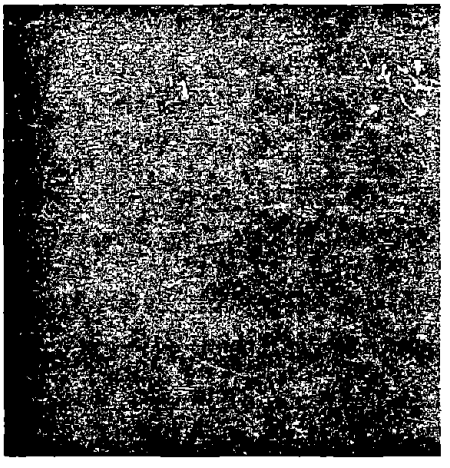


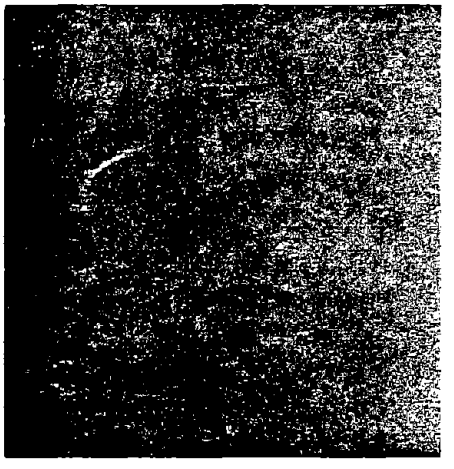


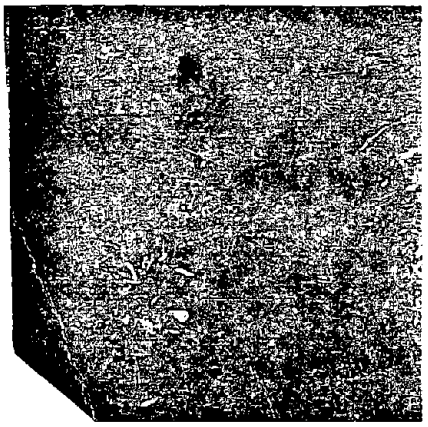


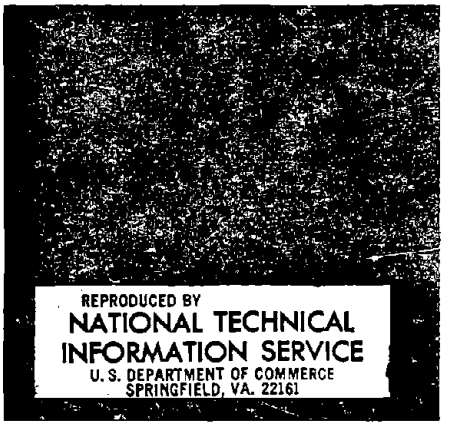
SURVEY MANUAL

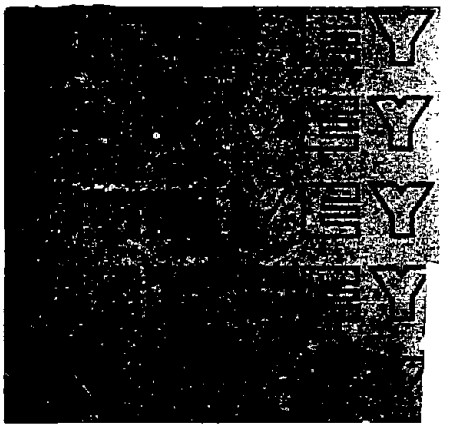












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15. Supplementary Notes

16. Abstracts

A Manual of hazard surveillance is given with information concerning the development of the national occupational hazard survey. Topics include survey guidelines, objectives, survey form, manual maintenance, completion and submission of the survey forms, scheduling of visits, appointments, facility location, facility grouping, subsampling, visits to the facility, entrance to the facility, walk-through surveys, various types of hazards, suggested controls, life threatening situations, survey form preparation, instructions, and appendices containing state codes, standard industrial classifications, chemicals and chemical compounds (annual list of toxic compounds), physical hazards, exposure form and intended control.

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NATIONAL OCCUPATIONAL HAZARD SURVEY

VOLUME I

SURVEY MANUAL

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PREFACE

The National Occupational Hazard Survey (NOHS) is a two-year study intended to describe the health and safety conditions in the American work environment and, more specifically, to determine the extent of worker exposure to chemical and physical agents. The sample of businesses in the Survey was selected by the Bureau of Labor Statistics and contains approximately 5,000 establishments in 67 metropolitan areas throughout the United States. This sample represents all non-agricultural businesses covered under the Occupational Safety and Health Act of 1970.

Data is being collected by a team of 20 engineers specially trained in the recognition of industrial health hazards. Results of the Survey will be used to plan research activities within NIOSH and will also be available to other groups with a need for occupational health statistics.

This field manual represents the contributions of a number of people who have experience in conducting occupational health surveys. It serves as both a guide to the surveyors and as a valuable reference for those evaluating the results of the Survey since it indicates the manner in which the information was obtained. The emphasis throughout the manual is on uniformity in the collection of the Survey data. Therefore, an attempt has been made to anticipate unusual situations which may arise in the conduct of the plant surveys and establish guidelines for handling these situations.

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HAZARD SURVEILLANCE AND THE DEVELOPMENT OF THE NATIONAL OCCUPATIONAL HAZARD SURVEY

The last several years have witnessed increasing concern for the worker and his environment, a concern brought about by progressive awareness of hazardous conditions in the factory. In 1970, this awareness for worker welfare crystallized in legislation known as the Occupational Safety and Health Act of 1970, which has guaranteed the American worker a safe and healthful working environment. Since its enactment, safety standards have replaced safety guidelines and requirements have replaced recommendations. Moreover, occupational health and safety research has spread throughout academia, industry, and especially government.

As one of its provisions, the Occupational Safety and Health Act established the National Institute for Occupational Safety and Health (NIOSH), designating it the main governmental research agency for occupational safety and health. In the midst of its expanding activities, NIOSH recognized that reliable statistics describing health hazards in the occupational environment were virtually nonexistent. Policy decisions, research priorities, and responses to public inquiries were often based on conjecture rather than on fact. To alleviate this deficiency, the Institute established two plans for collection of health hazard information: the National Surveillance Network (NSN) and the National Occupational Hazard Survey (NOHS).

The National Surveillance Network relied upon a cooperative agreement between the Federal government and State health agencies. Data was collected during normal, State sanctioned inspections by State industrial hygienists, who used a standardized form to record worker hazards. The

completed, computer oriented reports were then keypunched and submitted to NIOSH, where results were compiled and returned to the State agency. For its own use, NIOSH retained the data on file and merged it with data from other States, expecting accumulations of data to satisfy its informational needs.

Several shortcomings were inherent in this program. Though information from participating States was useful, it was insufficient from a Federal viewpoint. First, variegated philosophies and backgrounds among the State hygienists imparted a strong bias to the data. During a plant inspection, a hygienist might be more subjective than objective: if he were particularly cognizant of noise and lead hazards, he would look for these to the exclusion of other hazards in the plant. Such subjectivity prevented consistent reporting. Second, the NSN lacked a statistical basis. Tabulations from the several State agencies could represent inspected plants only, and not industries in general. Finally, and partly because of the first two drawbacks, the NSN was not widely used, which precluded sufficient geographic variety for estimating national trends. Thus, even though NSN contributed to both State and NIOSH's information bases, it did not provide the widespread documentation NIOSH needed.

The National Occupational Hazard Survey

As a further means for data procurement, NIOSH improved upon the NSN concept by redefining its scope and data collection methodology. With the need for information established and the deficiencies of data collection by State agencies evident, NIOSH instituted an in-house surveillance effort called the National Occupational Hazard Survey. Designed to obtain an instantaneous profile for use as a national health hazard information base,

NOHS was to answer such questions as "what occupational groups are exposed to what types of potential health hazards in the U.S.?" "in what types of industries can these hazards be found?" "what types of controls are used to prevent harmful exposure?" and "to what hazards are the most people exposed?".

In contrast to the NSN, the National Occupational Hazard Survey aimed at recording specific worker exposures to specific potential health hazards rather than at evaluating the severity of a general hazard. Where NSN incorporated a hygienist's opinion, NOHS addressed merely whether a substance was being used. Although this "objective" approach precluded determining relative risk to a given potential hazard, it assured consistency, improved statistical validity of results, and circumvented prolonged data collection.

In preparation for the two year study, NIOSH was assisted by the Bureau of Labor Statistics (BLS) in selecting participating business establishments. Using a clustered stratified sampling technique and a system of hierarchial Standard Industrial Codes, BLS selected over 5,200 different facilities for NIOSH distributed among 67 Standard Metropolitan Statistical Area's (SMSA). Among the universe of 5,200 was a variety of industries both large and small. Complex, sprawling steel mills were included with simple family machine shops; hospitals and banks were chosen as well as rubber mills and chemical manufacturers.

Coincident with design of the sample, NIOSH hired the first ten of 20 engineers, enrolled them in a nine week fundamental industrial hygiene course, and then trained them in field data gathering techniques. Finally,

after the sample establishment listings from BLS had been received, the Survey began in Baltimore during February 1972.

Modus Operandi

A routine plant survey involved two segments: a standard interview with plan management concerning company health and safety policies, and a thorough tour of the plant premises. Oriented towards occupational groups and their on-the-job exposures, the plant tour was by far the most crucial and informative part of the Survey. During this walk-through inspection, the engineer, or hazard surveyor, would observe every plant process and every employee, recording specific exposures according to guidelines in the NOHS Field Surveyor's Manual. For example, after observing a furnace operation in a grey iron foundry, the surveyor would record the number of furnace operators; their exposures, such as to iron oxide fumes, carbon monoxide, or noise; and intended controls to prevent contact with these exposures, such as ventilation or ear defenders. The surveyor was equipped with a smoke tube for testing ventilation and a noise level meter for determining recordable noise exposures, but he did not use chemical sampling techniques to measure ambient concentrations. Nevertheless, exposures were reported as specifically as possible. If the Surveyor observed exposures to trade name products, he would record the name, manufacturer, and ingredients that were listed on the product's container so that the information could be clarified further during survey analysis. Once he completed the tour, he would return to his office, code his report, and submit it to NIOSH headquarters for keyboarding and data processing.

By April 1972, an additional 10 surveyors had completed training and were surveying in assigned cities, as were the initial 10. By June 1974, all 5,200 establishments will have been surveyed.

Because raw data from the field work has contained ambiguous information, NIOSH has resorted to two supportive projects for clarification. One of these projects standardizes occupational groups according to Bureau of the Census standard occupational classifications. The other one, much more complex in scope than the first, translates trade name records into corresponding chemical ingredients. These two projects, along with extensive data processing procedures, will delay final results of the Survey until 1975. Whenever technically possible, however, NIOSH will obtain preliminary data for internal distribution, information that will be neither valid statistically nor appropriate for public presentation.

Use of NOHS

In anticipation of the NOHS results, industrial hygienists, environmentalists, and other interested parties must not overlook its limitations. The Survey's broad scope and narrow time span have precluded universal application of its results to the problems of occupational health. Though it comprises virtually all industry and employment in the U.S., the Survey will not provide precise answers to every hazard query, nor will it stand as a definitive study. It will, however, reveal general occupational environment statistics, which should be instrumental in developing research priorities and in supporting standards development. Moreover, it will serve as a foundation for new occupational health studies of greater detail and precision.

Within the Hazard Surveillance program, the NSN-NOHS sequence has been mutually reinforcing: as NSN stimulated the development of NOHS, NOHS is causing a resurgence of NSN, an outcome partly due to the continuous emphasis on occupational health information, and partly due to the forseeable need to update and supplement NOHS. Within ten years, NOHS, as an independent study, will be obsolete. Industry will have access to higher technology; its occupational health characteristics will be correspondingly different. A second NOHS, to document these changes, may not be practicable; thus NIOSH will be informationally deficient again. The use of the NSN program, with some changes, will obviate the need for reversion to this information vacuum by providing updates to the NOHS statistics. Through NSN, the States will gather information for their own use and also will provide data to the Federal government, thereby insuring continued national vigilance in occupational health through Hazard Surveillance.

CONTENTS

SECTION 1

SURVEY GUIDELINES

1.1 Objective

As a result of the passage of the Occupational Safety and Health Act and of the consequent tremendous increase in the levels of effort in the field of occupational safety and health, much criticism has been voiced regarding the basic deficiency of information describing health and safety conditions in the American work environment. The lack of basic descriptive information is felt at all levels, from operating programs to Congressional subcommittees. In order to develop certain portions of this information, the National Occupational Hazard Survey (NOHS) is being conducted in a representative sample of workplaces, both manufacturing and non-manufacturing. Basic descriptive information on the working environment in all industries covered under the Act will be obtained. Some basic questions must be answered such as: when, where, and how many people are exposed to what type of hazard and for how long; where are they located; in what industries can they be found; and what industries have health and safety programs. This information will be used to assist in setting priorities for research and compliance, for directing research teams in future investigation efforts, for measuring and to some extent forecasting trends, and for developing guides that will describe health hazards, which are typically associated with a particular industry or occupation.

When the NOH Survey is completed, there will exist a detailed and reliable description of in-plant environmental conditions for workplaces in the United States. The data will be held in a computerized information file that should permit swift and easy access to the many program areas, which require the use of such information. In general, individual survey results will not be made available. Instead, data relating to types of workplaces or occupations will be furnished in relation to any potential associated occupational health problem. This type of information can then lead to direct problem solving action by trade associations, plant management, unions, or individual employers themselves.

As previously mentioned, it is expected that many of the future occupational health programs and activities in this country will be based on information obtained during this survey. It is therefore very important that all survey information be as complete and reliable as possible and that a very high degree of uniformity exists between individual surveyors.

1.2 The National Occupational Hazard Survey Manual

The National Occupational Hazard Survey Manual is used to provide much of the necessary guidance and instructions needed to achieve the objectives of the Survey. The Manual documents the methods, techniques, and decisions to be applied during the survey, and thus provides a ready reference to the surveyors in the field. The proper use of the Manual will serve two related purposes:

- The surveyor usually will be able to select the most appropriate responses to the survey questions, without the need to call NIOSH in cases of ambiguity and exceptional situations.
- Conversely, the surveyor will know when he has to contact NIOSH. NIOSH will have to be contacted whenever the explanations and examples provided with a survey question do not allow him to select the proper response.

The NOHS Manual is organized as follows:

Section 1 - Survey Guidelines

This Section provides introductory information about the initiation of the survey, and

the criteria, standards, and decision rules to be followed to properly recognize exposures to occupational hazards and the exposure control methods. The application of the Survey Guidelines should result in quite specific information about the work and occupational hazard environment of the facility surveyed.

Section 2 - Survey Form Preparation Instructions

This Section describes the methods and procedures to be used in quantifying and recording the results of the management interview and the facility walk-through survey. The Survey Form Preparation Instructions show how the information obtained in response to the Survey Guidelines is recorded in a format suitable for automated data processing. Soft lead pencils should be used in filling out all survey forms.

Glossary of Terms

The Glossary lists and briefly explains the commonly used terms and acronyms used throughout the NOHS Manual.

Appendices

Appendices A through G provide lists of: many of the anticipated chemical, biological and physical hazards; exposure control methods; and the state and industry classification codes to be used.

1.3 Maintenance of the NOHS Manual

It is intended that the NOHS Manual perform two basic functions. The first is to serve as an instructional and reference manual. Thus the Manual should contain sufficient information to answer virtually every question a surveyor might have regarding proper procedures to be followed in the field.

The second function of the Manual is to document the National Occupational Hazard Survey. Here the Manual will explain in detail exactly what procedures and decision rules were used in obtaining the data which will have been collected. As such, it will be a necessary tool in interpreting the results of the survey.

An attempt was made to make the NOHS Manual as complete as possible before the survey was initiated. However, as the survey progresses many situations will arise which have not been anticipated. For example, unpredicted responses to Part I questions, or new exposures will be encountered which are not covered in the Manual. When situations such as these arise, NIOSH headquarters will be contacted as soon as possible. A decision will be made as to what procedure should be followed. The procedure approved will generate an update of the Manual. Each update will require that some pages in the Manual be changed or that some pages be added. The material needed to change the Manual will be prepared at NIOSH headquarters and will be sent to all surveyors as soon as it is prepared. Instructions as to how to update the Manual will be contained with this new material. When new or changed pages are received, they should be thoroughly reviewed by the surveyor. It is hoped that this procedure will promote continuous uniformity of data recording among the surveyors.

1.4 The National Occupational Hazard Survey Form

The National Occupational Hazard Survey Form is the primary means of recording the information obtained during the facility survey. Figures 1-1 through 1-8 show the NOHS Survey Form.

The Survey Form has the following parts:

- Preface -- identifies the facility.
- Part I - Facility History -- secures a profile of the facility's policies and conditions pertaining to employee safety and health.
- Part II - Exposure Data -- describes the facility's working environment in terms of employee groups, exposures, and controls.
- Part III - Surveyor Confidential -- records information about the survey itself.

Section 2 (Survey Form Preparation Instructions) supply detailed explanations on how to fill out the Survey Form.

1.5 Completion and Submission of the NOH Survey Forms

1.5.1 Completion of the Survey Forms

The Preface and Part I forms should be completed in the office of the person interviewed (plant manager, plant superintendent, personnel director, etc.). Some difficulty may be encountered in asking all the questions exactly as they appear on the Part I form. Experience will be required before these questions can be asked in the most appropriate manner for the circumstances encountered. Refer to the Survey Form Preparation Instructions (Sections 2.3.1 and 2.3.2) for clarification of each question.

For possible future reference, circle the appropriate response number(s), and write in answers and any other pertinent information directly on the form as the questions are asked.

The preparation of the Part II forms may begin in the work or production area of the facility. The completion of the form (including the coding) may be done at the facility, or at the surveyor's local office or quarters. Refer to Section 2.3.3 and 2.4.2 for guidance and examples of preparing the Part II forms.

The completion of the Part III form (except for the Comments, which are to be completed when convenient) is to take place at the surveyor's local office or quarters, away from the facility. Refer to Section 2.3.4 for explanation and clarifications.

When corrections are made in forms, erase rather than crossing out.

1.5.2 Submission of the Survey Forms

As soon as the Survey Forms are completed they will be mailed to NIOSH headquarters. When they are received, the Senior Industrial Hygienist of the Hazards Surveillance Branch (HSB) will review them for completeness and accuracy. Then they will be keypunched and computer edited. Any errors found will be immediately brought to the attention of the surveyor for clarification. In order that these corrections be made with a minimum of delay, it is best that they be brought to the surveyor's attention as soon as possible after the completion of the survey. For this reason every effort will be made to see that the forms are completed, reviewed and processed expeditiously.

1.6 Scheduling of Visits

1.6.1 Appointments

It is anticipated that in most small plants unannounced surveys can be made; however,

in some cases it may be found that appointments are needed so that a person knowledgeable in facility operations can be available and provide the time necessary to complete the survey. The Preface and Part I of the survey forms can usually be completed in less than one-half hour; however, in many cases, a considerable amount of time will be required to obtain information necessary to complete Part II.

Experience has shown that in some small plants and in the very large plants, it will be necessary to make an appointment. It is, of course, undesirable to make two visits to the same facility when one visit will suffice. The experiences of the surveyors will indicate whether or not appointments will be necessary in any given type or size facility. These initial results will be analyzed for future use.

When appointments are made, facility officials should be advised as to what to expect during the survey so that adequate time can be allotted.

1.6.2 Facility Location

The sample of facilities to be surveyed will be provided by the Bureau of Labor Statistics (BLS), United States Department of Labor (DOL). Information included with this sample will be the name and address of the facility, the Standard Industrial Classification (SIC), and the number of employees. Area maps should be obtained so that the facilities can be easily located and grouped for purposes of conserving travel time. In cases, where the facility cannot be located by the information provided by BLS, other sources such as the local post office, telephone directory, Chamber of Commerce, unemployment insurance office, and neighborhood businesses should be contacted for information.

1.6.3 Facility Grouping

For ease of surveying and to conserve time, facilities should be grouped whenever possible by common SIC's, size, and geographical locations. It is usually easier to survey several plants in the same SIC than to jump from SIC to SIC. In grouping plants by common SIC's, consideration should be given to minimizing travel time.

1.6.4 Subsampling

When an assigned reporting unit includes a significant number of individual establishments, the surveyor should consider subsampling of these individual locations. When subsampling is used, the locations chosen as representative must be like the others in all the following ways.

1. Engaged in the same type of activity. An establishment in SIC 20 should not be sampled to represent an establishment in SIC 59.

2. Have the same type of employees. A warehouse, central office, or research lab should not represent a plant, and vice versa. Each of the four types of units are unique in that each has different types of employees.

3. Have approximately the same number of employees. An establishment with twenty employees should not represent another establishment with 150 employees.

Apply the following subsampling ratios:

Range of Employment Size	Percent of Establishments Selected in Each Size Group
Less than 20	3
20-49	6
50-99	12
100-249	25
250-999	50
1,000 and over	100

At least two sampling locations must be selected for each employment size range. When percentages are applied, the results should be rounded to the next larger number. Thus if Safeway has 20 stores, all containing between 50 and 99 employees, three stores could be sampled (20 x 0.12 = 2.4 which rounds upward to 3).

1.7 Visits to the Facility

In the sample of facilities provided, there will be some cases when the survey cannot be performed as planned. These permanent or temporary changes may occur due to a number of conditions. Section 1.7.1 provides the instructions for handling these special situations. The following special situations may arise, and should be handled in accordance with the appropriate instructions:

Special Situations	Instructions
a. Facility out of business	Section 1.7.1.1
b. Refused to be interviewed	Section 1.7.1.2
c. Postponements	Section 1.7.1.3
d. Could not be located	Section 1.7.1.4
e. Temporarily closed	Section 1.7.1.5
f. Name, size, or SIC change	Section 1.7.1.6
g. Location change	Section 1.7.1.7
h. Classified facility	Section 1.7.1.8
i. Seasonal and partially seasonal operations	Section 1.7.1.9
j. Areas of jurisdiction	Section 1.7.1.10

1.7.1 Survey Initiation and Completion

A problem that may arise at the beginning or during a survey is the impossibility of surveying the facility as planned by NIOSH (i.e., completely, and as part of the BLS sample). This situation may arise due to an economic reason (i.e., the facility is no longer in business), or could be caused by a policy of the facility's management (i.e., classified facility). The following situations are anticipated, and actions to be taken are indicated:

1.7.1.1 Facility Out of Business

Complete as much of the Preface as possible; Questions 2, 3, and 4 of Part I; and all of Part III. Any pertinent remarks should be made under Comments, Part III.

1.7.1.2 Refused to Be Interviewed

Complete forms as in Section 2.4.1.1 and explain the circumstances under Comments, Part III. This should apply only in cases where a surveyor is flatly refused the necessary cooperation. Also see "Refused Entry" under Section 1.8.2.1.

1.7.1.3 Postponements

When a facility is visited and for some reason a responsible official cannot be interviewed at that time but is agreeable to cooperate at a later date, as much of the Preface as possible should be completed (indicating the date of the visit under Line 7). The time spent should be accounted for under Question 7 of Part III, and an explanation regarding the additional trip(s) and time required should be made under Comments, Part III. The forms should not be sent in until the return trip is made and the survey is completed.

1.7.1.4 Could Not Be Located

If extensive efforts to locate the facility are not successful, as much of the Preface as possible; Questions 2,3, and 4 of Part I; and all of Part III should be completed. Efforts made to locate the facility should be explained under Comments, Part III.

1.7.1.5 Temporarily Closed

The facility should be revisited when open and the survey completed unless it is an extreme inconvenience. When revisits can be made, the procedures to follow should be the same as indicated in Section 2.4.1.3. If it is not feasible to revisit the facility when open, procedures as outlined under Section 2.4.1.1 should be followed.

1.7.1.6 Name, Size or SIC Change

When the name, the SIC or size of the work population of a facility has changed from that listed in the statistical sample, the current information should be inserted in the forms and necessary statements regarding the changes should be noted under Comments, Part III. The survey should be completed as originally planned. The facility which the BLS sample lists should first be identified, as well as the current location. If changes have taken place which would make it difficult to determine the establishment to be surveyed the SIC should take first preference, the location should take second preference and the original owner third. If the facility has moved and is located within the SMSA or within convenient driving distance (50-60 miles) follow through with the survey. The facilities to be surveyed are only those which are found in the counties listed in the BLS sample, at the time when the BLS figures were compiled.

1.7.1.7 Location Change

When a firm listed to be surveyed has moved to a nearby new location, the address should be changed and the survey completed as planned. The reason for the change should be explained under Comments, Part III. If a firm is in the process of moving and it cannot be determined what activities normally occur, consider as a location change. Exposures recorded should reflect the SIC of the Facility. If the firm has relocated to an area where it would not be convenient to survey, procedures as outlined above under Section 2.4.1.1 should be followed. An appropriate explanation should be made under Comments, Part III. The new location should be noted so that NIOSH headquarters can schedule a visit to the plant.

1.7.1.8 Classified Facility

If for reasons of national defense security, an entire facility is classified and work areas cannot be visited, the Preface, Part I and Part III should be completed to the extent possible and an indication of "Partially completed" should be made for Question 5 of Part III. The situation should be explained in the Comments, Part III.

1.7.1.9 Seasonal and Partially Seasonal Operations

If possible, seasonal - type operations should be surveyed at the peak of their activity. However, in some types of seasonal operations information obtained during low level activities can be extrapolated. If survey visits are made at other times (when the operation is not running or work activities are at a low level), pertinent questions should be asked which will allow for the completion of the forms. If this is not possible, a return visit should be made at a time of peak activity. The number of employees under Question 7 of Part I, should reflect the work force under peak seasonal conditions. Seasonal activities should be explained under Question 9, Part III and/or in the Remarks area of the Part II forms.

1.7.1.10 Areas of Jurisdiction

When mining operations are associated with the activities of a facility to be surveyed, the mining operations should be included provided the total employment agrees with that listed on the BLS sample and if the primary SIC of the facility is nonmining.

1.7.1.11 "Manpower" Organizations

Facilities will be encountered which give out work on a random job basis--such that an employee may be assigned to many different types of jobs with any company which requests services. If the exposures for the past year cannot be determined, record the job title as accurately as possible and write "not surveyable" in the exposure column. Code the exposure 99999. Do not use this method unless approved by the Senior Industrial Hygienist.

1.7.1.12 Out of County (or City) Facilities

When a facility is found to be located outside of the county (or city) shown on the BLS sample, it will not normally be surveyed. However, when it is apparent that this facility was the one intended to be surveyed by BLS and it is within reasonable driving distance, the facility should be surveyed.

1.8 Entrance to the Facility

1.8.1 Introduction to the Facility

Upon arrival at a facility to be surveyed, the surveyor should identify himself to the receptionist or other appropriate person as a representative of the Department of Health, Education, and Welfare; U.S. Public Health Service and request to talk with the plant manager, superintendent, or other official who is familiar with management policies relevant to health and safety and with facility operations, processes, or activities. It should be explained to the official that under the Occupational Safety and Health Act of 1970, the Public Health Service is conducting a National Occupational Hazard Survey. This survey will gather pertinent information regarding potential health hazards to which workers in various types of industries are exposed. The official can be advised that this study is of a research nature and that the visit to their facility is not for the purpose of finding violations or giving citations--that this role is the responsibility of the Department of Labor or appropriate State agency. It should be explained that it is extremely unlikely that any further action will ever be taken as a result of this visit. (If questioned about this statement, explain that only in a situation in which an employee's life is in immediate danger would you report this through channels which might initiate a compliance investigation.) The surveyor should explain that he would first like to conduct an interview to obtain some general information about the establishment and following this he would like to make a general tour through all work areas to catalog potential exposures to various types of chemical, physical and biological agents.

1.8.2 Potential Problems

1.8.2.1 Refused Entry

If refused entry to a facility, explain in a polite but firm manner that you have the authority under Federal law to enter the facilities and show the official a copy of the NIOSH identification card relating to right of entry. If entrance is still denied, you should leave the premises and contact NIOSH headquarters for further instructions.

Complete the forms as specified in the Form Preparation Instructions, Section 2.4.1.2, recording the fact that admission was refused. The completed forms will provide NIOSH

with address information, plant name, etc. necessary to take further action if it is determined necessary. The Regional Program Director should also be advised of the refused entry.

1.8.2.2 Responsible Official Not Available

It is expected that in most cases the survey can be completed (or initiated in very large establishments) on the first day of contact; however, in some cases there may be no one present who can provide the necessary assistance. In some cases, only the Preface and Part I can be completed. In such events, an appointment should be made to complete the survey at a later time. See Section 2.4.1.3, Postponements.

1.8.2.3 Walk-through Survey Cannot Be Conducted

When information needed for the completion of the Preface and Part I can be obtained but for some reason (refused entry, trade secrets, security, etc.) work areas cannot be visited, Part III should be marked as partially completed, with the reason for partial completion (as in 2.4.1.8). Part III then should be submitted along with the Preface and Part I. The reasons for not conducting a walk-through survey should be detailed in the Part III Comments section. Submission of partially completed surveys should be avoided except under extreme circumstances.

1.8.2.4 OSHA Form 102

During the completion of Part I, reference will be made to the OSHA Form 102, Summary of Occupational Injuries and Illnesses. If the firm does not have the form available and is not familiar with the recordkeeping requirements of the Occupational Safety and Health Act, a brief explanation should be made and a copy of the Recordkeeping Requirement booklet should be given to them.

1.9 Walk-through Surveys (Part II)

After Part I is completed, a complete walk-through survey should be conducted in all the various work areas including offices in the plant. However, before going on the walk-through survey, a breakdown should be obtained of the number of employees in the various departments or at the various operations in the plant. The surveyor should be accompanied by a person knowledgeable about all operations or processes. This person may or may not be the same person who assisted in the completion of the Preface. It is usually convenient to start with the raw materials and follow the operation through to the finished product.

Prior to the start of the facility tour, it should be explained that all work areas must be visited and that you will be cataloging all materials utilized for more than 30 minutes per week or three full eight-hour work days per year. Be sure the company official understands the duration guidelines as they apply to recordable exposures. It should also be explained that information is needed for all the various duties or operations where employees are exposed to physical, biological and chemical agents, and that noise measurements and ventilation tests will be made during the walk-through survey. The accompanying official should be advised that the survey can be quite time consuming, depending upon the specific activities of the firm.

Refer to Section 2.3.3 for specific procedures regarding the completion of Part II survey forms.

1.9.1 Consultation with Employees

Surveyors may consult with employees about materials with which they work, duration of

exposures, and other information pertinent to the conduct of a thorough survey. Care should be taken to prevent alarming employees about the quality of their work environment.

1.9.2 Employee and Union Questions

When employees or union representatives ask questions about the toxicity of materials with which they work or about their degree of exposure to potentially hazardous materials, they should be advised that your responsibility is solely for making an inventory of who is exposed to what types of potentially hazardous materials and where these potential exposures exist. It can be explained that toxicity information and hazard evaluations can be obtained by contacting the NIOSH Regional Office responsible for the geographical area in which they work. A copy of NIOSH Regional Office addresses and telephone numbers, as well as "Request for Hazard Evaluation Forms", can be given to interested persons. They may also be advised that hazard evaluations can be made by State, insurance company, and DOL industrial hygienists; as well as by private consultants.

If an employee or a representative of employees should request an inspection due to a belief that a safety or health violation of the Occupational Safety and Health Act exists, they should again be advised that this is not within our area of responsibility; however, a list of the DOL Regional Offices with addresses and telephone numbers will be provided to the interested parties.

1.9.3 Recording Chemical Exposures

Except as otherwise noted in other sections, the following rules should be followed in order to determine what chemical exposures should be recorded. If any of the following situations exist or can be determined to exist by appropriate questioning, the exposure should be recorded.

DEFINITION:

A primary employee is (1) an employee who works directly with the operation which is involved with the substances in question or (2) any employee coming into direct contact with the substance as part of his normal work cycle. A primary employee does not include those employees who happen to be adjacent to an operation or a person merely in the vicinity of the potential exposure.

A. Potential Exposure

Any substance for which there is an intended control other than natural or dilution ventilation will be recorded if the associated processes or conditions meet general duration guidelines. In this case, primary employees will be recorded as exposed. The exception to this rule is: a situation in which the material is completely enclosed and actual exposure could not be realized except under unpredictable or accidental situations.

B. Actual Exposure

Any actual exposure to mists, dusts, vapors, gases, or liquids which is observed to exist (i.e., seen, felt or smelled) will be recorded if it meets the duration guidelines. All exposed employees will be recorded.

C. Inferred Exposure

If there is an observable accumulation (dusts or mists) which indirectly indicates that the substance is present in the air, an exposure to this substance should be

recorded if the process generating the exposure meets the general duration guidelines. Persons working in the immediate area of the accumulation will be considered exposed.

1.9.4 Chemical Exposures to be Recorded

1.9.4.1 Organic Liquids

Any open organic liquid will be assumed to be generating a vapor. Assume that all constituents of the liquid are generating vapor. Primary employees will be considered to be exposed.

1.9.4.2 Inorganic Liquids

Except as otherwise noted aqueous solutions of:

Inorganic salts: record no vapor exposures
Inorganic acids: record gas exposure
Inorganic bases: record no vapor exposure
Ammonium hydroxide: record ammonia gas.

1.9.4.3 Unknown Liquids

If it is not known if a liquid is organic or not, it should be assumed that a vapor is being generated.

1.9.4.4 Aerosol Cans

When aerosol cans are used for applying or dispensing materials, three exposure forms usually exist--gas (the propellant), vapor (solvent or thinner), and mist. The propellant is always considered to be undetected.

1.9.4.5 Carbon Arc Lamps

Exposures associated with the use of these lamps are carbon monoxide, carbon dioxide, oxides of nitrogen and ozone gases; ultraviolet and infrared radiation.

1.9.4.6 Foodstuffs and Thermal Decomposition Products

Exposures to food products during the preparation or handling of foods will be recorded as either food - thermal decomposition (in the form of gas, mist, vapor, or dust) or as foodstuff. This category also includes alcoholic beverages. Record as "foodstuffs" all materials which go into consumable items prepared in restaurants, cafeterias, canneries, meat packing establishments, bakeries, etc. In establishments where additives or ingredients which have both food and non-food usage are manufactured, such items will not be classified as "foodstuffs" (examples: salt, baking soda, acetic acid, corn starch, flour, etc.). In manufacturing facilities where it is clearly evident that additives being produced are solely for use in a food product, such additives can be listed as "foodstuffs" (examples: food flavors and colors, spices, and some preservatives). Carbon dioxide resulting from fermentation (as well as its usage in carbonation processes) should not be considered to be "foodstuffs".

1.9.4.7 Welding

Infrared and ultraviolet radiations are to be considered as exposures at arc welding operations; however, anyone 25 feet or more from the welding arc will not be considered to be exposed. Fume emissions will be assumed to be coming from the metal being welded. Emissions from all welding rods will be recorded as "welding rods" with the form being

gas and/or fumes. Separate fluxes (which are not a part of the rod) and gases will be recorded separately. At soldering and brazing operations, assume that fumes are coming only from molten materials (when soldering copper pipes, fumes from the solder exist but none from the copper). Exposures to fuel and inert gases used should be considered if they meet the duration guidelines. Combustion products of welding gases will be recorded as CGAS and WGAS for gas and electric welding respectively. The form of both is G (gas).

The only exposures to be recorded for spot welding are infrared radiation and metal fumes.

Phosgene gas should be indicated as a potential exposure when chlorinated hydrocarbons are likely to come in contact with welding arcs, exposed electrically heated filaments, flames, etc. Phosgene from this source should be omitted unless conditions are actually observed which could give rise to its production. A statement in the Activity Column should be made if phosgene production is suspected, but positive identification of the liquid or vapor present as a chlorinated hydrocarbon cannot be made.

1.9.4.8 N_2 and CO_2 Asphixiants

Potential non-standard atmospheric concentrations of inert gases such as N_2 and CO_2 should be considered as a recordable exposure in accordance with guidelines for gas exposure.

1.9.4.9 Barrier Creams

Barrier creams should be recorded as a control if used in operations where dermatitis can be a problem. It should not be recorded as an exposure. The trade name of the cream should be listed in the Activity Column.

1.9.4.10 Waterless Hand Cleaner Including Solvents

Use of waterless hand cleaner should be recorded as an L exposure because of the possibility of dermatitis resulting from their use. A vapor exposure should also be recorded when pertinent. The trade name should be recorded as specified by the guidelines if all ingredients are not known. The most common control encountered is washing with soap and water. This should be recorded as Other Control (OC) in the Control Column, and "Personal Hygiene" in the Activity Column.

Solvents used as hand cleaners will be considered as waterless hand cleaners.

1.9.4.11 Products of Combustion

Whenever a recordable exposure exists to the products of combustion, one should use the single exposure name in the lists of chemicals if one exists instead of recording it as an exposure to each of the compounds in the combustion products. E.G. record the products of propane combustion as "PROPANE COMBUSTION" or "PC-P" and not CO, CO_2, NO_2, etc. If there is an open flame in an area associated with a primary employee, then an exposure to products of combustion exists.

Gas Combustion: The combustion products resulting from the burning of normal fuel gases will be represented by CGAS (e.g. furnace, torch, burners). However, the combustion products resulting from the burning of these gases in an internal combustion engine will be represented by PC-P (propane) or PC-NG (natural gas), etc.

Liquid or Solid Combustion: Any liquid or solid combustion will be coded using the PC-XX convention and selected from among those listed in list of chemicals and chemical compounds (Appendix D) (e.g., PC-C, coal or PC-K, kerosene).

1.9.4.12 Mixtures, Impurities and Trace Quantities

Constituents of mixtures in concentrations of less than 1 percent by volume will not be recorded. Exceptions which may be recorded are aqueous solutions in which the concentration of the primary component is less than 1 percent by volume, in which case the primary component should be recorded.

1.9.4.13 Molten Metals

Molten metals are not considered to be a liquid from the standpoint of vapor generation. When molten metals are observed, a fume exposure is to be recorded. Mercury, which is a liquid at room temperature, gives off mercury vapors, and, therefore, is an exception to this rule.

1.9.4.14 Recirculating Type Collectors

When local exhaust ventilation systems with recirculating type collectors are observed, the local exhaust system will be considered to be nonfunctioning if any emissions are detected by sight or odor coming from the exhaust port of if the collectors are being used for the control of gases or vapors.

1.9.4.15 Facility Comfort Heating Systems

Exposures emanating from unvented heating systems or devices will be recorded in accordance with the specific emissions associated with that system or device. All occupants of the room or building should be considered to be exposed. Exposures from vented heating systems of this nature are not considered recordable unless a detectable exposure exists. Infrared radiation exposures from such sources, however, are not recordable.

1.9.4.16 Grinding and Machining Operations

Where an abrasive wheel is being used consider dust exposures from both the parent material being ground and the abrasive wheel. Whenever it can be established what the abrasive material is, this information is recorded and the binder material likewise. If the binder material is unknown and the abrasive material is known, record the generic name, BINDER-ABRASIVE WHEEL, and the specific abrasive material. When neither binder nor abrasive material are known, record GRINDING WHEEL DUST. Dusts, both from the grinding wheel and from the work, should be recorded for grinding operations. The dust accumulations do not have to be observed.

1.9.4.17 Electroplating, Stripping, Etc.

The A.C.G.I.H. sheets on electropolishing, electroplating, etching, stripping, surface treatment, pickling, acid dipping and metal cleaning operations are guidelines to follow for recording exposures.

1.9.2.18 Copying Machines

Ozone will only be recorded as an exposure from copying machines if the ozone meets standard detection and duration guidelines.

1.9.2.19 Soldering and Brazing Fluxes

Tin-Lead Solder Operations

Generally, there are three types of tin-lead solder--acid core, resin core, and solid core. Both acid core and resin core have fluxes in the core of the solder. The solid core type is all metal alloy and requires a separate flux.

RESIN AND ACID CORE SOLDERS. For the purposes of this survey, it is assumed that all resin core fluxes decompose into the same products and likewise that all acid core fluxes decompose into the same products. All flux decomposition products should be considered as fumes. The new groups DP-RCF and DP-ACF have been introduced to designate decomposition products of resin core and acid core fluxes respectively.

SOLID CORE SOLDER. When the use of solid core solder is encountered, the separate flux must be recorded. Usually, a vapor or liquid exposure to the flux will exist. In such a case, the trade name should be recorded with the appropriate form (L or V). A NTE special instruction should then follow denoting the decomposition of the particular flux with the code DP-F as the exposure. (The DP-F code should only be used inside a NTE Special Instruction.)

When no vapor or liquid exposure exists to the worker, the filler notation in conjunction with the NTE Special Instruction must be used to denote decomposition products of the flux (see example 1).

EXAMPLE 1

```
     ØØØ Filler
TRNØ1            NOKORODE SOLDERING PASTE
MFG              DUNTON CO. PROVIDENCE, R.I.
E                FLUX
           1 SOLDERER
                 PBOX                                        FDPLVN
                 SNOX                                        FDPLVN
NTE              TRNØ1  DECOMPOSES
E                DP-F                                        FDPLVN
```

BRAZING

When brazing operations are encountered, the separate flux procedure as outlined in SOLID CORE SOLDER should be used.

SOLDER SHORT CUT GROUPS

The group notations PR-ACS and PR-RCS have been developed to indicate acid core solder products and resin core solder products respectively. The use of these two groups will generate the following exposures:

PR-ACS	PBOX
	SNOX
	DP-ACF
PR-RCF	PBOX
	SNOX
	DP-RCF

When the groups are used, their form must be coded as fume (F) and the duration, intensity, and control boxes filled in as usual, The use of these groups is optional. If any other metals are present in the solder, then their corresponding oxides must be recorded separately. Two ways of recording an exposure to resin core solder with 5 percent Antimony are shown in Example 2 and 3.

EXAMPLE 2

```
   1  SOLDERER
        PR-RCS                                  FDPLVN
        SBOX                                    FDPLVN
```

EXAMPLE 3

1	SOLDERER	
	PBOX	FDPLVN
	SNOX	FDPLVN
	DP-RCF	FDPLVN
	SBOX	FDPLVN

1.9.5 Chemical Exposures Not to be Recorded

1.9.5.1 Lube and Quench Oil Vapors

Lube and quench oils will not be considered to be vapor generating unless vapor emissions can be detected by the sense of smell.

1.9.5.2 Hand Soaps

Use of hand soaps should not be recorded as an exposure.

1.9.5.3 Oxygen

Oxygen exposures will not be recorded.

1.9.5.4 Water

Water in any form will not be recorded as an exposure.

1.9.5.5 Substances in Solid Block State

Substances in a solid block state will not generally be recorded unless it can be determined that some of the substance is being deposited on an employee as a result of handling or some other form of contact.

1.9.5.6 Exposures from Voluntary Non-work Activities

Do not record any exposures which result from voluntary non-work activities. Do not record exposures which result from personal use of tobacco, perfume, etc.

1.9.5.7 Biological Exposures

Biological exposures in research establishments, pharmaceutical facilities, and similar workplaces are recordable; however, they are not recordable in Food Handling Establishments. Biological exposures encountered in Healing Arts Facilities are not to be considered recordable except in areas set aside for research studies.

1.9.5.8 Exceptions to Open Liquid Guidelines

Vapor generation from liquids, when undetectable by sensory perception, will not be recorded according to the guidelines in the following cases:

1. Hypodermic needles used in the healing arts
2. Pressure injection apparatuses used in the healing arts
3. Ink pads
4. Ink marking pens

During filling operations, general guidelines apply.

1.9.6 Recording Exceptions

1.9.6.1 Motor Oil

Regular gas engine or diesel engine motor oil can be recorded without trade name or manufacturer if it is used as a motor oil.

1.9.6.2 Gasoline

When recordable exposures to gasoline are observed, the exposure should be indicated as "LEADED GASOLINE", "NON-LEADED GASOLINE", or "GASOLINE LEAD CONTENT UNKNOWN".

1.9.6.3 Adding Durations

If several materials are being used and none of the materials qualify individually as an exposure, then any substances which considered together qualify under the duration guidelines should be recorded. This would include two lead paints which do not individually qualify but when considered together are recordable. In this case, an exposure to LEAD and an exposure to PAINT would be recorded. In general, record an appropriate generic name as well as a specific chemical which might be in common.

1.9.7 Recording Exposures to Physical Agents

Except as otherwise noted, all exposures to actual or potential agents which are listed in the Physical Hazards List (Appendix E), will be recorded.

1.9.7.1 Pressure Variations

Pressure variations will not be recorded unless it can be determined that the atmospheric pressure over the total body is greater than 1.5 (H_2O equivalent 17 ft.) atmospheres or less than 0.7 (height equivalent 9,500 feet) atmospheres. Where possible, the actual pressure exposure should be recorded in the Activity Column of Part II.

1.9.7.2 Laser and Masers

Laser/maser radiation exposure should be recorded as laser or maser, and type, power, and wavelength of the laser/maser should be recorded in the Activity Column of Part II.

1.9.7.3 Noise

Any continuous noise in the worker's normal environment equal to or exceeding 85 dBA (slow response setting on noise meter) will be recorded, regardless of exposure duration and when the noise generating activity is part of a normal work routine. Impact noise will be recorded if it can be determined that the noise causing event occurs less frequently than once per second and the intensity is equal to or greater than 130 dBC (fast response setting on noise meter). To be recordable, the operations at which the impact noise occurs must be done on a routine daily basis. It may be observed during the survey or may be a "potential impact noise". If levels are not measurable but it is suspected that a recordable exposure exists, record either "Potential Continous Noise" or "Potential Impact Noise" and its intensity as undetectable. List actual level measured in the Activity Column. When it is impracticable to get to such areas, such as crane operator booths, to make noise measurements, a "potential noise exposure" can be recorded as warranted. Noise measurements should be made near the employee's hearing zone. If the occupational group is exposed to varying noise intensities, indicate the range of intensities in the activity column.

1.9.7.4 Ultrasonic Noise

Ultrasonic noise will be recorded as an exposure to primary employees whenever it can be determined that an ultrasonic noise generating device is in use.

1.9.7.5 Heat and Cold Stress

Only artificially created hot and cold environments to which the entire body is exposed are recordable and the dry bulb temperature must be colder than 30F. If the dry bulb temperature can't be determined in an area where it is thought an exposure to heat or cold stress exists, use a "NTE" statement. Impervious suits or special clothing which causes a build up of body heat will not be considered to be an artificially created hot environment.

1.9.7.6 Microwave Radiation

Microwave radiation will be recorded as an exposure to primary employees whenever it can be determined that a microwave generating device is in use.

1.9.7.7 Infra-red Radiation

Except where otherwise noted, infra-red radiation will be recorded only when it is determined that specified controls are in use or there is a device in use specifically designed to produce infra-red radiation. Infra-red radiation is usually considered detectable with respect to intensity.

1.9.7.8 Ultraviolet Radiation

Except where otherwise noted, ultraviolet radiation will be recorded as an exposure to primary employees whenever it can be determined that there is a continuous electric arc discharging in the open atmosphere or there is a device in use specifically designed to produce ultraviolet radiation. Ultraviolet radiation in the black light range is to be recorded as "Ultraviolet Radiation-Black Light". Ozone emission accompanies ultraviolet radiation unless it is in the black light range. Ultraviolet radiation in the non-black light region, is usually considered undetectable with respect to intensity.

1.9.7.9 Ionizing Radiation

Ionizing radiation will be recorded as an exposure to primary employees whenever it can be determined that there is a radiation source present. The type of source as well as the type of emission, as listed in Appendix I, should also be recorded in the Activity Column of Part II.

1.9.7.10 Long-Wave Radio Frequency

Long-wave radio frequency will be recorded as an exposure to primary employees whenever it can be determined that a device designed specifically for radio frequency radiation generation is in use.

1.9.8 Occupational Exceptions

Except as otherwise noted, all occupational groups will be surveyed and exposure will be recorded according to the general guidelines. The following occupational groups should not be overlooked although they may be difficult to survey because much information will have to be obtained by suitable questioning.

1. Maintenance men
2. Office and administrative personnel
3. Delivery and mail carrier personnel
4. Foremen
5. Janitors
6. Chemistry laboratory personnel
7. Auto mechanics

1.9.8.1 Truck Drivers

Men who only drive outside trucks will be eliminated from Part II of the survey.

The drivers who help to load or to unload will be covered under general guidelines.

1.9.8.2 Contract Workers

Contract workers will not be recorded. The only workers recorded will be those workers who at the time of the survey are on the payroll of firms included on the list of establishments to be surveyed.

1.9.8.3 Facilities with Variable Processes and Material Usages

When there is a variance in exposures from year to year, record the previous year's exposures (the twelve months preceeding the visit).

1.9.8.4 Field Work Crews

In order to obtain information needed to complete Part II forms, some field work sites will need to be visited. In many cases, however, the company official who conducts the survey tour can provide the necessary information required to complete the survey. If actual off-site work areas are not visited, the information required to complete Part II, including anticipated exposures, number of workers exposed, control, and duration of exposure, must be obtained by questioning management. The foreman of field work crews (or other responsible persons) might be contacted for the needed information. In following either of these alternative procedures, extreme care must be exercised by the surveyor to ensure that accurate information is obtained. If accurate information cannot be obtained, it will be necessary that the field crew be contacted for the needed information. Exposures resulting from construction activities in other facilities (such as chemical plants) are recordable. If the construction activities are so diversified that exposures cannot be determined, then a NTE statement should be added stating that exact exposures could not be determined.

1.9.9 Special Situations

1.9.9.1 Process Not Observed

When an operation is encountered which is not being performed or a process is not being utilized, the surveyor should try to evaluate the operation on the information which the facility representative or employees can provide. Questions should be asked which will cover the generation of any potential exposures which could result from that type of operation. The following sample steps outline the information which should be gathered.

1. Ask facility representatives or workers to describe as completely as possible how the operation or process looks when it is being performed. If the operation is performed frequently or has been done recently, inspection of the area would be helpful both in understanding the operation and to detect dust or mist exposures.

2. Ask what materials are used in the operation and for how long each one is used.

3. Ask if there are any dusts, mists, vapors, etc., generated by the operation.

4. Ask who operates the process.

5. Inquire about the presence of noise, radiations, and other physical hazards when it seems relevant.

6. Ask if the intensity of an exposure is such that it can be seen, if the odor is detectable.

7. Ask if there are any control mechanisms present.

After as much information as possible has been obtained, the surveyor has to decide whether this information is sufficient to adequately describe exposures. If the information is not sufficient, the surveyor should consider coming back to the plant when the operation is being performed. Things to think about are the difficulty in coming back at a later date, and whether acutally seeing the operation will be worth the travel time spent. A trip of any distance probably should not be made unless the unobserved portion of the operation represents a significant portion of the facilities activities and the information obtained about it seems inaccurate. NIOSH Headquarters should be contacted if it is not clear what procedure should be chosen.

If the surveyor feels it necessary to see the operation being performed, he should tell the plant representative that he will be back in the future and he should then plan to come back when the operation is in progress.

"Process not observed" information can include seasonal and graveyard shift operations, plus maintenance, janitorial, and out-of-plant personnel. The procedure can also be applied to absent personnel.

The presence of accumulations of dusts and mists which were airborne and have subsequently settled on pipes and other stationary objects can be used to verify their presence during work operations. The duration of exposures should be assumed to be the same as the duration of the operation. Exposures due to accumulations for these types of processes are recorded in the intensity column as "U" (undetectable).

1.9.9.2 Trade Name Products

Frequently, materials will be encountered which are known only by a trade name. If the composition of the product cannot be determined, the name of the material as it appears on the container should be listed in the Potential Exposure Column along with the name of the manufacturer and the address. The manufacturer's name and address may have to be obtained from plant purchasing records. If information is not contained on the container label regarding component make-up and is not available in the plant from material data sheets, no further attempt should be made to obtain this information. However, any component information, which is available, should be recorded in accordance with appropriate guidelines.

1.9.10 Form Guidelines

Dust (D): Any solid particulate matter in the breathing zone, which is capable of being inhaled. When dust is being generated at a work operation, the liquid

(skin contact) exposure should not be recorded since any airborne dust exposure also results in dust being deposited on the skin.

Fume (F): Solid particles generated by condensation from the gaseous state, generally after volatilization from Molten Metals. This physical change is often accompanied by a chemical reaction, such as oxidation. Therefore, for the survey, fumes will be considered to be in the oxide form.

Gas (G): A state of matter, which occupies the space of its enclosure. Substances with this form are naturally found in this form at room temperature and pressure.

Vapor (V): The gaseous form of substances which are normally found in the solid or liquid state at room temperature and pressure.

Liquid & Solid (L): A non-gaseous substance at room temperature and pressure. For substances of this form, consider exposures by skin contact and ingestion.

Mist & Liquid (M): Suspended liquid droplets generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state such as by splashing, foaming or atomizing. Exposures to this form are by inhalation, skin contact and ingestion. When a mist is being generated as in a spraying operation, the liquid exposure is not recorded since the definition of a mist takes this type of exposure into consideration.

Always fill in the form column of Part II for all non-physical agents except where otherwise noted.

Products of combustion when recorded by short-cut procedures, should be recorded as gas form.

Decomposition products (DP-XX) should be recorded as gas form except decomposition products of soldering and brazing flux which will be recorded as fume.

1.9.11 Intensity Guidelines

This is defined under the circumstances of personal protective equipment being absent and other types of intended controls being present, except in the case of liquid exposures. Defined into two categories:

1. Undetectable (U) - Exposure to an individual not directly distinguishable by any human sense.

2. Detectable (D) - Exposure to an individual directly distinguishable by any human sense.

If an exposure is occasionally detectable and later undetectable, record detectable for the exposure if it is detectable long enough to meet the duration guidelines. When several components are used in a batch or mixture and when a detectable form generation can't be distinguished, according to guidelines, as a particular component, all components are considered to be of this form.

1.9.12 Duration Guidelines

Duration: Time of use or length of time the process which generates the exposure is in operation. If the length of time of process operation cannot be determined, then record the time that the exposure is detectable.

Full Time (F): 4 hr/day=F and on a daily basis at least 90 percent of the days of the lesser of the company's work year or a standard work year.

Part Time (P): 30 min/wk (on an annual average)=P and not full time

or

if used on a weekly basis at least 90 percent of the weeks of the lesser of the company's work year or a standard work year and not full time. Do not consider the process operation time as exposure time when no one could be exposed (e.g. when the primary employee is out of the work area).

An annual average of 30 minutes per week is equivalent to 26 hours per year.

A standard work year is 240 eight-hour days, 192 ten-hour work days, etc.

A company work year is that length of time in which the company is engaged in actual production or engaged in its major activity. If an employee's work year is longer than the company work year (i.e. maintenance men at a canning factory), the employee's work year should be used.

If exposures exist due to a process outside the facility or outside the immediate work area, then the time of operation of that process should be used to determine duration guidelines if it can be determined. If it cannot be determined, then the time of detectability should be used as the duration criterion.

To determine duration, ask the following questions.

Q: Do you use this daily?

A: Yes
Q: Is it used 4 hours or more a day?
A: Yes Code: F
A: No Code: P

A: No
Q: Do you use it every week?
A: Yes Code: P
A: No (ask question below.)
Q: Would you say that on a yearly average this is used over 30 min/wk?
A: Yes Code: P
A: No Code: Not recordable

1.9.13 Intended Control Guidelines

1.9.13.1 Functioning/Non-functioning

Except as otherwise noted, a control is generally considered to be non-functioning if it is not functioning as designed. If a control is alternately functioning and not functioning then record non-functioning if it is non-functioning long enough to meet the duration guidelines.

1.9.13.2 Ventilation

Local exhaust ventilation (LV) prevents the spread of air contaminants throughout the building atmosphere. This may include exhaust ventilated industrial process enclosures such as paint spray rooms or booths, welding rooms or booths, abrasive blasting rooms, metallizing or metal spraying rooms, grinding booths, and casting shakeout enclosures. Local exhaust ventilation also includes canopy hoods, slot ventilation hoods, flexible hose ventilation, tailpipe exhaust systems, downdraft hoods, and sidedraft hoods. The criteria for local exhaust should always be that

the contaminant is controlled at its source of generation. If an actual exposure exists or it can be determined by smoke tube that the local exhaust system is not capturing all the contaminants, it should be considered non-functioning.

Natural ventilation (NV) - Any operation conducted outside will be considered to be controlled by natural ventilation. Also any situation which was created for the purpose of providing natural ventilation will be recorded. For example: ventilation due to wind movement--either horizontal or vertical is included. This area also includes air movements produced by vertical convection current and thermal ventilation (nonducted). Exterior doors or windows which are opened to provide ventilation are considered natural ventilation.

Local gravity ventilation (LG) - Ventilation using ducted thermal ventilation with no mechanical fans such as stove flues, melt pots, etc., to prevent the spread of air contaminants throughout the building atmosphere.

General dilution ventilation (DV) - This includes systems with:

a. Supply fans in which air is used to create a slight positive pressure which forces general room air out of the building through relief vents or openings.

b. Exhaust fans which allow air to be removed from a space by creating a slight reduction of pressure which causes outdoor air to be brought in through vents or openings.

c. Both exhaust and supply air fans.

If both local exhaust ventilation and general dilution ventilation are controlling a process, only local exhaust should be recorded.

A local exhaust ventilation system will not be considered as also being a dilution ventilation system.

As a rule, the type of ventilation used at the time of the survey should be recorded. Exclude general dispersing fans as a form of dilution ventilation.

No control - Air handling systems for heating and air conditioning systems and general dispersing fans will not be considered as providing ventilation control.

1.9.13.3 Mixed Controls

If several controls are used for the same operation at different times, the situation should be recorded as one set of exposures with all the controls applied to these exposures. If during a portion of the operation, no controls are used, NC should be inserted in one of the intended control boxes. To determine if controls are functioning or nonfunctioning in mixed control situations, each control should be evaluated at the time of its use.

1.9.14 Intended Control: Functioning - Nonfunctioning

Local exhaust ventilation will be considered to be nonfunctioning except as otherwise noted if (1) an actual exposure exists or (2) by means of smoke tube or visually it can be observed that the local exhaust system is not capturing all of the material or substances in question.

Local gravity ventilation guidelines are the same as those for local exhaust ventilation.

When natural ventilation is observed as an intended control, it should be considered to always be "functioning" and an "F" should be inserted in the F/N column. Natural ventilation should be considered to be a control for operations performed outdoors.

General dilution ventilation systems will be assumed to be functioning unless it is obvious that fans are inoperative.

Respiratory Protective Devices

If a respiratory protective device is used or intended to be used in a work area, the specific type should be recorded in the Intended Control Column, using the codes shown in Appendix G of the Survey manual. If the device is being utilized, it should be considered to be functioning (insert F in the F/N Column). This rule is applied regardless of whether or not it is the appropriate type of respiratory device for the specific contaminant in question. If respiratory protective equipment is available but is not worn, or is not worn correctly, the F/N column should be coded "N".

When unapproved respirators (those not tested and approved by the U.S. Bureau of Mines or the U.S. Department of Agriculture) are observed in use or when the type of gear being used is not appropriate for protection against the contaminant for which protection is needed, an explanatory note should be made in the Activity Column. Dust respirators are often used for protection against solvent vapors; they are of little or no value for this purpose. Gauze and sponge rubber devices are used frequently for protection against pneumoconiosis—producing dusts. Again these may provide very little or no protection and result in the wearer having a false feeling of security, but they will still be recorded as an intended control.

Personal Protective Gear

When personal protective devices are observed in use in a plant and question 37 of Part I indicated that no such devices are required or recommended, the user should be asked pertinent questions which will allow for the correction of questions 37, 38, and 39 of the Part I form. If the device, however, is not required or recommended by officials of the firm, no corrections are necessary.

A welder's helmet is considered to be providing protection against infrared and and ultraviolet radiation. Welder's helmet and other eye and face protective gear cannot be considered as intended controls for vapors, gases, fumes, mists, and dusts. Gloves worn by welder are considered controls for UV and IR. Gloves, vests, etc. will not be considered as control for sand blasting.

Guidelines to follow for other personal protective gear should be the same as those for respiratory protective devices.

Exclude as intended control safety shoes, glasses, gloves, hard hats, shoes and other controls when they are being used specifically to protect workers against accidental or traumatic situations. When they are used to protect workers from exposure to potentially hazardous materials, their use should be recorded.

When other means of control are utilized, they should be considered to be "functioning" unless the devices or procedures are not being used or the devices are malfunctioning or inoperative. List the specific type of "other control" observed in the Activity Column (e.g., Personal Hygiene).

1.10 Suggested Controls

If the surveyor notes obviously hazardous conditions which could be easily controlled by personal protective equipment or other simple measures, such appropriate controls can be verbally suggested to management during or after the survey. Any suggestions made should be noted under Comments, Part III. Surveyors should not make such suggestions unless they are absolutely sure of the information which they are providing.

1.11 Life Threatening Situations

In the event that a surveyor observes a condition which places an employee(s) in life threatening situations, he will verbally contact the NIOSH Regional Program Director as soon as possible and describe the situation. In addition, the surveyor will send a written report on "Notification of Life Threatening Danger" form to the Regional Program Director with copies to the Senior Industrial Hygienist, HSB, and the Assistant Institute Director for Regional Operations. The surveyor will take no further action in this matter.

At the conclusion of a survey during which a life threatening situation was observed, officials of the firm are to be advised that a life threatening condition was observed and will be reported to the NIOSH Regional Program Director. Employees should not be informed of this action.

SECTION 2

SURVEY FORM PREPARATION INSTRUCTIONS

2.1 Introduction

The Survey Form Preparation Instructions describe the methods and procedures to be used in filling out the National Occupational Hazard Survey (NOHS) Form (Figure 1). This form provides the means for quantifying and recording the results of the management interview and the facility walk-through survey. In addition, the form structures the management interview questions, and facilitates the organizing of the occupations, exposures, and controls observed.

The NOHS Form has several parts:

- The Preface identifies the establishment (plant, facility, etc.) surveyed.
- Part I consists of a set of questions which are asked of management regarding facility policies and conditions relevant to employee safety and health.
- Part II is used by the surveyor to record the results of a walkthrough investigation of the facility. Information is recorded on the specific exposures that exist; the occupational titles of the people exposed; and intended control procedures utilized in connection with the exposures.
- Part III is used to record certain information about the survey itself.

The instructions described in Section 2 generally follow the order of the Survey Form. Section 2.2 suggests some general techniques to be followed during the filling out of the Survey Form. Section 2.3 provides explanations and examples to the specific questions or columns of the Survey Form. Section 2.4 addresses special problems and gives examples of data coding and other form preparation operations including samples of completed forms. Appendices A through G list the various data classifications and codes to be used in filling out the Survey Form.

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6-72

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
ROCKVILLE, MARYLAND 20852

Form Approved
O.M.B. No. 68-R1261

NATIONAL SURVEILLANCE NETWORK

NATIONAL OCCUPATIONAL HAZARD SURVEY

PREFACE

1. FACILITY NAME

2. ADDRESS

3. CITY STATE ZIP CODE

4. LEGAL OWNER (S)

5. PERSON (S) INTERVIEWED

NAME	TITLE	PART

6. AREA CODE TELEPHONE NUMBER

7. DATE SURVEY STARTED OR VISIT MADE

8. FACILITY IDENTIFIER

If mailing address or person to contact concerning information about the survey is different from that indicated above, list the correct mailing address and contact below.

9. FACILITY NAME

10. ADDRESS

11. CITY STATE ZIP CODE

12. ATTENTION TITLE

AREA CODE TELEPHONE NUMBER

PAGE 1

Figure 1-1 National Occupational Hazard Survey Form

NATIONAL SURVEILLANCE NETWORK

NATIONAL OCCUPATIONAL HAZARD SURVEY

PART I--FACILITY HEALTH AND SAFETY SERVICES [1] 1

1. Revision Code 2 [8 8 9] 4
2. Date Survey Started *(Mo., da., yr.)* 5 [ ] 10
3. State Code 11 [ ] 12
4. Facility Identifier Code 13 [ ] 18
5. a. What is your major activity?

   _____

   b. What are your chief products, services, lines of trade, etc.?

   _____

   _____

   SIC Code if known 19 [ ] 22
6. Approximately how many years has this facility been involved in this activity? 23 [ ] 24
7. How many people are on your facility payroll for all shifts at the present time? 25 [ ] 29
8. Of this number, how many are normally in the work areas as opposed to the administrative or other areas? 30 [ ] 34
9. How many shifts do you have? [ ] 35
10. Has this facility received industrial hygiene services during the past year? [ ] 36
    - 1 ☐ YES, FROM AN INDUSTRIAL HYGIENIST
    - 2 ☐ YES, FROM A SAFETY ENGINEER *(Skip to Question 13)*
    - 3 ☐ YES, FROM OTHER *(Specify:)*

      _____

      (Skip to Question 13)
    - 4 ☐ NO *(Skip to Question 13)*
11. Is the industrial hygienist based in this facility? [ ] 37
    - 1 ☐ YES
    - 2 ☐ NO, BASED ELSEWHERE
    - 3 ☐ NO, CONSULTING BASIS
    - 4 ☐ NO, OTHER *(Specify:)*

      _____
    - 5 ☐ NOT APPLICABLE
12. Estimate the average number of industrial hygienist hours that are devoted to your facility per month 38 [ ] 40
13. Has your facility received safety engineer services during the past year? [ ] 41
    - 1 ☐ YES, FROM A SAFETY ENGINEER BASED IN THIS FACILITY
    - 2 ☐ YES, FROM A SAFETY ENGINEER BASED ELSEWHERE
    - 3 ☐ YES, ON A CONSULTING BASIS
    - 4 ☐ YES, OTHER *(Specify:)*

      _____
    - 5 ☐ NO *(Skip to Question 15)*
14. Estimate the average number of safety engineer hours that are devoted to your facility per month 42 [ ] 44
15. Is there a formally established health unit at this facility? [ ] 45
    - 1 ☐ YES, PHYSICIAN IN CHARGE
    - 2 ☐ YES, REGISTERED NURSE IN CHARGE
    - 3 ☐ YES, LICENSED PRACTICAL NURSE IN CHARGE
    - 4 ☐ YES, OTHER IN CHARGE *(Specify:)*

      _____
    - 5 ☐ NO
16. Do you employ or have an arrangement with a physician or clinic to give your employees medical care? [ ] 46
    - 1 ☐ YES, EMPLOYED FULL TIME
    - 2 ☐ YES, EMPLOYED PART TIME
    - 3 ☐ YES, ON CALL *(Skip to Question 18)*
    - 4 ☐ YES, AT CLINIC *(Skip to Question 18)*
    - 5 ☐ OTHER *(Specify:)* _____

      _____

      (Skip to Question 18)
    - 6 ☐ NO ARRANGEMENTS MADE *(Skip to Question 18)*
17. Estimate the average number of physician hours that are devoted to your facility per week 47 [ ] 50
18. Do you have one or more nurses at this facility to provide care for employees? [ ] 51
    - 1 ☐ YES
    - 2 ☐ NO *(Skip to Question 21)*

Figure 1-2 National Occupational Hazard Survey Form (Continued)

PART I–(Continued)

19. How many registered nurses and licensed practical nurses are employed at this facility?
RN 52 [ ] 53
LPN 54 [ ] 55

20. Estimate the average number of nursing hours that are devoted to your facility per week
56 [ ] 59

21. Do you have an employee at this facility with formal first-aid training, other than doctors or nurses, who has been designated to provide emergency treatment? [ ] 60
1 ☐ YES
2 ☐ NO

22. Do you record health information about a new employee on some regular form? [ ] 61
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

23. Before new employees are hired or placed, are they required to take a medical examination? [ ] 62
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

24. Do you require medical examinations of your employees who return to work after a sickness, or whose employment is terminated? [ ] 63
1 ☐ RETURN TO WORK ONLY
2 ☐ EXIT EXAMINATION AT TIME OF TERMINATION ONLY
3 ☐ BOTH
4 ☐ NEITHER

25. Do you provide periodic medical examinations or tests of any type for employees? [ ] 64
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO *(Skip to Question 32)*

26. Do you provide periodic opthalmologic examinations for employees? [ ] 65
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

27. Do you provide periodic audiometric examinations for employees? [ ] 66
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

28. Do you provide periodic blood tests for employees? [ ] 67
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

29. Do you provide periodic urine tests for employees? [ ] 68
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

30. Do you provide periodic pulmonary function tests for employees? [ ] 69
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

31. Do you provide periodic chest x-rays for employees? [ ] 70
1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

32. Do you have a regularly scheduled program to give employees flu or other immunizations? [ ] 71
1 ☐ YES
2 ☐ NO

33. Do you keep employee absenteeism records? [ ] 72
1 ☐ YES, SHOWING SPECIFIC NATURE OF SICKNESS WHEN PRESENT
2 ☐ YES, SHOWING ONLY THE TYPE OF ABSENCE
3 ☐ YES, WITHOUT SHOWING TYPE OF ABSENCE
4 ☐ NO

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Figure 1-3 National Occupational Hazard Survey Form (Continued)

PART I—(Continued)

2 [1]

34. What is your rate of unscheduled absenteeism (days per year per employee)? [19] [ ] [20]

35. Is there a formally established safety committee at your facility? [21]

1 ☐ YES, INVESTIGATIVE
2 ☐ YES, POLICY SETTING
3 ☐ BOTH
4 ☐ YES, OTHER *(Specify: e.g. advisory only)*

_____

_____

5 ☐ NO

36. Do you have areas where personal protective devices are required or recommended? [22]

1 ☐ YES, REQUIRED
2 ☐ YES, RECOMMENDED
3 ☐ YES, BOTH
4 ☐ NO *(Skip to Question 39)*

37. Who provides personal protective devices? [23]

1 ☐ EMPLOYEE
2 ☐ EMPLOYER
3 ☐ BOTH
4 ☐ OTHER *(Specify:)*

_____

_____

5 ☐ NOT APPLICABLE

38. Who has been designated to see to it that personal protective devices are serviced and maintained? [24]

1 ☐ INDIVIDUAL EMPLOYEES
2 ☐ EMPLOYER REPRESENTATIVE
3 ☐ BOTH
4 ☐ OTHER *(Specify:)*

_____

_____

5 ☐ NO ONE
6 ☐ NOT APPLICABLE

39. How do you carry your workmen's compensation insurance? [25]

1 ☐ PRIVATE INSURANCE COMPANY
2 ☐ SELF-INSURED
3 ☐ STATE INSURANCE FUND
4 ☐ OTHER *(Specify:)*

_____

_____

5 ☐ NONE

40. Are any unions operating in this facility? [26]

1 ☐ YES
2 ☐ NO

41. Is this facility a member of a national association or institute representing its industry or trade? [27]

1 ☐ YES
2 ☐ NO

42. Do you have a program under which you regularly monitor the presence of fumes, gases, mists, vapors, dusts, noise, vibration, radiation, or other similar conditions? [28]

1 ☐ YES
2 ☐ NO

43. Do you use a private sewage treatment plant or a septic tank to dispose of this facility's non-process sewage? [29]

1 ☐ YES, PRIVATE SEWAGE TREATMENT PLANT
2 ☐ YES, SEPTIC TANK
3 ☐ YES, BOTH
4 ☐ NO

44. Do you have any drinking water other than that provided through a public water supply? [30]

1 ☐ YES *(Specify:)*

_____

_____

2 ☐ NO *(Skip to Question 46)*

45. Is the private water supply routinely tested for bacteriological quality? [31]

1 ☐ YES
2 ☐ NO
3 ☐ NOT APPLICABLE

Figure 1-4 National Occupational Hazard Survey Form (Continued)

PART I--(Continued)

46. **Do you have any piped liquids other than drinking water?** [ ] 32

1 [ ] YES *(Specify:)*

_____

_____

2 [ ] NO

47. **Is there a separate identified eating area for your work area employees?** [ ] 33

1 [ ] YES

2 [ ] NO *(Skip to Question 49)*

48. **Are hand washing facilities provided within 200 feet of the eating area?** [ ] 34

1 [ ] YES

2 [ ] NO

3 [ ] NOT APPLICABLE

49. **May I see the Summary of Occupational Injuries and Illnesses (OSHA Form 102)?**

Occupational Injuries [35][ ][37]

Occupational Illnesses

Occupational skin diseases or disorders [38][ ][40]

Dust diseases of the lungs (pneumoconioses) [41][ ][43]

Respiratory conditions due to toxic materials [44][ ][46]

Poisoning (systemic effects of toxic materials) [47][ ][49]

Disorder due to physical agents (other than toxic materials) [50][ ][52]

Disorders due to repeated trauma [53][ ][55]

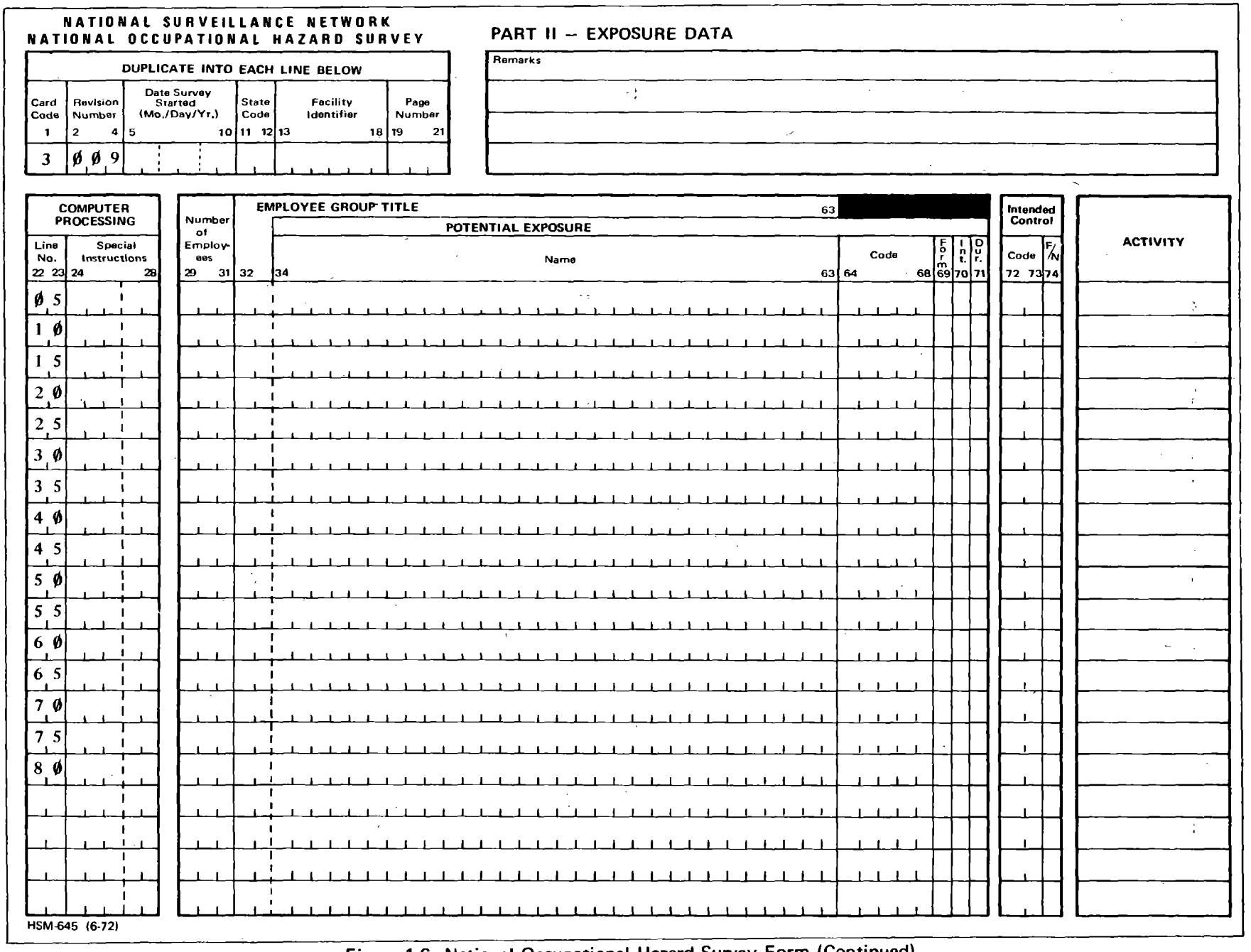
All other occupational illnesses. *(Specify)* [56][ ][58]

_____

_____

50. **How many months are covered by the preceding figures?** [59][ ][60]

Figure 1-5 National Occupational Hazard Survey Form (Continued)



NATIONAL SURVEILLANCE NETWORK
NATIONAL OCCUPATIONAL HAZARD SURVEY

PART II – EXPOSURE DATA

DUPLICATE INTO EACH LINE BELOW

Card Code 1	Revision Number 2–4	Date Survey Started (Mo./Day/Yr.) 5–10	State Code 11–12	Facility Identifier 13–18	Page Number 19–21
3	009				

Remarks

COMPUTER PROCESSING		Number of Employees	EMPLOYEE GROUP TITLE	POTENTIAL EXPOSURE					Intended Control		ACTIVITY
Line No. 22–23	Special Instructions 24–28	29–31	32	Name 34–63	Code 64–68	Form 69	Int. 70	Dur. 71	Code 72–73	F/N 74	
05											
10											
15											
20											
25											
30											
35											
40											
45											
50											
55											
60											
65											
70											
75											
80											

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Figure 1-6 National Occupational Hazard Survey Form (Continued)

NATIONAL SURVEILLANCE NETWORK

NATIONAL OCCUPATIONAL HAZARD SURVEY FORM

PART III–SURVEYOR CONFIDENTIAL [4] 1

1. **Revision Code** 2 [0 0 9] 4
2. **Date Survey started** *(mo./da./yr.)* 5 [ ] 10
3. **State Code** 11 [ ] 12
4. **Facility Identifier Code** 13 [ ] 18
5. **Disposition of survey:** [ ] 19

1 ☐ COMPLETED

2 ☐ PARTIALLY COMPLETED

3 ☐ REFUSED TO BE INTERVIEWED

4 ☐ COULD NOT BE LOCATED

5 ☐ OUT OF BUSINESS

6 ☐ TEMPORARILY CLOSED

7 ☐ OTHER *(Specify:)*

_____

6. **Number of Part II forms completed as a result of this survey** 20 [ ] 22
7. **How much time in hours and minutes, was spent on each of the following activities?**

	HOURS	MINUTES
TRAVEL TO AND FROM FACILITY	23 [ ] 24	25 [ ] 26
CONDUCT OF SURVEY	27 [ ] 28	29 [ ] 30
SAMPLE AND MEASUREMENT	31 [ ] 32	33 [ ] 34
WAITING AND DISCUSSIONS	35 [ ] 36	37 [ ] 38
COMPLETION OF SURVEY FORMS	39 [ ] 40	41 [ ] 42

8. **Surveyor Identifier** 43 [ ] 45

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Figure 1-8 National Occupational Hazard Survey Form (Continued)

PART III–(Continued)

9. Comments

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Figure 1-7 National Occupational Hazard Survey Form (Continued)

2.2 Survey Form Preparation Techniques

The following general rules apply to the preparation of the Survey Forms.

2.2.1 Data Recording Conventions

Since the information recorded on the Survey Form will be converted to an automated data processing medium, certain conventions should be followed in data recording:

1. The coding fields should be filled in with an appropriate code [number(s) or letters(s)] or numerical value.

   Examples: [5] ; [1 2] ; [U V]

2. The numbers and letters written in the coding spaces should be hand-printed very clearly. The following, easily confusable characters should be made especially distinct by being written in this fashion:

O	(letter "o")	Ø	(zero)
I	(letter "i")	1	(one)
S	(letter "s")	5	(five)
Z	(letter "z")	2	(two)
U	(letter "u")	V	(letter "v").

3. Only one letter or number should be written in each space delineated by the short vertical lines [| | | | |].

4. Numerical quantities should be right-justified. Leading zeros are not necessary. Example:
   Number of Employees = [8 2] .

   If the space provided is not sufficient to contain a numerical quantity, then the space should be filled in with all 9's. Example:

   Number of Employees is 1,042 = [9 9 9] . The proper number should be written on the survey form for future reference.

5. Numerical coded values, as opposed to numerical quantities should be filled in showing all digits, including leading zeros. Examples:

   [Ø Ø 1 Ø Ø]

   [9 3 1 Ø Ø] .

6. Alphabetical coded values should be left-justified, if the code does not require all spaces provided in the coding field. Examples:

   [C O | | | | | | |]

   [E P] .

Section 2.4.2 shows examples of completed Survey Forms, employing the above conventions.

2.3 Survey Form Preparation Procedures

The specific procedures to be followed during the preparation of the NOHS Survey Form are given in this section. The order of the procedures strictly follows the sequence of the several Survey Form Parts, and the questions contained therein. One or more pages are devoted to each of the questions. The information pertaining to each of the questions is organized in this manner:

Question — Repeats the question and possible responses, as shown on the Survey Form.

Intent — The purpose of the question, in terms of the information to be elicited from the respondent(s).

Definition — The explanation of the key terms or concepts in connection with the question.

Inclusions — Explanations and/or examples of situations, conditions, events, etc. to be included as the possible response(s).

Exclusions — Explanations and/or examples of situations, conditions, events, etc. to be excluded as the possible response(s).

Procedure — Under this optional heading will be found the detailed instructions that may be necessary to properly fill out the more complicated portions of the Survey Form.

NOTE: If the Procedure is not given, the survey information is filled in in accordance with one of these applicable alternatives:

a. Coded value assigned to the possible responses:

Fill in the code attached to the applicable response.

If the response is "Yes, other" or "Other", then also write in the special situation, condition, or event in the "Specify" line immediately following the "Yes, other" or "Other" response.

Example: Part I, Question 15--

15. **Is there a formally established health unit at this facility?** [4] 45

1 ☐ YES, PHYSICIAN IN CHARGE
2 ☐ YES, REGISTERED NURSE IN CHARGE
3 ☐ YES, LICENSED PRACTICAL NURSE IN CHARGE
4 ☐ YES, OTHER IN CHARGE *(Specify:)* medical para-professional
5 ☐ NO

b. Numerical value:

Fill in the applicable number.

Example: Part I, Question 19--

19. How many registered nurses and licensed practical nurses are employed at this facility?

RN 52 [3] 53

LPN 54 [2] 55

c. Uncoded information:

Write or hand-print legibly the names, identifying numbers, comments, and other miscellaneous uncoded information to be collected.

Example: Preface, Question 4--

4. LEGAL OWNER (S)

Ray's Ford, Inc.

2.3.1 Preface Survey Form Instructions

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DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
ROCKVILLE, MARYLAND 20852

Form Approved
O.M.B. No. 68-R1261

NATIONAL SURVEILLANCE NETWORK
NATIONAL OCCUPATIONAL HAZARD SURVEY
PREFACE

The Preface to the Survey Form will serve as a cover sheet for the forms associated with one attempted or completed survey. Unlike the other parts of the NOHS Survey Form, the information contained thereon will not be converted to an automated data processing medium. Rather, the information will be used to document the contact made by the surveyor, and to provide a means of re-contacting the representatives of the facility surveyed.

Figure 1-1 shows the complete Preface form. The instructions on the following pages are related to the line numbers (1-13) of the information to be elicited. The information obtained is to be written or handprinted legibly in the spaces provided on the form.

Question

1. FACILITY NAME

Intent
To describe as accurately as possible, the identification of the facility being surveyed.

Definitions
Facility name is the legally accepted identification of the facility being surveyed. Generally, this will be supplied by NIOSH.

Inclusions
In completing the facility name, describe as precisely as possible the facility to be surveyed. An example is: Ford Motor Company, Dearborn Body Plant, Foundry. This would indicate that only the foundry at the Dearborn Body Plant of the Ford Motor Company was being surveyed at this time. This should be recorded, rather than simply "Ford Motor Company". Another example is: Safeway Stores, Incorporated, Store Number 127. This indicates the specific location or plant being surveyed in the case of a chain organization. This data will be reinforced by the specific location given in Line 2, "Address".

If the facility name has changed, enter the name provided by NIOSH here and enter the new name with an explanation in the Comments section of Part III.

Exclusions
Where a specific facility is known by multiple names, use the legal name, as defined above.

Question

2. ADDRESS

Intent
To describe the geographical location of the facility being surveyed.

Definition
Address refers to the physical location of the facility based on best available geographic description.

Inclusions
Use the Address as provided by NIOSH. If the Address is incorrect, enter the correct items. Indicate the reason for changing the information provided by NIOSH in the Comments, Part III.

Use the best available identifier. The order of preference is:
(a) Street address: i.e., 118 Hilltop Road.
(b) Road intersection: i.e., Beach Drive and Wise Road.
(c) Highway intersection: i.e., Michigan State Routes 124 and 115.
For Examples (b) and (c), include the distance of the facility from the intersection.

Exclusions
Do not use the post office box number or other address used primarily as a mail collection point.
Do not use the corporate headquarters address, if the corporate headquarters are not located at the site of this facility.

Procedure
If the corporate headquarters' address is supplied, and it is not at this site, include the address in the Comments, Part III.

Question

3. CITY	STATE	ZIP CODE

Intent
To provide further address or location information in the event of follow up visit or other contact.

Definitions
City means the municipality, county, township or other specific incorporated or unincorporated area as defined by the State or Federal possession.

State refers to one of the 50 United States, the District of Columbia, Puerto Rico, or a U. S. possession.

Inclusions
Use the City and State names and the Zip Code as provided by NIOSH. If any of these items are incorrect, enter the correct items. Indicate the reason for changing the information provided by NIOSH in the Comments, Part III.

Exclusions
Do not record local descriptors as the city name unless it is commonly used. Evidence of common usage includes the use of the local descriptor by the telephone company, post office, etc. For example, Bethesda, Maryland is a local, unincorporated area of Montgomery County, Md. which is recognized as an identifier by the phone company, the post office and businesses.

Question

4. LEGAL OWNER (S)

Intent
To identify the person(s) or organization responsible for the business conducted in the facility.

Definitions
Legal owner is defined as the person or entity who is legally responsible for the operation of the facility.

Inclusions
Include all names of corporations, principal partners, joint ventures, or other owners.

Exclusions
Do not record the owner of building if it is leased. Record the owner of the business being surveyed.

Question

5. PERSON(S) INTERVIEWED

NAME	TITLE	PART

Intent
To identify all facility representatives who contributed major portions of the information for the survey, in case it may be necessary to contact them later if additional information is required.

Definitions
Person(s) interviewed refers to the facility's manager or authorized representative responsible for answering the surveyor's questions.

Inclusions
Not applicable.

Exclusions
Do not include persons who are merely introduced to the surveyor or are questioned about a specific situation.

Do not include persons who provide information to a company representative who in turn gives the data to the surveyor. For example, on the walk-through, the facility representative who accompanies the surveyor would be identified as a Part II source. But those employees who answer questions about their occupation title, the type of metal or chemical used, or other data, would not be identified by name.

Exclude personnel clerks who might provide answers to one or two questions.

Exclude anyone who does not contribute to completion of a major part of the survey. If it is necessary to include additional names because the plant size led to numerous people providing large amounts of information, record the names and titles of those persons in the Comments, Part III.

Procedure
Record the name and title of the individual(s) and indicate that part of the survey with which they assisted (Preface, Part I, and/or Part II).

Refer to Section 1.8.1 of the Guidelines for information as to who should be interviewed, and for an example of an introductory approach.

Question

6. AREA CODE	TELEPHONE NUMBER

Intent
For future reference to allow additional contact of the responsible facility personnel.

Definitions
The area code and phone number should be for the person identified in Item 5 as the respondent to the Part I questions. If several people responded to the Part I form, use the general phone number for the facility.

Inclusions
Not applicable.

Exclusions
Not applicable.

Question

7. DATE SURVEY STARTED OR VISIT MADE

Intent
To identify the date that contact was made with the facility.

Definitions
The date is the month, day and year of the contact. If the survey takes several days, the first day is used as the date. This should be the date when the Preface and Part I are completed and should be used in all other Parts of the Survey Form.

Inclusions
Include all visits even when a survey was not conducted. Refer to Section 2.4.1 for guidance on the submission of forms when the survey cannot be completed.

Exclusions
Do not include dates of telephone contact here. Reference to telephone contact should be included in Comments, Part III.

Procedure
Not applicable.

Question

8. FACILITY IDENTIFIER

Intent
To provide a machine-processable code which uniquely identifies the facility being surveyed.

Definitions
Facility identifier is the coded identifying number assigned by NIOSH to identify the facility for machine processing purposes.

Inclusions
Use the number provided by NIOSH. If a number was not assigned, contact NIOSH headquarters.

Exclusions
Not applicable.

Procedure
If the facility's name, location, and/or Standard Industrial Classification has changed,

and

if the guidelines in Sections 2.4.1.6 - 2.4.1.7 indicate that the facility is still to be surveyed,

then

use the Facility Identifier provided by NIOSH. Explain the reason for the change in the Comments, Part III.

Question

If mailing address or person to contact concerning information about the survey is different from that indicated above, list the correct mailing address and contact below.

9. FACILITY NAME

Intent
Enter data here only when mailing address is different from Line 1 of the Preface.

Definitions
See Preface, Line 1.

Inclusions
Not applicable.

Exclusions
Not applicable.

Question

10. ADDRESS

Intent
Use this line when a Post Office box or other address for receiving mail is different from Line 2 of the Preface.

Definitions
Address as used here refers to the mailing address.

Inclusions
Not applicable.

Exclusions
Not applicable.

Question

11. CITY	STATE	ZIP CODE

Intent
Enter data here only when the mailing address is different from Line 3.

Definitions
See Preface, Line 3.

Inclusions
Not applicable.

Exclusions
Not applicable.

Question

12. ATTENTION	TITLE

Intent
This identifies the person who may be contacted about this survey. When multiple names are on Line 5, enter here the name and title of the individual who should be contacted.

Definitions
See Preface, Line 5.

Inclusions
When multiple names have been entered on Line 5, enter the name and title of the person who provided the data for the Part I form, unless another specific name is provided you by the company.

Exclusions
Not applicable.

Question

AREA CODE	TELEPHONE NUMBER

Intent
To allow phone contact of the individual mentioned in Line 12.

Definitions
None.

Inclusions
Not applicable.

Exclusions
Not applicable.

2.3.2 Part I Survey Form Instructions

NATIONAL SURVEILLANCE NETWORK

NATIONAL OCCUPATIONAL HAZARD SURVEY

PART I—FACILITY HEALTH AND SAFETY SERVICES

The pages of Part I (Facility Health and Safety Services) contain the four items of survey identification and 46 questions that are to secure an occupational health and safety profile of the facility surveyed. The responses to the questions will: (a) briefly describe the facility; (b) specify the occupational health and safety resources available to employees; and (c) indicate the specific health and safety policies, programs, and procedures of the facility. Figures 1-2 through 1-5 depict this Part I of the Survey Form.

The instructions following are keyed to the Question numbers on the Form. Since this portion of the survey will become converted to an automated data processing medium, the standards described in Section 2.2 will have to be carefully followed.

Question

PART I--FACILITY HEALTH AND SAFETY SERVICES [1] 1

1. Revision Code 2 [0 0 9] 4

Intent
To identify both the agency conducting the survey and the version of the survey form being used.

Definitions
Revision code is the survey identifying number assigned by NIOSH.

Inclusions
This code is normally pre-printed on the survey forms. If it is missing, enter the code "ØØ9" for the National Occupational Hazard Survey.

Exclusions
Do not include any other code unless specifically directed to by NIOSH headquarters.

Question

2. **Date Survey Started** *(Mo., da., yr.)* 5 [ ][ ][ ][ ][ ][ ] 10

Intent
To identify the time of the visit or survey.

Definitions
Date is defined as the numerical equivalent of the month and day, and the last two digits of the year.

Inclusions
Enter the date used on the Preface Form. This date must be the same for all survey forms used during a particular visit or survey.

Exclusions
Do not use a date other than that used on the Preface Form.

Question

3. **State Code** 11 [ ] 12

Intent
To provide a machine-processable code which identifies the State in which the facility being surveyed is located.

Definitions
State refers to the several United States, the District of Columbia, Puerto Rico and United States possessions.

Inclusions
Obtain the appropriate code for each State from Appendix A, STATE CODES. Include this same code on the Parts II and III forms.

Exclusions
Not applicable.

Question

4. Facility Identifier Code 13 [ ] 18

Intent
To provide a unique machine-processable designator for each facility in a geographic area.

Definitions
Facility identifier code means the number assigned to the facility by NIOSH for purposes of this survey.

Inclusions
Enter the facility identifier code used on the Preface Form. If a code was not provided, contact NIOSH headquarters.

Exclusions
Do not include any facility identifying number except that one assigned by NIOSH.

Question

5. a. What is your major activity?

_____

Intent
To best describe the nature of the facility's business in terms of the general activity, for the purpose of determining the correct classification for the facility in those instances where either the SIC code is not known in advance or the SIC code as given by NIOSH is incorrect.

Definitions
SIC means Standard Industrial Classification and includes the codes contained in the Standard Industrial Classification Manual 1967 prepared by the Executive Office of the President.

Inclusions
Such general descriptors as manufacturing, wholesale, retail, construction, transportation, finance, etc. should be used.

Exclusions
Do not attempt to describe the specific product. This should be done in Question 5b.

Question

b. What are your chief products, services, lines of trade, etc.?

_____

_____

SIC Code if known 19 [ ] 22

Intent
To specifically determine that product or service which is produced or provided.

Definition
The products, services, or lines of trade refer to the major result of the normal business operation.
SIC is defined.

Inclusion
Include all major product or service lines.

The SIC Code will normally be given for each facility. After the survey is completed, refer to Appendix B, STANDARD INDUSTRIAL CLASSIFICATIONS. If the brief description of the given SIC code seems to agree with the activity of the facility, then it can be assumed that the given SIC code is correct. If this is not the case, it will be necessary to assign a new SIC code, by following the "Procedures" given below.

The basis of facility SIC code assignment is as follows: Each facility is assigned an industry code on the basis of its major activity, which is determined by the product or group of products produced or handled, or services rendered.

In situations where several different products or services exist, the principal activity should be used as a basis for assigning a SIC code.

Ideally, the principal product or service should be determined by reference to "value added." In practice, however, it is rarely possible to obtain this information for individual products or services, and it becomes necessary to adopt some other criteria which may be expected to give approximately the same results. It is recommended, therefore, that, as far as possible, the following characteristics be used for each of the major economic sectors in determining what activity can be designated as "principal":

Economic Sector	Characteristics
Agriculture forestry, and fisheries	Value of production
Mining	Value of production
Contract construction	Value of work done
Manufacturing	Value of production
Transportation, communications, electric, gas, and sanitary services	Value of receipts
Wholesale and retail trade	Value of sales
Finance, insurance, and real estate	Value of receipts
Services	Value of receipts

Occasionally, in cases of mixed business, the above characteristics cannot be determined or estimated for each product or service, and less frequently a classification based upon the recommended characteristic will not represent adequately the process or activity of the establishment. In such cases, if employment information is available, the major activity should be determined by the activity in which the greatest number of employees work.

Example (1): The chief product or service of an organization may have changed from that which had been earlier reported or the reporting may have been incorrect. In cases where there is disagreement between the description of product or service and the SIC code given, a new SIC code will have to be assigned.

Example (2): The Standard Industrial Classification given in the sample will be that of the entire organization and not the specific SIC for that facility. For example: U.S. Steel's Standard Industrial Classfication will be 3310 for the corporation as a whole. However, the SIC code for a specific facility engaged, for example, in the manufacture of non-ferrous metals would have to be based upon that entire organization. Example: Facility smelts and refines zinc; SIC code = 3333.

Exclusions
Not applicable

Procedures
When the given SIC code is incorrect, the surveyor should, if possible, assign a new SIC code and include in the comments section of Part III all the information necessary to reassign the SIC code. When the given four-digit SIC code ends in zero, the proper non-zero last digit should be determined and assigned. The basis for the SIC change should be noted in the comments section of Part III.

Question

6. **Approximately how many years has this facility been involved in this activity?** 23 [ ] 24

Intent
To determine the length of time that this facility has been used for the same basic type of work.

Definitions
This activity is not restricted to that item specified as the major activity in response to Question 5, but refers to all major activities at the facility.

Inclusions
In the situation where information is not available as to how long this activity has been carried out in this facility, use the earliest date indicated by the person who is being interviewed.

This is a multiple part question and should be considered as a series of decisions to be made. First, a determination should be made of when the inception of the activity was; then it should be determined from what date that activity has been carried out at the facility. If they are different, the latter date is to be recorded. For example, if the New York Central Iron Works has been manufacturing seamless train wheels since 1911 but the facility itself was completed in 1947, the date to be used is 1947. On the other hand, if the facility was built in 1900, and in 1951 the new line of production was initiated, the 1951 date should be recorded. In those instances where the individual buildings at the facility were constructed during different periods, the date recorded should be that date which represents the initiation of production or services at the facility where the major production work is taking place. Again, for example, if an office building has been in continuous use from 1874, but a new plant was opened in 1957 and the production takes place in that plant, use the 1957 date since it best represents the production facility. Changes in legal ownership or name of the organization should be disregarded unless there is an associated change in product or service.

Exclusions
Not applicable.

Procedures
Enter the response, in years, to the nearest year. When midway between two years, round off to the even year. For example, if the response is given as 3-1/2 years, enter the number "4".

Question

7. **How many people are on your facility payroll for all shifts at the present time?** 25 [ ] 29

Intent
To determine the total number of employees working in the facility being surveyed.

Definition
People, as used in this Question, refers to the term "employees," as defined in the Glossary of Terms.

Inclusions
Include full-time and part-time personnel who are paid directly by the facility.

Include individual consultants working directly for the facility.

Include those personnel who may work solely on a commission basis.

Exclusions
Do not include contract personnel employed by another enterprise. For example, the maintenance or cleaning services may be provided by a contract organization or temporary secretaries may be hired from an agency on a short-term basis.

Question

8. **Of this number, how many are normally in the work areas as opposed to the administrative or other areas?** 30 [| | | |] 34

Intent

To determine the number of employees in the facility working in those locations where the production or service work is conducted.

Definition

Work area is defined in the Glossary of Terms.

Inclusions

Include personnel clerks, secretaries, maintenance people, etc. who are located in the production or service areas or areas where the major activity is being conducted. Examples are: iron works - those people who work in the raw material storage, fabricating, and warehouse areas; transportation - those who maintain and repair equipment within the facility. Include cab driver in a cab company. Include field service personnel in service industry.

Exclusions

Do not include outside salesmen, erectors, administrative personnel and clerical personnel whose place of work is outside the production or service area. An example is: wholesale and retail - those clerical, administrative, or sales personnel who are geographically separated from the area where the wholesale and/or retail trade occurs. Example: travelling salesmen. Exclude truckers in manufacturing. Exclude research laboratories in manufacturing area.

Question

9. How many shifts do you have? [ ] 35

Intent
To determine the number of employees engaged in the production or service activity at different times in the facility. The purpose is to bring this fact to the surveyor's attention, since the number of employees recorded on the Part II form includes the employees from all shifts.

Definitions
Shift is defined as the working period for the employees and may be more or less than eight hours in length per day.

Inclusions
Include the total number of shifts. For example, in continuous process industries, 5 shifts may exist to operate the facility. A shake out operation at a foundry would be included as another shift since it is part of the manufacturing process.

Exclusions
Do not include shifts when no production employees are present. For example, if all production work is performed on the first shift and if the second and/or third shift of a facility is composed only of maintenance of janitorial personnel, enter the number 1.

Procedure
For those facilities that have unusual shifts (e.g., 4 day work week or 3 day work week) enter the number of shifts here, but explain irregularities in comments, Part III. If shift schedules are so varied that the number of shifts cannot be easily determined, in order to arrive at an answer to this question, the total number of people on the payroll should be divided by the average number of people in the facility at any given time.

Question

10. Has this facility received industrial hygiene services during the past year? ☐ 36

1 ☐ YES, FROM AN INDUSTRIAL HYGIENIST

2 ☐ YES, FROM A SAFETY ENGINEER *(Skip to Question 13)*

3 ☐ YES, FROM OTHER *(Specify:)*

_____

(Skip to Question 23)

4 ☐ NO *(Skip to Question 13)*

Intent

To determine if industrial hygiene services are provided to the facility from any of several sources.

Definitions

Past year shall mean during the last 365 days not the last calendar year. Industrial hygiene is defined as that art which is devoted to the recognition, evaluation and control of occupational health hazards. Industrial hygiene activity inclusions are:

(a) the recognition of environmental factors and stresses associated with work and work operations and the understanding of their effect on employees and their well-being;

(b) the evaluation, on the basis of experience and training, and with the aid of quantitative measurement techniques, the magnitude of these stresses in terms of ability to impair employees' health and well-being; and

(c) the prescriptions of methods to eliminate, control or reduce such stresses when necessary to alleviate their effects.

Samples of dusts, gases, and other potentially toxic materials may be collected for analysis; and the adequacy of ventilation, temperature, lighting and other facility conditions may be evaluated. Technical guidance is provided to management regarding health-related problems and educational and instructional meetings may be held for employees.

Industrial hygienist is a person whose educational background and training provides him with the abilities to perform the above-mentioned activities. Personnel with job titles such as industrial health engineer, environmental health engineer, and industrial hygiene engineer should be considered to be industrial hygienists.

Safety engineers - see Question 13 for a definition.

Inclusions
Include insurance carrier personnel who visited the facility and, for purposes of health conservation, measure noise levels, took samples of gases, dusts, etc. The response should be coded in accordance with the person's job title. Include anyone who has provided industrial hygienist services.

Exclusions
Visits from a Federal, State, county or municipal industrial hygienist should not be included. Do not include air sampling activities for dusts, gases, vapors, etc. when they are performed for purposes other than health conservation (e.g., air sampling for quality control and/or safety purposes are not to be included).

Procedure
When the answer includes a combination of possible responses, use the "yes, other (3)" code. Indicate on the "Specify" line the appropriate combinations. If the answer to this question is "No (4)", question 11 and 12 should not be asked.

Question

11. Is the industrial hygienist based in this facility? ☐ 37

1 ☐ YES

2 ☐ NO, BASED ELSEWHERE

3 ☐ NO, CONSULTING BASIS

4 ☐ NO, OTHER *(Specify:)*

_____

5 ☐ NOT APPLICABLE

Intent

To determine the source of industrial hygiene manpower for this facility.

Definitions

Industrial hygienist is defined in Question 10.

Facility is defined in Glossary of Terms.

Inclusions

Include all persons who perform industrial hygiene services in the facility except as noted below under Exclusions.

Exclusions

Exclude industrial hygienists and other personnel from Federal, State, county or municipal programs who visit the facility to perform industrial hygiene functions.

Exclude personnel who have not performed industrial hygiene activities in the facility during the past year.

Procedures

When the answer includes a combination of possible responses, use the "No, other (4)" code. Indicate on the "Specify" line the appropriate combinations. This question should not be asked if the answer to Question 10 was "Yes, from a safety engineer (2)" or "No (4)". In such cases, this question should be coded as "Not Applicable (5)".

Question

12. **Estimate the average number of industrial hygienist hours that are devoted to your facility per month** 38 [| |] 40

Intent
To determine the level of industrial hygiene effort provided to the facility.

Definitions
Industrial hygienist is defined in Question 10.

Inclusions
Include an average monthly figure based upon the last 12 months, or the best estimate available. Inclusions under Question 10 also apply here.

Exclusions
If the same individual provides both industrial hygiene services and safety engineer services, enter that portion of the time (in hours per month) devoted to industrial hygiene here and enter the remainder in Question 13. Exclusions given under Question 10 also apply here.

Procedures
When the response to Question 10 is "Yes, from a safety engineer (2)" or "No (4)", the response to this Question must be Ø (zero). (NOTE: This Question may also be Ø (zero) for other responses of Question 10. For example, the facility may have services available through the insurance carrier, but does not use them.)

Question

13. **Has your facility received safety engineer services during the past year?** ☐ 41

1 ☐ YES, FROM A SAFETY ENGINEER BASED IN THIS FACILITY

2 ☐ YES, FROM A SAFETY ENGINEER BASED ELSEWHERE

3 ☐ YES, ON A CONSULTING BASIS

4 ☐ YES, OTHER *(Specify:)*

_____

5 ☐ NO *(Skip to Question 15)*

Intent

To determine if the services of a safety engineer are available from any of several sources were utilized during the past year.

Definitions

Safety engineer refers to a person who works to prevent or correct injurious work environmental conditions. His specialized knowledge, skill and/or educational background provides him with the abilities to plan, develop, implement, coordinate and evaluate the safety components of an integrated production system. This integrated production system consists of men, materials, equipment and environment. He works to achieve an optimum safety effectiveness in terms of protection of workers and protection of property.

Past year is defined under Question 10.

Inclusions

Include personnel with job titles such as safety man, safety inspector, safety supervisor, industrial engineer, safety director, or safety professional if he is responsible for performing any safety related duties. For example, the duties may include: the periodic inspection of the facility for fire hazards and adequacy of fire protection; the inspection of machinery for safety guards over moving parts, wheels, pulleys, etc, and/or the conduct of safety and first-aid classes for employees.

Exclusions

Visits from a Federal, State, county, or municipal safety engineer should not be included since the facility is not providing service.

Procedures

When the answer includes a combination of possible responses, use the "Yes, other (4)" code. Indicate on the "Specify" line the appropriate combinations. If the answer to this question is "No (5)", Question 14 should not be asked.

Based elsewhere means employed by this facility and based elsewhere.

Question

14. **Estimate the average number of safety engineer hours that are devoted to your facility per month** [42 ___ 44]

Intent
To determine the level of safety engineering effort provided to the facility.

Definitions
Safety engineer is defined in Question 13.

Inclusions
Include an average monthly figure based upon the last 12 months or the best available estimate.
Inclusions under Question 13 also apply here.

Exclusions
Do not include time spent by the safety committee members. If a safety engineer is part of a safety committee, then his time is included here, but all other committee members' time is excluded.
The exclusions under Question 13 also applies here.

Procedures
If the same individual provides both industrial hygiene services and safety engineer services, enter that fraction of the time (in hours per month) devoted to safety engineering here and enter the remainder in Question 12.

When the response to Question 13 is "No (5)", the response to this Question must be Ø (zero). (NOTE: This Question may also be Ø (zero) for other responses of Question 12. For example, the facility may have safety engineering services available, but does not use them.)

Question

15. **Is there a formally established health unit at this facility?** ☐ 45

1 ☐ YES, PHYSICIAN IN CHARGE

2 ☐ YES, REGISTERED NURSE IN CHARGE

3 ☐ YES, LICENSED PRACTICAL NURSE IN CHARGE

4 ☐ YES, OTHER IN CHARGE *(Specify:)*

_____

5 ☐ NO

Intent

To determine if there is a company policy to maintain basic health resources or capabilities at the facility site.

Definitions

Health unit suggests that a specific work area or portion of the facility has been reserved for the examination and/or treatment of employees and that there is a permanent staff, (either full-time or part-time) responsible for operating this unit.

Physician is defined in Question 16.

Registered Nurse (RN) is defined in Question 18.

Licensed Practical Nurse (LPN) is defined in Question 18.

Inclusions

When more than one response applies, use the lowest applicable code. For example, if a physician is in charge two days a week and a nurse is in charge the other days, code the response as (1).

Exclusions

Do not count, as a health unit, a resting room that is reserved for female employees as required under certain Federal and/or State regulations.

Exclude the situation where a room is used to store first aid supplies and no one is assigned the responsibility for providing health care to employees.

Do not include situations where rooms are reserved for specific purposes other than basic health care (for example, a room used only for audiometric testing).

Procedures

If a "paramedical" is in charge, then (4) should be coded.

Question

16. **Do you employ or have an arrangement with a physician or clinic to give your employees medical care?** ☐ 46

1 ☐ YES, EMPLOYED FULL TIME
2 ☐ YES, EMPLOYED PART TIME
3 ☐ YES, ON CALL *(Skip to Question 18)*
4 ☐ YES, AT CLINIC *(Skip to Question 18)*
5 ☐ OTHER *(Specify:)* _____

_____

(Skip to Question 18)

6 ☐ NO ARRANGEMENTS MADE *(Skip to Question 18)*

Intent

To determine if medical care is provided for facility employees and the type of arrangements used in the provision of such care.

Definitions

Physician refers to a person who possesses a State or Federal government-recognized medical degree, such as M. D. or D. O., and is licensed to diagnose and treat diseases and disorders of the human body. The physician may be a general practitioner or may specialize in treating a specific area of the body or a particular disease, age, or occupation group.
Employed full time means that at least one physician is on duty in the establishment at all times it is in operation.
Employed part time means that a physician is in facility on a regular schedule.

Inclusions

Include only those arrangements made by the facility's management. If more than one arrangement was made, use the arrangement with the lowest number.
A medical center should be considered as a clinic.

Exclusions

Do not include medical service arrangements provided by unions, associations or other groups unless a formal arrangement exists with the facility's management.
Exclude emergency treatment in a hospital.

Question

17. **Estimate the average number of physician hours that are devoted to your facility per week**

47 [ ] 50

Intent
To determine the level of physician effort provided to the facility.

Definitions
Physician is defined in Question 16.

Inclusions
When Question 16 was answered by code 1 or 2, include an average weekly figure based upon the last 12 months or the best available estimate.

Include the physician hours, if available, spent with the employees when the clinic response (Code 4) is used in Question 16.

Exclusions
Exclude the physician's time spent when Question 16 is coded 5, or 6.

Do not include time spent by physicians in the facility, but not spent caring for the employees. For example, physicians involved in medical research would not be counted.

Question

18. **Do you have one or more nurses at this facility to provide care for employees?** ☐ 51

1 ☐ YES

2 ☐ NO *(Skip to Question 21)*

Intent

To determine if nursing services are available to employees on a regular basis and the extent to which such services are available.

Definitions

Nurse refers to a person who uses specialized judgement and skill in the observation, care, and counsel of ill and/or injured employees and includes both of the following:

RN is a Registered Nurse who is a person meeting the educational, legal, and training requirements to practice as required by a State board of nursing.

LPN is a Licensed Practical Nurse who is a person that passed a State board examination and is licensed by the State.

Regular time refers only to situations where a nurse is scheduled to be on duty at periodic intervals throughout the week.

Inclusions

Include registered and licensed practical nurses specifically assigned to provide nursing services to the facility's employees on a regular basis.

Exclusions

Do not include nurses on the facility's payroll, whose job function is not to take care of the facility's employees. Example: Nurses working in a hospital (unless it is operated by the facility) or research capacity; or as medical secretaries or receptionists.

Do not include student nurses, or other paramedical personnel undergoing on-the-job training.

Do not include visiting nurses from City, County, State, and other government agencies.

Question

PART I–(Continued)

19. How many registered nurses and licensed practical nurses are employed at this facility?

RN 52 [ ] 53

LPN 54 [ ] 55

Intent
To determine the number of different individual nurses employed at this facility.

Definitions
Nurse (RN and LPN) is defined in Question 18.

Inclusions
Include all categories specified in Question 18.

Include all nurses who are employed by the facility and are giving nursing aid to employees. This also includes those nurses who may not be present at the facility.
Example: nurses who visit sick employees should be included.
Include supervisory nurses.

Exclusions
Do not include nurses who may be employed by the facility but do not perform nursing services for the employees.

Do not include visiting nurses from City, County, State, and other government agencies.

Question

20. **Estimate the average number of nursing hours that are devoted to your facility per week** 56 [ ] 59

Intent
To determine the level of medical nursing effort provided to the facility.

Definitions
Nurse is defined in Question 18.

Inclusions
Include the number of nurse hours devoted to this facility during the past.

Include the hours spent by all categories of nurses.

Include the time of nurses who provide nursing services on a contract basis.

Exclusions
Do not include nursing hours that may be devoted to facility employees when the nurses are employed by a governmental agency.

Exclude the time of nurses not spent in the facility. Example: full-time nurse who is assigned to teach sanitation techniques to neighborhood improvement group.

Do not include visiting nurses from City, County, State, and other government agencies.

Question

21. **Do you have an employee at this facility with formal first-aid training, other than doctors or nurses, who has been designated to provide emergency treatment?** ☐ 60

1 ☐ YES
2 ☐ NO

Intent

To determine if a specific individual or individuals has been assigned the responsibility for providing emergency first aid and first-aid equipment to the employees.

Definitions

Physician is defined in Question 16.
Nurse is defined in Question 18.
Formal first-aid training signifies that the employee has completed an instructional course in providing emergency medical treatment offered by a recognized training facility.

Inclusions

Include only the situation in which an employee has been formally assigned the responsibility for giving first aid.

Exclusions

Do not include a situation in which a particular individual normally administers first aid, but cannot be considered as being formally responsible for giving first aid.

Question

22. **Do you record health information about a new employee on some regular form?** ☐ 61

1 ☐ YES, ALL EMPLOYEES

2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY

3 ☐ YES, OTHER EMPLOYEES

4 ☐ NO

Intent

To determine if the facilities records health information about new employees and to determine for which type of new employees such information is recorded.

Definitions

Health information refers to any data regarding an employee's health.

Regular form is any type of documentation which is standardized and is retained as part of the employee's file or as part of his medical history.

Inclusions

Include all written records of information, including responses to questions pertaining to the employees' health.

Information that is obtained from pre-employment physicals or detailed medical histories should be included.

Include any kind of information that is retained concerning employees' health. For example, a recorded question which asks: "How is your health?" and to which the reply is "good, fair, or poor" should be included.
Include any information about physical defects of a new employee.

Exclusions

Do not include situations where medical information is obtained from employees, but is not retained in the files as a permanent record. Exclude information on psychological tests when such is obtained for other than health purposes.

Question

23. Before new employees are hired or placed, are they required to take a medical examination? ☐ 62

1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

Intent
To determine the number of facilities that examine the status of an employee's health at the time of joining the organization, or placing him in a new position.

Definitions
Medical examination means those tests, procedures, and observations of an employee's health status as are performed by, or under the supervision of a physician. This includes a consultation and evaluation review process of those tests and procedures by a physician.
Physician is defined in Question 16.

Inclusions
Include all types of examinations. This could be just a basic interview session with a physician or a comprehensive physical examination involving X-rays, blood, urine, and other laboratory tests, etc.

Include examinations performed by a person's private physician where the results of the examination are submitted to the facility's management.

Sight screening tests, color blindness tests, and/or audio screening tests are to be included when the results are supervised by a physician.

Exclusions
Do not include examinations of a health nature, not performed by or under the supervision of a physician.

Procedures
When the response refers to both employees in certain occupations (for example, maintenance personnel) and also managers, use the code (3).

Question

24. **Do you require medical examinations of your employees who return to work after a sickness, or whose employment is terminated?** ☐ 63

1 ☐ RETURN TO WORK ONLY
2 ☐ EXIT EXAMINATION AT TIME OF TERMINATION ONLY
3 ☐ BOTH
4 ☐ NEITHER

Intent
To determine the level of medical care provided by the facility.

Definitions
Medical examination is defined in Question 23.
Return-to-work refers to a medical examination that is required when an employee returns to work after an absence due to illness or injury.

Inclusions
Include partial medical examinations. For example, if an employee is examined only for a particular symptom, which is related to the illness or injury that caused the absence, the response should be (1).

Include situations where a facility policy may not cover all employees. For example, if the facility requires the special medical examinations only for employees in certain occupations, or requires them only for certain categories of absence, a positive response should be recorded.

Include those situations where the examination is not performed at the facility but the employee submits a written statement from his personal physician upon his return to work. The statement must indicate that the physician considers the employee fit to return to work.

Exclusions
Do not include situations where the returning employee (or terminating employee) may voluntarily visit the facility's medical unit. Require is the key word.

Question

25. Do you provide periodic medical examinations or tests of any type for employees? ☐ 64

1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO *(Skip to Question 32)*

Intent
To determine the number of facilities that have a preventive medical program for their employees.

Definitions
Periodic is defined as occurring repeatedly from time to time, but not necessarily at regular intervals of time.

Medical examination is defined in Question 23.
Tests means any type of physical examination of the employee or laboratory analysis of any of the body's components or fluids. These tests need not necessarily be performed by, or under the direction of, a medical practitioner (physician, optometrist, etc.).

Inclusions
Recurring medical examinations whether they occur at regular intervals or not, including health examinations given to executives and/or managers in connection with insurance requirements.

Seasonal examinations to routinely determine effects of potential hazards. Example: Special examinations given to farm laborers, following the use of pesticides.

Special examinations required by law. Example: Medical examinations and tests given to food handlers, truck drivers, crane operators, etc.

Special examinations conducted when certain types of activities are undertaken. Example: A facility gives regularly scheduled blood tests for lead, whenever products containing lead are manufactured. The lead-related production need not take place on a continuing basis.
Medical examinations which are paid for by employer but are taken on employee's own time should be included.
Include periodic tests for which the employee is reimbursed.

Exclusions
Exclude tests arising from workman compensation claims.

Procedures
If the answer to any of Questions 26 through 31 is an answer other than (4) then the answer to Question 25 cannot be (4).

Question

26. Do you provide periodic opthalmologic examinations [ ]ss for employees?

1 [ ] YES, ALL EMPLOYEES

2 [ ] YES, EXECUTIVE AND/OR MANAGERIAL ONLY

3 [ ] YES, OTHER EMPLOYEES

4 [ ] NO

Intent

To determine the number of facilities that have a preventive program for eye care.

Definitions

Ophthalmologic refers to those examinations or tests given by an opthalmologist, optometrist or M.D. relating to the facility's employees' vision or eyes.
Periodic is defined in Question 25.
Test is defined in Question 25.

Inclusions

Include both examinations of visual acuity and examinations in connection with disease or injury problems of the employee's eyes.

Eye examinations of employees who work with lasers, microwave and/or infrared equipment should be included, as well as examination of employees who perform critical visual tasks.

Include retinal photographs.

Exclusions

Do not include examinations relating to the proper fitting of prescription safety glasses.

Exclude examinations related to the removal of foreign objects from the eye.

Question

27. **Do you provide periodic audiometric examinations for employees?** ☐ 66

1 ☐ YES, ALL EMPLOYEES
2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY
3 ☐ YES, OTHER EMPLOYEES
4 ☐ NO

Intent
To determine the number of facilities that have a preventive program, or portion of a program to detect hearing impairment.

Definitions
Audiometric refers to those examinations or tests of the facility's employees' hearing using calibrated equipment with a physician's review of the results.
Periodic is defined in Question 25.
Test is defined in Question 25.

Inclusions
Include all examinations or tests made by the use of an audiometer.

Include those situations where the actual testing is performed outside the facility (for example, by the employee's personal physician) and the results are submitted to the facility's management.

Exclusions
Do not include examinations related to the proper fitting of ear plugs and/or ear muffs.

Exclude the examination of ears relating to ear wax accumulations.

Question

28. Do you provide periodic blood tests for employees? ☐ 67

1 ☐ YES, ALL EMPLOYEES

2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY

3 ☐ YES, OTHER EMPLOYEES

4 ☐ NO

Intent

To determine if bio-assays on blood are conducted for employees.

Definitions

Blood tests refer to those standard analysis techniques performed by a physician or clinical laboratory on human blood.
Periodic is defined in Question 25.
Test is defined in Question 25.

Inclusions

Include such tests as blood counts, hemoglobin tests, blood lead tests, blood mercury tests, and carboxyhemoglobin tests. Also include blood tests which detect stippling of the red blood cells.

Exclusions

Blood samples taken prior to employee donation of blood. Analysis of blood to determine sugar or alcohol content of blood.

Question

29. Do you provide periodic urine tests for employees? ☐ 68

1 ☐ YES, ALL EMPLOYEES

2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY

3 ☐ YES, OTHER EMPLOYEES

4 ☐ NO

Intent

Determine if the employer uses urine tests to detect if the employees are being affected by work-related exposures to potentially hazardous materials.

Definitions

Urine tests suggest those standard laboratory techniques performed by a physician or clinical laboratory on human urine.
Periodic is defined in Question 25.
Test is defined in Question 25.

Inclusions

Include all urine tests which are given at frequencies that are determined by the potential exposures to harmful substances. Included are urine lead, urine mercury, and corproporphyrin tests.

Include urine tests which may detect albumin, red blood cells, and/or increased porphyrins.

Exclusions

Do not include the standard urine test provided during a general physical examination.

Do not include urine tests solely involved with the identification of people using drugs.

Exclude those urine tests given as tests for pregnancy.

Question

30. Do you provide periodic pulmonary function tests for employees? ☐ 69

1 ☐ YES, ALL EMPLOYEES

2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY

3 ☐ YES, OTHER EMPLOYEES

4 ☐ NO

Intent

To determine if the facility provides any tests to determine if there is any impairment of the employees' lung functioning or breathing.

Definitions

Pulmonary function tests refers to those gas volume, frequency of breathing and other measurements used to detect potential health problems involving the respiratory system and/or the lungs.

Inclusions

Include such tests as those involving timed vital capacity, functional residual capacity, respiratory dead space and other volume/rate measurements.

Exclusions

Do not include chest X-rays as this examination is covered in Question 31.

Question

31. **Do you provide periodic chest x-rays for employees?** ☐ 70

1 ☐ YES, ALL EMPLOYEES

2 ☐ YES, EXECUTIVE AND/OR MANAGERIAL ONLY

3 ☐ YES, OTHER EMPLOYEES

4 ☐ NO

Intent

To determine the number of facilities that have a preventive program for detecting chest and lung ailments.

Definitions

Chest X-rays indicates those tests and procedures used to determine problems or diseases in the chest and lungs by means of the use of X-ray equipment.
Periodic is defined in Question 25.

Inclusions

Include chest X-rays provided by TB vans only if the employees are given time off their jobs to have the X-rays taken, and the facility's management regularly schedules the TB van's appearance.

Exclusions

Do not include chest X-rays provided by TB vans, if this service is only on a random, hit-or-miss basis.

Question

32. **Do you have a regularly scheduled program to give employees flue or other immunizations?** ☐ 71

1 ☐ YES

2 ☐ NO

Intent

To determine if management provides an immunization program for its employees. This presumably reflects the facility's management attitude towards preventive medical care.

Regularly scheduled is defined as an activity or program that is offered to the employees on an annual, semi-annual or other cyclic basis.

Inclusions

Include those instances where employees in certain occupations are provided immunization shots, such as influenza vaccinations, Rocky Mountain spotted fever shots, typhoid shots, etc.

Exclusions

Do not include post-trauma immunizations such as a tetanus shot after a metal-inflicted wound or an anti-rabies shot after an animal bite or scratch.

Question

33. Do you keep employee absenteeism records? ☐ 72

1 ☐ YES, SHOWING SPECIFIC NATURE OF SICKNESS WHEN PRESENT

2 ☐ YES, SHOWING ONLY THE TYPE OF ABSENCE

3 ☐ YES, WITHOUT SHOWING TYPE OF ABSENCE

4 ☐ NO

Intent

To determine if the facility's management keeps any absenteeism records and, if they do, to what level of detail.

Definitions

Employee absenteeism records refers to that information kept by management concerning the failure of employees to report to work when scheduled.

Inclusions

Include only those records kept by management over and above the records required by law.

Use code (4) when the employer keeps only those records required by Federal, State or local regulations or no records at all.

Use code (3) when the employer keeps additional records, but merely indicates "present" or "absent". This occurs in industries such as the construction industry where all or part of the employees are paid only for those days actually worked.

Use code (2) when the employer keeps additional records and indicates whether the absence is due to vacation, holidays, military leave, jury duty, illness, or personal leave.

Use code (1) when the employer keeps records which indicate if an absence is caused by sickness and if so, give the specific nature, type, or symptoms of the sickness.

Exclusions

Do not include those records required to be kept by OSHA or State regulations.

Procedure

Ask the management representative the question:

"Do you keep employee absenteeism records?

If the response given is not adequate to determine the proper code, additional questioning will be necessary. For example the response may simply be "Yes". In this case ask:

"Do these records show the specific nature of sickness?"

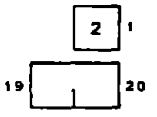
If answered "Yes" code a 1; if not, ask:

"Do these records show only the nature of absence?"

If answered "Yes", then code a 2. If answered "No", the proper code will be 3.

Question

34. **What is your rate of unscheduled absenteeism (days per year per employee)?**



Intent

To determine the absenteeism rate for the establishment due to illness or injury. This number will later be compared to various other facility information to see where correlation might exist.

Definitions

Absenteeism is defined as the failure of employees to report to work when scheduled. Rate is defined as the number of days per year per employee. If the response is given as being from 4.5 to 5.4 days per year, the response should be coded "5". If the response is from 5.5 to 6.4 days per year, code the response "6". The response may be given as a percentage if the employer keeps his records in that manner. Where an employer provides a percentage rate, multiply that percentage by "240" work-days to determine the days per year per employee. If the absentee rate is not known, enter the code "99".

Inclusions

Include only those days where the absence is due to illness, injury, or failure to report to work.

Exclusions

Do not include those days where the absence is due to vacation, jury duty, pre-arranged personal leave, maternity leave, strikes, layoffs, work cancelled due to the weather, etc. If the only rate known by the company includes any of these items, enter the response "99".

Procedure

Where the interviewee says he does not know the absenteeism rate, the interviewer should ask if the information is available from another individual or from the facility's personnel records. If the information is available from these sources, the interviewer should request that the information be obtained.

Question

35. Is there a formally established safety committee at your facility? ☐ 21

1 ☐ YES, INVESTIGATIVE

2 ☐ YES, POLICY SETTING

3 ☐ BOTH

4 ☐ YES, OTHER *(Specify: e.g. advisory only)*

_____

_____

5 ☐ NO

Intent

To determine if there is a body of people at the plant which regularly meets to discuss and resolve safety conditions and related issues at the facility.

Definitions

Safety committee means that a specific scope of authority has been designated by the facility's management to a group of individuals concerning the reduction of hazard factors in the work areas and the promotion and development of safe and adequate behavior by the employees. In order to be classified as a safety committee, this group must consist of individuals above and beyond those individuals who were included under Question 13.

Investigative is defined as a safety committee which investigates accidents or potentially critical incidents.

Policy-setting only refers to a committee which does not investigate accidents or potentially critical incidents. For example, this refers to safety committees such as those responsible for displaying posters which remind employees of safety precautions to be taken and/or those committees that are only responsible for setting guidelines for proper work procedures.

Inclusions

If a safety committee is investigative only, code the response (1).
If a safety committee is policy setting only, code the response (2).
If a safety committee is both policy setting and investigative, or if the facility has both types of committees, code the response (3).

Exclusions

Not applicable.

Question

36. Do you have areas where personal protective devices are required or recommended? ☐ 22

1 ☐ YES, REQUIRED

2 ☐ YES, RECOMMENDED

3 ☐ YES, BOTH

4 ☐ NO *(Skip to Question 39)*

Intent

To determine the facility management's policy towards the use of personal protective devices.

Definitions

Required means that there is a formal company policy that some or all employees must use personal protective devices as a condition of employment. This policy may or may not be enforced.

Recommended indicates that the facility's management encourages employees to use personal protective devices but it is not a condition of employment.

Personal protective devices include, but are not limited to, safety glasses and goggles, ear plugs, face shields, hard hats, gloves, steel-capped shoes, rubberized clothing, welding helmets and goggles, etc.

Inclusions

If only one work area or department requires or recommends the usage of personal protective devices, the response should be coded one of the "yes" responses. If a facility has some areas that recommend usage and some areas that require usage, the response should be coded (3).

Exclusions

Exclude cases where personal protective gear is worn because an employee wants to do so -- but use of protective devices is not required or recommended by the employer. The response in such cases should be (4).

Question

37. **Who provides personal protective devices?** ☐ 23

1 ☐ EMPLOYEE

2 ☐ EMPLOYER

3 ☐ BOTH

4 ☐ OTHER *(Specify:)*

_____

_____

5 ☐ NOT APPLICABLE

Intent
To determine who is financially responsible for the purchase of the safety equipment.

Definitions
Personal protective devices are defined in Question 36.

Inclusions
Include reimbursement plans. For example, if employees purchase their own equipment and are reimbursed by the facility's management, the response should be coded (2). Include in the "Other" response, situations where unions, State or local government or organizations provide the equipment. Not applicable is used here when Question 36 was answered "No".

Exclusions
Not applicable.

Question

38. **Who has been designated to see to it that personal protective devices are serviced and maintained?** ☐ 24

1 ☐ INDIVIDUAL EMPLOYEES
2 ☐ EMPLOYER REPRESENTATIVE
3 ☐ BOTH
4 ☐ OTHER *(Specify:)*

_____

_____

5 ☐ NO ONE
6 ☐ NOT APPLICABLE

Intent
To determine if formal responsibility has been assigned to an individual or individuals for maintaining personal protective equipment in proper operating order.

Definitions
Servicing and/or maintaining refers to such activities as cleaning or changing filters or cartridges in respirators, repairing straps of safety goggles or face shields, filling of air tanks, repairing of broken lenses, etc.
Personal protective devices are defined in Question 36.

Inclusions
"Designated" is the key word in Question 38.

If the employer has directed the employees to maintain their own equipment and provides cleaning apparatus and work space, the response is coded (1).

If the employees normally maintain their own equipment, but they have not been specifically charged or directed by management, the response should be coded (5).

If the employer has established procedures whereby a union or a governmental agency is to maintain the equipment, the response should be coded (4) within an explanation entered on the "Specify" line.

Not applicable is used when Question 36 was answered "No".

Exclusions
Not applicable.

Question

39. How do you carry your workmen's compensation insurance? ☐ 25

1 ☐ PRIVATE INSURANCE COMPANY

2 ☐ SELF-INSURED

3 ☐ STATE INSURANCE FUND

4 ☐ OTHER *(Specify:)*

_____

_____

5 ☐ NONE

Intent

To determine what type of organization carries the facility's workmen's compensation insurance.

Definitions

Workmen's compensation refers to the system of insurance financed by employers which provides payment to employees or their families for occupational illness, injuries, or fatalities resulting in loss of wage income or ability to earn wages or salaries.

Inclusions

Both stock insurance companies and mutual insurance companies are included in response (1). If a company name is given, check with the person providing the information whether or not it is in fact an insurance company, a state insurance fund or other arrangement. (NOTE: when a name is given, make sure it is the insurance company's name and not the name of the local insurance agency.)

Exclusions

Do not include any personal health insurance plans nor any disability insurance plans.

Procedures

If a facility uses two or more ways of carrying their workman's compensation insurance, the response should be (4)-Other and the types of coverage should be specified.

Question

40. Are any unions operating in this facility? ☐ 26

1 ☐ YES

2 ☐ NO

Intent

To determine the prevalence of unions in the facilities included in the survey population and their possible correlation with the existence of health and safety services.

Definition

A union is any organization in which any of the facility's employees participate as members, which exists for the purpose of dealing with the employer concerning grievances, wages, hours, and conditions of employment. Unions are voluntary organizations and need no license from the government to operate. Unions may be incorporated or not incorporated.

Inclusions

Any organization which may be called a trade union, labor union, labor organization, etc., whose purpose is as defined above.

Exclusions

Organizations such as credit unions, fraternal associations, or social groups which may consist solely of the facility's employees, but whose purpose is not as stated in the above definition.

Question

41. **Is this facility a member of a national association or institute representing its industry or trade?** ☐ 27

1 ☐ YES

2 ☐ NO

Intent

To determine any correlation between trade association membership and health and safety emphasis.

Definition

A National Association or Institute Representing its Industry or Trade is any nonprofit, cooperative, voluntarily-joined organization of business competitors designed to assist its members and its industry in dealing with mutual business problems and challenges.

Inclusions

Any organization which may be a trade association or institute whose purpose is defined above.

Include the facility if it is a part of a corporation which is a member of a National Association. (Example: Montgomery Ward Stores)

Exclusions

Organizations such as professional associations, fraternal associations or social groups which may consist solely of some or all of the facility's employees, but whose purpose is not as stated in the above definition.

Franchise operated facilities which do not directly belong to a national trade association. (Example: When the Headquarters for McDonald's Hamburgers belongs but the specific McDonald business to be surveyed does not belong, the latter should not be considered a member of a trade association.)

Question

42. Do you have a program under which you regularly monitor the presence of fumes, gases, mists, vapors, dusts, noise, vibration, radiation, or other similar conditions? ☐ 28

1 ☐ YES

2 ☐ NO

Intent

To determine the existence of a company policy in monitoring certain conditions for the protection of the employees, and the awareness of management to potentially hazardous substances or physical agents.

Definitions

Regularly monitor applies only to established programs which monitor levels of chemical or physical hazards on a regular, predictable basis. Fumes, gases, mists, vapors, dusts, noise, vibrations, and radiation are defined in the Glossary of Terms.

Inclusions

Include tests taken with instruments only where the intent of the tests is to determine if employees health is potentially at risk.

Include situations where the facility's management has the monitoring performed by someone other than the facility's management, such as monitoring by contract.

Exclusions

Do not include any measurements that are simply measuring process conditions or any environmental measurements which are done where no employee exposures could potentially exist. For example, the measuring of temperature and humidity inside a sealed vessel in a process loop should not be counted.
Exclude measurements that are taken for the sole reason of determining if a fire or explosion potential exists.

Do not include those monitoring tests that are not routinely performed. For example, special monitoring of new machines during the start-up and initial use stages should not be included.

Exclude monitoring tests where industrial hygiene is not part of the rationale behind the conduct of the tests, such as monitoring of dust conditions for fire insurance reasons.

Question

43. Do you use a private sewage treatment plant or a septic tank to dispose of this facility's non-process sewage? ☐ 29

1 ☐ YES, PRIVATE SEWAGE TREATMENT PLANT

2 ☐ YES, SEPTIC TANK

3 ☐ YES, BOTH

4 ☐ NO

Intent

To determine the number of facilities using sewage systems other than a public sewer system.

Definitions

Private sewage treatment plant refers to the situation where liquid wastes from toilets, lavatories, showers, and kitchen facilities are drained to a system generally consisting of one or more open tanks and/or other units for providing varying degrees of treatment. Usually adjustments can be made in the treatment process. The system is usually owned by the facility being surveyed and will normally be located on or adjacent to the facility site with responsibility for operation and maintenance being that of the facility.

Septic tank refers to the situation where liquid wastes from toilets, lavatories, showers and/or kitchen facilities are drained to a water-tight tank which receives the plant sewage and which generally discharges into the soil outside the tank through a system of open joints or perforated piping or a seeping pit. Alternately, it may also be connected to a filtering arrangement.

Inclusions

If a facility uses more than one method, code the response with the highest applicable number, since the survey's intent is to identify those facilities that use sewage systems other than a public sewer system. For example, if a company has a septic tank and also uses the public sewer, the response should be coded (3).

Exclusions

Do not include the method of disposing liquid process wastes. For example, if a plant uses water for cooling metals, diluting chemical wastes, etc. the method of disposing these items should not be included.

Procedures

If the facility does not have a sewage system and uses the facilities of the company next door, code the response (4).

Question

44. Do you have any drinking water other than that provided through a public water supply? ☐ 30

1 ☐ YES *(Specify:)*

_____

_____

2 ☐ NO *(Skip to Question 46)*

Intent

To determine the number of facilities using potable water supplies other than that furnished by a public water system.

Definitions

Drinking water includes all water used for any purpose involved with human contact including drinking, showers, hand washing, or food preparation.

Public water supply is water used for drinking, food preparation, showers or hand washing that is supplied by a common system directly controlled by a public authority such as a city, county, or a special water district.

Inclusions

If a facility uses more than one method, code the highest applicable number (code "2") since the survey's intent is to identify private water supplies. Include bottled drinking water as a private water supply.
A non-pressurized water supply such as a well and bucket and a manually pumped supply should be coded as (1).
If the facility has nonpublic drinking water, specify type (drilled well, stream, etc.)

Exclusions

Not applicable.

Procedures

If the facility does not have any drinking water other than that provided through a public water supply, the response should be "No (2)".

Question

45. Is the private water supply routinely tested for bacteriological quality? ☐ 31

1 ☐ YES

2 ☐ NO

3 ☐ NOT APPLICABLE

Intent

To determine the extent of quality control concerning the private water supplies.

Definitions

Private water supply is defined in Question 44.

Bateriological quality tests are those standard methods for the examination of water and wastewater as promulgated by the American Public Health Association (APHA).

If the facility has its water tested by a city, county or State health department or an independent testing laboratory, it can be assumed that the tests meet the APHA standards.

Inclusions

Yes includes situations where the water is tested a minimum of once each year for bacteriological quality to determine if it is safe to drink and is free from any organisms likely to cause disease or sickness.

No includes situations where the water has not been tested or is not tested at least once each year to determine its bacteriological quality.
No also includes a situation where it is not known if the water is tested.

Not applicable is used when Question 44 was coded (4).

Exclusions

Not applicable.

Question

46. **Do you have any piped liquids other than drinking water?** ☐ 32

1 ☐ YES *(Specify:)*

_____

_____

2 ☐ NO

Intent
To determine the number of facilities having the potential of cross-connections to its water piping system.

Definitions
Drinking water is defined in Question 44.
Liquids are defined as those substances that are neither solid nor gaseous when used and/or stored in piping systems within the facility.
Cross-connection means the accidental piping of one system to another with a resultant co-mingling of liquids.

Inclusions
Yes includes situations where there is a piping system(s) separate from the drinking water piping system, carrying liquids such as fire fighting water, process liquids, cooling waters, oils, hot water heating systems (boilers), and similar liquids to various points in the facility. Specify the type of liquid under pressure.

No includes situations where there are none of the above.

Exclusions
Do not include liquids in self-contained tanks, cylinders, and/or vessels to which pressure is applied for dispersing purposes.

Exclude those liquids under pressure during processing when they are not part of any piping system in the facility.

Exclude steam lines.

Question

47. Is there a separate identified eating area for your work area employees? ☐ 33

1 ☐ YES

2 ☐ NO *(Skip to Question 49)*

Intent

To determine the number of facilities providing non-work area eating space for its employees.

Definitions

Eating area refers to an area or room equipped with tables, chairs or benches away from the workplace, set aside for the primary purpose of eating. It may be an area in the general facility area clearly designated for this purpose.

Inclusions

Include only those eating areas within the facility or the facility grounds. If the employer provides eating areas away from the facility, code the response (2) and describe the relationship of the eating area to the facility in the Comments section of Part III.

Cafeterias, vending machine areas, and lunch rooms operated within the facility grounds are some of the examples of eating areas.

Exclusions

Do not include informal arrangement. For example, if there is a local park with picnic tables, etc. across from the facility, do not include it as a yes response. Exclude also nearby restaurants, cafes, cafeterias, and other commercial eating places operating for the general public.

Question

48. **Are hand washing facilities provided within 200 feet of the eating area?** ☐ 34

1 ☐ YES

2 ☐ NO

3 ☐ NOT APPLICABLE

Intent
To determine the availability of sanitary facilities near the eating area.

Definitions
Hand washing facilities indicate that running water which can be used for hand washing is available within 200 feet of the room or area set aside for eating. They may be provided in conjunction with toilet rooms or individually as necessary. Water from a well or pump is to be included as handwashing facilities.
Eating area is defined in Question 47.

Inclusions
Not applicable is used when Question 47 is coded (2).

Exclusions
Exclude off-site, informal arrangements.

Question

49. May I see the Summary of Occupational Injuries and Illnesses (OSHA Form 102)?

Occupational injuries 35 [ ] 37

Occupational Illnesses

Occupational skin diseases or disorders 38 [ ] 40

Dust diseases of the lungs (pneumoconioses) 41 [ ] 43

Respiratory conditions due to toxic materials 44 [ ] 46

Poisoning (systemic effects of toxic materials) 47 [ ] 49

Disorder due to physical agents (other than toxic materials) 50 [ ] 52

Disorders due to repeated trauma 53 [ ] 55

All other occupational illnesses. *(Specify)* 56 [ ] 58

_____

_____

Intent

To determine the incidence of injuries and illnesses among the employees.

Definitions

OSHA Form 102 refers to the specific record kept by management for a period of time. Use the most recent summary that is available.

Inclusions

Not applicable.

Exclusions

Not applicable.

Procedures

OSHA Form 102 is distributed by the U.S. Department of Labor. The figures in columns 3, 4, and 7 of Form 102 must be added together to obtain the totals requested in Question 49.

If OSHA Form 102 is not available and if the facility uses its own form which has been approved by the Department of Labor, Bureau of Labor Statistics Regional Director, enter the requested data from that approved form and explain in the Comments, Part III.

If the OSHA Form 102 is not available and if a company form has not been approved, leave all coding fields blank.

Question

50. How many months are covered by the preceding figures? 59 [ ] 60

Intent

To determine the length of time during which the injuries and illnesses occurred and were recorded.

Definitions

Not applicable.

Inclusions

Not applicable.

Exclusions

Not applicable.

Procedure

If OSHA Form 102 covered an annual period, enter 12.

If a semi-annual period is covered, enter 6.

If the form is not available, enter Ø and enter the reason for non-availability in the Comments section of Part III. In addition, leave a copy of the Occupational Safety and Health Act regulation that requires the maintenance of the Form 102 by the facility.

2.3.3 Exposure Data Survey Form Instructions

NATIONAL SURVEILLANCE NETWORK
NATIONAL OCCUPATIONAL HAZARD SURVEY **PART II – EXPOSURE DATA**

The Part II (Exposure Data) form will be used to record the observations of the principal effort of the survey, that of the facility walk-through investigation of employee exposures to chemical and biological substances or to potential physical hazards. This form is illustrated as Figure 1-11. In addition to certain identifying information, the surveyor will record data concerning: (a) the type of work conducted; (b) potential exposures and their forms; (c) the numbers and types of employees exposed; and (d) intended measures to control exposures.

The instructions on the following pages are related to the special information spaces provided, or to the columns used to group related information. The instructions provide the guidelines used to record and code information gathered as a result of the walk-through survey. Again, the fact that information from this portion of the survey will be converted to an automated data processing medium requires strict adherence to the standards specified in Section 2.2.

The number of Part II forms to be completed will depend on the size and activities of the facility that is surveyed. While there will be only one Preface, Part I and III Survey Form for each facility, any number of Part II Survey Forms may be required. However, if the surveyor does not observe any potential exposures during his walk-through survey, it will not be necessary to complete a Part II Survey Form. In such instances, the response to Part III, Question 6 (Number of Part II Forms completed) should be Ø.

Data Field: IDENTIFICATION CODES

DUPLICATE INTO EACH LINE BELOW				
Card Code 1	Revision Number 2 4	Date Survey Started (Mo./Day/Yr.) 5 10	State Code 11 12	Facility Identifier 13 18
3	Ø Ø 9			

Intent
To provide the identification to the complete set of observations recorded during a facility walk-through survey, for purposes of data processing.

Definition
The pre-printed Card Code "3" is specific to the Part II Survey Form. The Revisions Number, Date Survey Started, State, and Facility Identifier must be identical to the corresponding information on the Part I and III Survey Forms and must be recorded on each Part II form. See Part I, Questions 1 through 4 for the definitions of these data.

Inclusions
Not applicable.

Exclusions
Not applicable.

Data Field: PAGE NUMBER

DUPLICATE INTO EACH LINE BELOW	
	Page Number 19 21

Intent
To provide a unique identifying and sequencing number to each Part II form. The Page Number will enable one to refer to any particular entry on the Part II form, and will also provide an opportunity to make a computer check to guard against the loss of forms in transit.

Definition
The Page Number is a consecutive sequence number (beginning with 1) applied to the Part II Survey Forms of a given survey.

Inclusions
Only the numerical values of 1 through 999 may be used. All pages must be numbered.

Exclusions
Unnumbered pages are not permitted.

Procedure
1. Arrange the Part II Survey Forms in the sequence of observations made.
2. Apply the Page Number consecutively, beginning with 1. Because of data processing considerations, the Page Numbers should be applied carefully and accurately.

Data Field: REMARKS

Remarks

Intent

To provide space for recording additional or special information for which space is not provided elsewhere on the Part II Survey Form. This information will be used when the completed Part II forms are reviewed for accuracy. If data classification problems arise in connection with exposure or occupational data, the Remarks may provide additional information useful for proper classification.

Definitions

The Remarks space should be used to briefly indicate the manufacturing process, supporting operation, or service activity conducted in a work area by the employee group(s) observed and recorded on a given Part II page. This information should be recorded in terms of a "Process" and a "Product".

Process: A brief statement of the primary manufacturing, servicing, or other operation conducted within the work area that is surveyed.
Example: Chemical manufacturing.

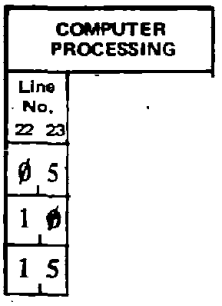
Product: The principal product or service generated by the previously indicated "Product".
Example: Agricultural pesticides.

Inclusions

Concise, precise descriptions of the work activity observed, as defined above. Where appropriate, include information about:

(1) number of shifts worked;
(2) contract works;
(3) notes about seasonality;
(4) notes about operations not observed;
(5) descriptions of possible sources of error.

Data Field: LINE NUMBER



Intent
To provide the identification to the observation recorded on a single line of the Part II Survey Form, during a facility walk-through survey.

Definition
The Line Numbers are used for preparing the data for computer processing; and for use by the surveyor to insert additional lines of data and for copying previously recorded data.

Inclusions
Only the numbers ØØ through 99 may be used.

Exclusions
Do not use letters, punctuation marks, or other special characters or symbols.

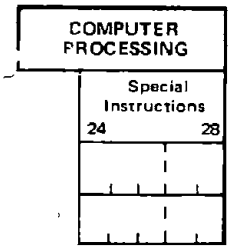
Procedure
Additional survey information may be placed in the proper sequence without using the INS special instruction by utilizing the four "floating number" lines at the bottom of the page. These interline additions are made by assigning a line number in between the desired lines of insertion. There should be no duplication of numbers on the same page.

Example:

1. Two lines have to be inserted between lines 50 and 55. Add onto the bottom lines 51 and 52.
2. Later, the surveyor finds that he needs to insert a line between 51 and 52. He changes line 52 to line 53, and writes in new line 52 below. The computer will see line 52 before line 53 even though 52 is "physically" after 53.

If no insertions are required, the last four lines of the Part II form can be used in the normal fashion. If these lines are used, they must be numbered; 85, 9Ø, 95, and 99 would be the normal way to number these lines, to allow insertions if necessary.

Data Field: SPECIAL INSTRUCTIONS



Intent
To provide for a capability to employ certain techniques and conventions in the recording of exposure observations; to record information which does not fit into the standard format of Part II; and to employ various options to save some of the coding effort.

Definition
Special instructions refer to a set of instructions and conventions that may be used to: describe certain exposure conditions; and specify coding techniques designed to reduce the amount of handprinting required.

Inclusions
This column should only be used for the special computer instructions specified below. The capital letters indicate the instructions, and the lower case letters supply a reference number, as follows:

ppp = Refers to the Page number of a Part II form.
ll = Refers to the Line number of a Part II form.
nn = Refers to a Special instruction sequence number on the Part II form.

a. Copying Function (in the format pppll) = Specifies that information recorded previously is to be copied.

b. GRPnn = Indicates that the following lines on the survey form are being defined as a group of exposures, which will be used repeatedly during the survey.

c. TRNnn = Describes the name of a trade name substance, the total composition of which is unknown.

d. MFGnn = Lists the name and address of the manufacturer of a trade name substance. It is necessarily a part of the TRN special instruction.

e. NTE = Provides a note when either (1) a situation or exposure is not entirely known or understood; (2) a trade secret exists; or (3) a classified area exists.

Data Field: SPECIAL INSTRUCTIONS (Continued)

f. APP = Indicates that an exposure or group of exposures is to be applied to more than one group of employees.

g. INS = Indicates that a line or group of lines is to be inserted between some previous lines, not necessarily on the same page.

h. C = Indicates that a line of information represents the continuation of the previous line.

i. E = Indicates that the line of information is the end of a set of related information.

Exclusions
No codes, other than the ones listed under the Inclusions, may be used. The nn sequence numbers in the TRN and MFG are not mandatory, but are more used for copying purposes.

Procedures
See discussion under "Procedures" of Potential Exposure Name (part d).
Special Instructions.

Data Field: NUMBER OF EMPLOYEES

Intent
To quantify the number of employees exposed to specific chemical, biological, and physical hazards.

Definitions
Number of employees is the sum of the members of the employee group who are exposed to the same set of physical or chemical agents.

Employee group is a general term for one or more employees who can be treated as a virtually homogenous group for purposes of the survey. An employee group is characterized by the following: identical job titles; exposure to same group of agents; same length of duration of exposure; and identical control measures. If any of these characteristics or conditions differ, a separate employee group has to be set up for the affected employees.

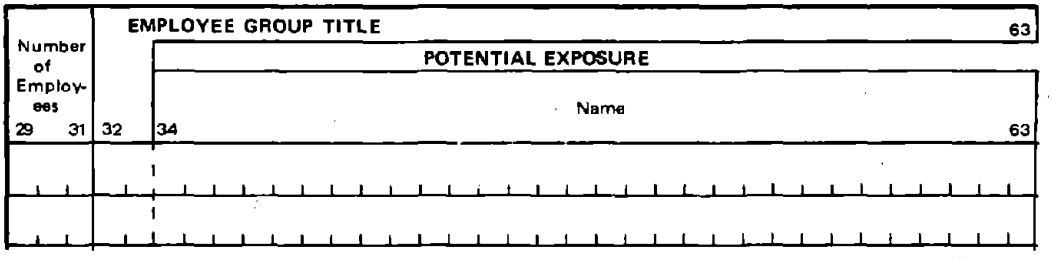
See Employee Group Titles for examples of employee groups.

Inclusions
Not applicable.

Exclusions
Not applicable.

Procedure
Insert the number of employees in a group who are exposed to one or more chemical or biological substances or physical conditions.

Data Field: EMPLOYEE GROUP TITLE



Intent
To describe in sufficient detail the occupational title that best identifies an employee group.

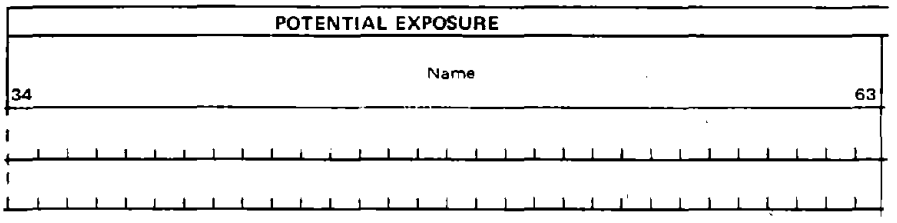
Definition
Employee group is as defined previously.

Inclusions
Include enough detail in the employee group title to reduce ambiguity regarding the employees' job function. In many cases, this will mean that in addition to the general term describing the occupations (such as welders, fork lift operators, truck drivers, etc.) the type of equipment operated will also be indicated.

Examples: Arc welders
Electric fork lift operators
Dump truck drivers

Exclusions
Non-specific, insufficiently descriptive employee group titles should not be used.

Data Field: POTENTIAL EXPOSURE NAME



Intent
To describe, as specifically as possible, the potential chemical, physical, or biological exposures observed.

Definition
Potential exposure name refers to the actual or potential exposure of one or more employees to chemical or biological substances, and/or physical agents in the facility. the name and manufacturer of a trade name chemical substance, or the description of an exposure-causing situation may be used in lieu of a specific exposure name.

Inclusions
Include the precise name of a potential exposure. Always use the most specific information available to describe an exposure. Examples of these are the following:

a. Nonphysical hazard: Cadmium oxide
2-Butene
Demeton
Asbestos
Free silica
Caustic cleaner
Cotton.

b. Physical hazard: Continuous noise
Infrared radiation
Vibration.

Exclusions
Vague, non-standard, or colloquial terms should not be used to describe a potential exposure, unless this is the only attainable name. Examples:

Mineral dust
Abrasives
Paint thinner.

Procedure
The Exposure Name information is related to the Exposure Code (see next set of instructions). To ensure the possibility of properly coding the hazard exposure,

considerable effort must be exerted to be as specific as possible, and to use the same nomenclature that is used in the coding list.

a. Nonphysical. The name selected to describe a chemical exposure should unambiguously describe the exposure situation. Only if there is no feasible way to identify the chemical substance should there be a generic or non-specific name used. When the actual chemical name of the agent is not known, the trade name is an acceptable substitute. In Appendix D, three levels of identification are included, although the less specific terms are to be avoided. These are:

1. The specific chemical name or formula (including trade names), such as carbon tetrachloride, H_2SO_4, Sevin, or penicillin.

2. The family or group to which the chemical substance belongs, such as aldehydes, petroleum, or enzyme.

3. The function or purpose of the chemical's usage, such as solvents, degreasers, or antibiotics.

b. Physical hazards. Exposures to physical agents or conditions are associated with certain illnesses or disabilities caused by exposure to some working environments or conditions. Appendix E lists the most common physical hazard exposures, such as noise, vibration, and radiation. Upon deciding on the proper identifier for the hazard exposure, the name selected should be printed legibly in the space provided. Most commonly, this will be an exposure in one of the categories described above.

Data Field: POTENTIAL EXPOSURE NAME (Continued)

c. The option is available to describe the exposure using a standard set of abbreviations (mnemonic codes). These abbreviations are listed adjacent to the exposure names in the hazard lists. For example, PB can be substituted for "Lead," and NC can be substituted for "Continuous Noise" in the Potential Exposure Name column.

d. Special instructions. The Special Instructions capability is used in conjunction with the Potential Exposure Name to record exposures that do not fit into the conventional categories of chemical and biological substances, and physical conditions. In addition, it is also possible to use the Special Instructions capabilities to short-cut the recording of repetitive exposure information.

The Special Instructions serve three major functions:

(1) Record exposures that are not included in the Chemical Exposures lists (Appendices C and D). The TRN, MFG, and NTE Special Instructions fall in this category.

(2) Duplicate automatically information recorded elsewhere on the Part II forms. The Copying Function and GRP may be used to duplicate previously recorded information. The APP Special Instruction is used to duplicate one exposure over a variety of working groups.

(3) Insert lines which are inconvenient to insert using floating line numbers. The INS Special Instruction is used for such purposes.

The C (Continue) and E (End) Instructions are used in connection with the Special Instructions, to overcome writing space restrictions and indicate the termination of a given Special Instruction, an asterisk should be used in the last space of a line preceding any continuation line.

Formats for the various Special Instructions are as follows:

(1) Trade Name

TRNnn	Give trade name and manufacturing company.
MFGmm	Give any other information known (i.e., contents) on last line, tell what generic category trade name falls under (i.e., paint, solvent, cleaner, etc.).

Data Field: POTENTIAL EXPOSURE NAME (continued)

COMPUTER PROCESSING		Number of Employees	EMPLOYEE GROUP TITLE / POTENTIAL EXPOSURE Name
Line No. 22 23	Special Instructions 24 28	29 31	32 34 63
05	TRN01		DUPONT RED-X
10	MFG01		EI DUPONT DE NEMOURS INC. *
15	C		WILMINGTON DELAWARE
20			LEAD
25	F		PAINT
30			
35			
40			
45	TRN01		

Notice that once defined and numbered, the actual trade name and manufacturer must be deleted in the potential exposure column in subsequent duplications. The lead was inserted because it was a known component of the paint.

As previously stated, the numbers after TRN and MFG are optional. Since only 99 MFG's and 99 TRN's can be numbered per Part II form, it is advisable to number only the TRN and MFG Special Instructions that will be duplicated later.

Example 1B:

COMPUTER PROCESSING		Number of Employees	EMPLOYEE GROUP TITLE / POTENTIAL EXPOSURE
Line No. 22 23	Special Instructions 24 28	29 31	32 Name 34 63
05	TRN		SUPER-KLEN
10	MFG		ALLIED CHEMICAL CO. CHARLESTON
15	C		W. WEST VA
20			
25	TRN03		SPOT-GO
30	TRN		SPOT-OFF
35	MFG		HOUGHTON CHEMICALS PITTSBURGH
40	C		PA
45			CCL4
50	E		CLEANING SOLUTION
55			
60			
65			
70	TRN03		

Example 1B employs some short cuts and further exemplifies duplication uses of the TRN or MFG Special Instructions on three cleaning solutions.

When different trade names of the same manufacturing company result in an exposure to one work group, the manufacturer need be defined once; the following trade names will then be understood to have the same manufacturing company until a new manufacturer follows a trade name, as in line 35. Thus, Super-Klen and Spot-Go are both made by Allied Chemical. Further, Spot-Go can be repeated later, as in line 70, since it is numbered.

Notice that no ending special instruction is placed in the Special Instruction column until line 50, where the common generic name, "cleaning solution," is given. The computer thus, will apply "cleaning solution" to each trade name of the given series above the end (E) statement.

Exclusions

TRN may not contain an APP or copying function special instruction.

2) The note (NTE) Statement

NTE] Tell all you can about what is happening and then list exposures
] that are thought to be occuring. If trade secret, write TRADE
E] SECRET in Potential Exposure column.

Example

50	NTE		TRADE SECRET
55	E		SOLVENT

When a trade secret or classified area is encountered, the surveyor should record TRADE SECRET and what type of substance the trade secret is.

Exclusion
The NTE statement may not contain an APP or copying function special instruction.

3) The group (GRP) Special instruction

GRPmm] Group title optional in first line; list all substances in group and
] E in Special Instructions column of last exposure in group. mm number
E] mandatory.

Example

COMPUTER PROCESSING		Number of Employees	EMPLOYEE GROUP TITLE / POTENTIAL EXPOSURE
Line No. 22 23	Special Instructions 24 28	29 31	32 Name 34 63
05	GRP08		PHOSGENE
10			ZINC OXIDE
15			WELDING GASES
20			ULTRA-VIOLET RADIATION
25	E		INFRA-RED RADIATION
30			
35			
40	GRP08		

Exclusion
GRP may not contain an APP or copying function special instruction.

4) The copying function:

mmmnn] Copy from page mmm line nn to page nnn line mm
nnnmm]

Example

DUPLICATE INTO EACH LINE BELOW					
Card Code 1	Revision Number 2 4	Date Survey Started (Mo./Day/Yr.) 5 10	State Code 11 12	Facility Identifier 13 18	Page Number 19 21
3	Ø Ø 9				8

COMPUTER PROCESSING		Number of Employees 29 31	32	EMPLOYEE GROUP TITLE 63 / POTENTIAL EXPOSURE Name 34 63
Line No. 22 23	Special Instructions 24 28			
Ø 5				PAINT
1 Ø				HEXANE
1 5				TOLUENE
2 Ø				CONTINUOUS NOISE
2 5				CO
3 Ø				
3 5				
4 Ø	8Ø5			
4 5	825			

Exclusion

A copy must refer to previously defined lines. The first line referred to may not contain the "C" Special instruction. The lines copies may not contain another copying function. Neither may a copy instruction be contained in a GRP, TRN or NTE Special Instruction.

5) The continuation statement

C] An asterisk must be placed in the last space of the line preceding the
] continuation line.

Example

60		ETHYLENE GLYCOL MONOMETHYL ET*
65	C	HER

6) The Apply Special Instruction

APP] Give what exposures are to be applied and show the page
mmmnn] and line numbers over which application exists.
nnnmm]

Example

40	APP	TOLUENE
45		BENZENE
50	525	
55	63 20	

The apply special Instruction is used to apply exposures to various working groups. Thus, toluene and benzene are to be applied to every working group from page 5 line 25 to page 63 line 20.

Exclusion
The APP special instruction may not contain GRP, APP, or a copy of special instruction.

7) The insert special instruction

INS] Insert the following after page nnn, line mm
]
]
mmmnn]
E]

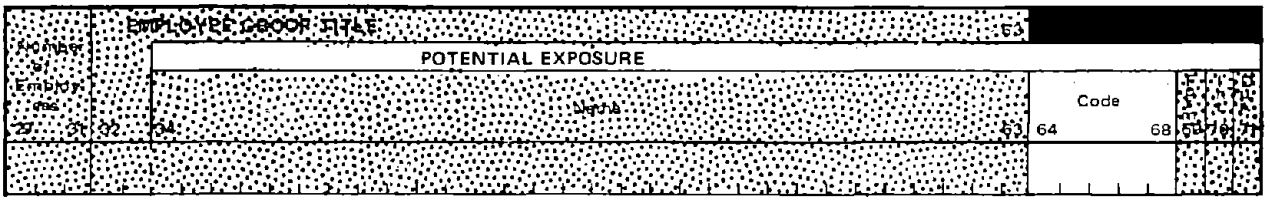
Example

05	INS	CARBON TETRACHLORIDE
10		NOX
15		CO2
20		CO
25		UV
30	25 40	
35	E	

The INS Special Instruction may be used only to insert after previous lines of a particular Part II form.

Thus, CCl_4, NOX, CO_2, CO and UV are inserted after line 40 on page 25.

Data Field: POTENTIAL EXPOSURE CODE



Intent
To assign a unique numeric or alphanumeric code to the physical or chemical agents recorded.

Definition
Potential exposure code is the machine-processable code of a chemical, biological, or physical agent.

Inclusion
Include only the code numbers listed in Appendices C and D, or as supplied by NIOSH where a code is not available. Normally, the Potential Exposure Code will be completed by the surveyor.

Exclusion
Not applicable.

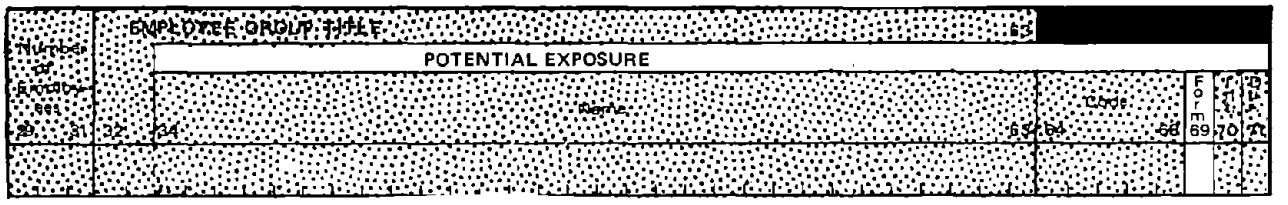
Procedure
The exposure codes will be assigned according to the type of potential exposure to which the group of employees is exposed. Exposures will be coded using the codes in Appendices C, D, and E and the conventions described in Section 2.2.

Nonphysical exposures
Generally, any nonphysical exposures will be found in Appendix D which lists various chemicals and substances. If an exposure is not found in Appendix D, the "Annual List of Toxic Substances" should be left blank and an exposure addition form should be filled out and sent to NIOSH accompanying the report.

Nonphysical exposures should be coded as specifically as possible. Ideally, the actual chemical exposures should be coded. However, it will, in many instances, be impossible to determine what components are in a mixture of chemicals. If a trade name cannot be obtained, the most specific descriptive name should be given the exposure, such as petroleum naptha, and the corresponding code recorded. Descriptive names, such as unidentified chemical, are virtually useless and should only be used as a last resort.

Physical Hazards: These exposures are coded according to Appendix E, Physical Hazards, which lists the types of exposures associated with occupational disabilities. Unlike the nonphysical hazards, the physical hazards are not associated with potential exposure form code.

Data Field: POTENTIAL EXPOSURE FORM



Intent
To describe the physical state of potential exposure.

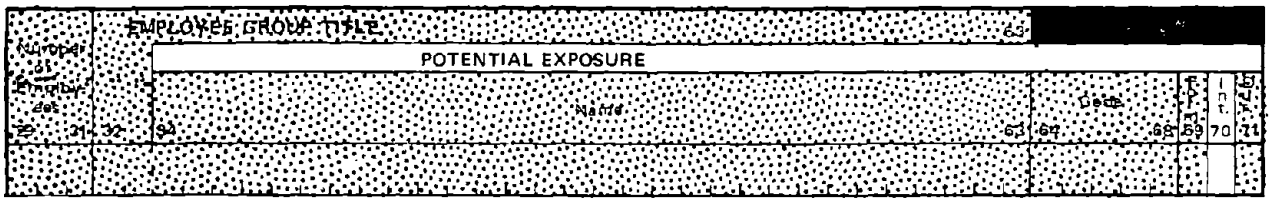
Definition
Potential exposure form by definition is the coded, computer-processable abbreviation of the condition that identifies the physical state of the actual hazard exposure.

Inclusions
Include such exposure forms as gases, vapors, fumes, dusts, etc., as listed in Appendix F, EXPOSURE FORM CODES.

Exclusions
Exposure forms not included in Appendix F are not to be used.

Procedure
The proper Potential Exposure Form code is to be selected and entered from Appendix F, EXPOSURE FORM CODES. NOTE: Physical and some biological exposures will not have any associated Exposure Form codes. For these exposures leave the space blank.

Data Field: EXPOSURE INTENSITY



Intent
To indicate the estimated intensity of the potential exposure; and describe situations where there exist either noticeably very intense or undetectable exposure conditions. Severity of exposure, degree of risk, or toxicity of substance is not to be considered.

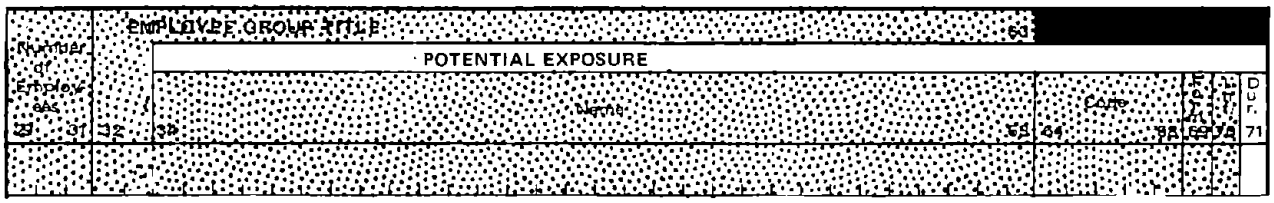
Definition
Intensity is the sensory perception of the potential exposure condition, as detected by the unaided sensory organs (vision and smell) of the surveyor relative to the employee.

Inclusion
Include only the following codes:

D = Detectable — The gas, vapor, dust, etc. exposure is perceived to be an actual exposure--its intensity to the employee is detectable.

U = Undetectable — There is no actual exposure to the employee--the exposure's intensity to the employee is undetectable.

Data Field: EXPOSURE DURATION



Intent
To indicate the approximate length of time that an employee group is exposed to a potential hazard.

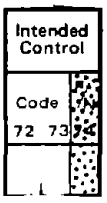
Definition
Exposure duration is the coded abbreviation of the approximate length of time an employee group is exposed to a potential hazard.

Inclusions
Include only the following codes:

F = Full time	Exposure time (usage time) is greater than 4 hours/day and and on a daily basis of at least 90% of the company's work year or a standard work year.
P = Part time	Exposure time is greater than 30 minutes/week (on an annual average) and not full time or used at least once per week 90% of the weeks of the work year.

Exclusions
No codes are allowed other than those listed in inclusions.

Data Field: INTENDED CONTROL CODE



Intent
To describe the intended control measures taken to protect the employees at risk to the exposures specified.

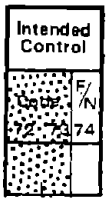
Definition
Intended control code is defined as a structured computer-processable abbreviation of the measures that are being taken to either control an occupational hazard, or to protect the employees exposed to the hazard.

Inclusions
Appendix G, INTENDED CONTROL CODES, supplies the allowable codes that may be entered in these spaces of the Part II form.

Exclusions
Codes other than the ones on the INTENDED CONTROL CODES list are not to be used.

Procedure
The proper Intended Control Code is selected and entered from Appendix G, INTENDED CONTROL CODES list.

Data Field: FUNCTIONING/NON-FUNCTIONING (F/N)



Intent
To record whether the intended exposure control is functioning as designed.

Definition
Functioning/Non-functioning refers to the proper functioning of the intended control measure.

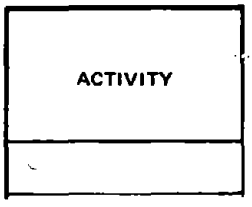
Inclusion
The code F = indicates a functioning exposure control measure.
The code N = indicates a non-functioning exposure control measure.

Exclusion
Only the letters F or N may be used.

Procedure
Select and insert in the space provided the codes F or N.

See Section 1 for guidelines to determine whether the exposure control is functioning or not.

Data Field: ACTIVITY



Intent
To provide supplemental information for use when the Part II forms are reviewed for accuracy.

Definition
Activity refers the production, processing, or provision of service observed in connection with a group of exposures.

Inclusions
Include a concise narrative statement of the activity observed, as defined above. The information included here should contain sufficient detail, so that when the Part II forms are reviewed by one with some experience in the type of industry surveyed, the operation or process generating the exposure can be determined. It should then be possible to notice obvious exclusion of exposures, and other errors.

Exclusion
Not applicable.

Procedure
Write or print legibly in the space provided the activity observed.
Examples: Conventional welding
Degreasing
Airless spray painting.

In addition, supplemental information necessary to describe the nature of operations performed by an "Employee Group" can be inserted in this space.

Example: If the Employee Group Title is "Welder", the specific type of welding process (e.g., submerged arc, spot, etc.) or the type of equipment used may be inserted in this space.

An employee may be classified as a member of a specific "employee group", but may also perform activities normally associated with another "employee group." This type of situation should also be indicated in the Activity space.

2.3.4 Surveyor Confidential Survey Form Instructions

NATIONAL SURVEILLANCE NETWORK

NATIONAL OCCUPATIONAL HAZARD SURVEY FORM

PART III–SURVEYOR CONFIDENTIAL

The Part III (Surveyor Confidential) part of the Survey Form serves two purposes: (a) allows the recording of certain mandatory information pertaining to the conduct of the survey; and (b) provides optional space for miscellaneous comments to clarify selected aspects of the survey. The responses to the questions will (a) indicate the disposition of the survey, including the amount of time spent; and (b) record unusual events or circumstances about the survey. Figures 1-7 and 1-8 show this Part III form.

The instructions following are related to the Question numbers on the form. The standards described in Section 2.2 apply to the responses to Questions 1 through 8. The comments prepared under Question 9 should be legibly written or hand-printed.

Question

1. **Revision Code** 2 [0 | 0 | 9] 4

Intent
To identify both the agency conducting the survey and the version of the survey form being used.

Definitions
Revision code is the survey type identifying number assigned by NIOSH.

Inclusions
This code is normally pre-printed on the survey forms.

Exclusions
Do not include any other code unless specifically directed to by NIOSH headquarters.

Procedure
This code must be the same as the one used in Question 1, Part 1. If it is missing, enter the code "ØØ9" for the National Occupational Hazard Survey.

Question

2. **Date Survey started** *(mo./da./yr.)* 5 [ ][ ][ ] 10

Intent
To identify the time of the visit or survey.

Definitions
Date means the numerical equivalent of the month and day, and the last two digits of the year.

Inclusions
This date must be the same for all survey forms used during a particular visit or survey. If several survey visits are made, explain in the Comments, Part III.

Exclusions
Do not use a date other than that used on the Part I form.

Procedures
Enter the date which is the same as the one entered in response to Question 2, Part I

Question

3. **State Code** 11 [ ] 12

Intent
To provide a machine-processable code which identifies the State in which the facility being surveyed is located.

Definitions
State refers to the several United States, the District of Columbia, Puerto Rico and United States possessions.

Inclusions
Enter the code used on the Part I form.

Procedures
This code must be the same as the one used on Question 3, Part I.

Question

4. **Facility Identifier Code** 13  18

Intent
To provide a unique machine-processable designator for each facility.

Definitions
Facility identifier code signifies the number assigned to the facility by NIOSH for purposes of this survey.

Inclusions
Enter the code used on the Preface form. If a code was not provided, contact NIOSH headquarters.

Exclusions
Do not include any facility identifying number except that assigned by NIOSH.

Procedures
The Facility Identifier Code must be identical to the one used on Question 4, Part I.

Question

5. **Disposition of survey:** ☐ 19

1 ☐ COMPLETED

2 ☐ PARTIALLY COMPLETED

3 ☐ REFUSED TO BE INTERVIEWED

4 ☐ COULD NOT BE LOCATED

5 ☐ OUT OF BUSINESS

6 ☐ TEMPORARILY CLOSED

7 ☐ OTHER *(Specify:)*

_____

Intent
To describe and explain the results of the contact.

Definitions
The Completed category signifies that it was possible to bring the survey to a successful conclusion.

A Partially completed survey refers to situations where the facility does national defense security work, and certain work areas cannot be visited.

Refused to be interviewed describes the cases where the surveyor is refused entry to the facility without proper reason.

Could not be located covers the situations where the surveyor cannot locate the facility after extensive search.

Out of business indicates that the facility has permanently ceased its operations.

The Temporarily closed category is used where the facility is closed for a relatively short duration, but is expected to reopen.

The Other code and explanation is available to describe survey dispositions not classifiable under the previously defined categories.

Inclusions
Code (1) - Include all completed surveys.
Code (2) - Include surveys where completion was not possible.

Examples: Facility does national defense security work. Substantial operations of the facility involve trade secrets.

Code (3) - Include situations where surveyor is refused admittance to the facility, or is not provided with proper cooperation during the interview of facility walk-through.

(Continued)

Code (4) - Include the cases where the facility cannot be located.
Examples: Moved, without leaving forwarding address; facility site is demolished for new construction, etc.
Code (5) - Include instances where the facility is known to be permanently out of business.
Example: Owner retired; bankruptcy; destructive fire, etc.
Code (6) - Include facilities that are temporarily closed but which are not convenient to treat as postponed surveys.
Examples: Facility engages in seasonal production only; facility is closed for extended vacation, etc.
Code (7) - Include situations not covered elsewhere.
Example: Facility is shut down due to litigation and reopening is conditional on outcome of the lawsuit.

Exclusions
Not applicable.

Procedures
The following special guidelines should be followed:

Code (2) - 2.4.1.8 Classified Facility
Code (3) - 1.8.2.1 Refused Entry
2.4.1.2 Refused to Be Interviewed
Code (4) - 2.4.1.4 Could Not Be Located
Code (5) - 2.4.1.1 Facility Out of Business
2.4.1.7 Location Change
Code (6) - 2.4.1.5 Temporarily Closed

Question

6. **Number of Part II forms completed as a result of this survey** 20 [ ] 22

Intent
To provide a control measure for verifying the number of the Part II forms submitted.

Definitions
Number of Part II forms means the quantity of separate pages of Part II forms collected as the result of a survey, and submitted to NIOSH for processing.

Inclusions
The number that appears on the last page of a group of consecutively numbered Part II forms should be placed in this space.

If the facility visited is not surveyed, the number "Ø" should be inserted in this space. If a survey is conducted, and no hazards are recorded, again enter "Ø". (NOTE: The response to Question 5 will show the distinction between conducting and not conducting a survey).

Exclusions
Not applicable.

Question

7. **How much time in hours and minutes, was spent on each of the following activities?**

	HOURS	MINUTES
TRAVEL TO AND FROM FACILITY	23 [ ] 24	25 [ ] 26
CONDUCT OF SURVEY	27 [ ] 28	29 [ ] 30
SAMPLE AND MEASUREMENT	31 [ ] 32	33 [ ] 34
WAITING AND DISCUSSIONS	35 [ ] 36	37 [ ] 38
COMPLETION OF SURVEY FORMS	39 [ ] 40	41 [ ] 42

Intent

To provide NIOSH headquarters with an indication of the time needed to survey various facilities.

Definitions

Travel means from the local point of origin (motel, regional or field office, etc.).
Conduct of survey combines both the Part I interview and the Part II walk-through.
Sample and measurement refers to those actions taken in excess of the normal walk-through. This will normally be "Ø", unless many noise measurements and smoke tube tests were taken, in which case the excess time should be recorded.
Waiting and discussions is the time spent in the facility and not spent gathering data for the Part I and Part II forms.
Completion of the survey forms is defined as the time spent outside the facility and used for filling out the forms prior to submission to NIOSH headquarters.

Inclusions

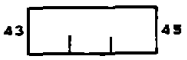
If the surveyor travels directly from one facility to another, one-half of that travel time shall be applied to each facility.
Completion of the survey forms includes all the tasks involving the review of notes, transcriptions, etc., made during the survey and preparation of the survey material prior to submission to NIOSH headquarters.

Exclusions

Air or automobile travel from the regional office to the city is not to be included in the travel time calculations unless the facility is in the same SMSA as the regional office. Travel from one city to another is not included when the surveyor is staying in the second city at least overnight.

Question

8. Surveyor Identifier



Intent
To allow the machine processing of data gathered by specific surveyors.

Definitions
If a number has not been assigned, contact NIOSH headquarters.

Inclusions
Not applicable.

Exclusions
Not applicable.

Question

9. Comments

Intent
To allow the surveyor to inform NIOSH headquarters about any item or situation that was encountered and not resolved by the survey forms. This section should also be used to clarify or expand upon items included in the survey form as deemed necessary by the surveyor.

Definitions
Comments refers to the space allowed for miscellaneous remarks and explanations needed to fully describe the conclusions of the survey.

Inclusions
The Comments space may be used to describe, elaborate, or explain events, situations and conditions that cannot be indicated elsewhere on the Survey Forms. The following information may be included here:

a. Reasons for not conducting or completing the facility survey
b. Facility name, address, size and SIC changes, and their circumstances
c. Facility ownership changes
d. Reasons for special or additional trips during survey
e. Comments about seasonal activities and temporary facility closings
f. Conditions involving national defense security operations and trade secret processes
g. Names of additional persons interviewed
h. Special length and duration work shifts
i. Types of nurses employed
j. Comments about the facility eating area
k. Type of OSHA 102 form used.
l. Problems encountered

Exclusions
Not applicable.

2.4 Survey Form Preparation Techniques and Examples

Section 2.3 of the Survey Form Preparation Instructions provides, on a separate sheet for each question or information space, guidance for recording the responses obtained or observations recorded during the survey. The purpose of this Section is to show examples of, and interactions among the data collected during the surveys.

2.4.1 Survey Initiation and Completion

A problem that may arise at the beginning or during a survey is the impossibility of surveying the facility as planned by NIOSH (i.e., completely, and as part of the BLS sample). This situation may arise due to an economic reason (i.e., the facility is no longer in business), or could be caused by a policy of the facility's management (i.e., classified facility). The following situations are anticipated, and actions to be taken are indicated:

2.4.1.1 Facility Out of Business

Complete as much of the Preface as possible; Questions 2, 3, and 4 of Part I; and all of Part III. Any pertinent remarks should be made under Comments, Part III.

2.4.1.2 Refused to Be Interviewed

Complete forms as in Section 2.4.1.1 and explain the circumstances under Comments, Part III. This should apply only in cases where a surveyor is flatly refused the necessary cooperation. Also see "Refused Entry" under Section 1.8.2.1.

2.4.1.3 Postponements

When a facility is visited and for some reason a responsible official cannot be interviewed at that time but is agreeable to cooperate at a later date, as much of the Preface as possible should be completed (indicating the date of the visit under Line 7). The time spent should be accounted for under Question 7 of Part III, and an explanation regarding the additional trip(s) and time required should be made under Comments, Part III. The forms should not be sent in until the return trip is made and the survey is completed.

2.4.1.4 Could Not Be Located

If extensive efforts to locate the facility are not successful, as much of the Preface as possible; Questions 2, 3, and 4 of Part I; and all of Part II should be completed. Efforts made to locate the facility should be explained under Comments, Part III.

2.4.1.5 Temporarily Closed

The facility should be revisited when open and the survey completed unless it is an extreme inconvenience. When revisits can be made, the procedures to follow should be the same as indicated in Section 2.4.1.3. If it is not feasible to revisit the facility when open, procedures as outlined under Section 2.4.1.1 should be followed.

2.4.1.6 Name, Size or SIC Change

When the name, the SIC or size of the work population of a facility has changed from that listed in the statistical sample, the current information should be inserted in the forms and necessary statements regarding the changes should be noted under Comments, Part III. The survey should be completed as originally planned.

2.4.1.7 Location Change

When a firm listed to be surveyed has moved to a nearby new location, the address should be changed and the survey completed as planned. The reason for the change should be explained under Comments, Part III and the time spent in visiting the original address should also be accounted for explained in Part III.

If the firm has relocated to an area where it would not be convenient to survey, procedures as outlined above under Section 2.4.1.1 should be followed. An appropriate explanation should be made under Comments, Part III. The new location should be noted so that NIOSH headquarters can schedule a visit to the plant.

2.4.1.8 Classified Facility

If for reasons of national defense security an entire facility is classified and work areas cannot be visited, the Preface, Part I and Part III should be completed to the extent possible and an indication of "Partially completed" should be made for Question 5 of Part III. The situation should be explained in the Comments, Part III.

2.4.1.9 Seasonal Operations

If possible, seasonal-type operations should be surveyed at the peak of their activity. If survey visits are made at other times (when the operation is not running or work activities are at a low level), pertinent questions should be asked which will allow for the completion of the forms. If this is not possible, a return visit should be made at a time of peak activity. Seasonal activities should be explained under Question 9, Part III and/or in the Remarks area of the Part II forms.

2.4.2 Preparing the Part II (Exposure Data) Form

The complexity of the data to be recorded on the Part II form requires the application of some special methods and conventions. The example in this Section illustrates the use of these exposure information recording techniques.

The basic unit for exposure recording is one or more groups of employees within the same work area. Each unit consists of one or more "Employee Group Titles" and a variable number of "Potential Exposure" and "Intended Control" Lines. Before Part II can be filled out, the employees in the work area must be classified by occupation. In cases where an individual employee may be performing work related to more than one occupation, the employee should be classified according to the occupation related to the major portion of this work. (For the purposes of the NOHS no one can have more than one occupational title.)

To begin recording information about a new group of employees, start a new line on a Part II form. This will be the Employee Group Title line and is used to record summary information as to the number of employees and their occupational title. The Employee Group Title will be provided by either the company's management, by the employee, or will be classified by the surveyor. The number of employees must indicate those employees exposed to the identical group of exposures. If 8 workers of the same occupation are exposed to hazards such that 5 of these workers are exposed to 4

hazards and the other 3 workers are exposed to only 2 hazards, two separate entries must be made even though the employee group title is the same. However, if two or more employee groups are exposed to the identical hazard(s), then these employees can be listed, followed by the hazards applicable to them.

Following the Employee Group Title line(s), there should be a variable number of Potential Exposure entries. The Potential Exposure Name is entered by the surveyor as he identifies it during the survey. The Potential Exposure Codes are listed in Appendices C through E. The Exposure Form Codes are found in Appendix F. The codes to be used for the Exposure Intensity and Duration are explained in the discussions of these two columns.

The Intended Control fields contain a coded abbreviation for the exposure control measure, and an indication as to the functioning of the control. Similar to the Potential Exposures, when multiple controls exist for one exposure, they are entered on separate lines. The Intended Control Code is found in Appendix G.

The following discussion present examples of using these coding conventions and procedures, as well as some coding shortcuts which have been developed.

2.4.2.1 Survey Observations

The following observations were made while conducting the walk-through portion of a survey.

Five welders work full time in the welding shop. Both arc welding (an average of 5 hours/day) and oxyacetylene gas welding (an average of 2 hours/day) are done. Approximately 75 percent of the products welded are carbon steel with the remainder evenly divided between stainless and galvanized steel. Arc welding is done on all three types of steel, but gas welding is limited to the carbon steel parts. Copper tubing is soldered, using 60/40 solder, on a weekly basis.

The electroplating shop is maintained by two men full-time and one foreman who is in the shop area less than half of the work day. When parts are received, they are cleaned using an ultrasonic bath. Parts are copper plated in a hot, alkaline, copper cyanide bath which is equipped with slot ventilation. Chrome plating is done also, and the chromic acid mist is controlled by slot ventilation on the tank and a surface active agent that prevents serious bubbling.

Four lathe operators work in another area of the facility. All the machines use the same cutting oil and the workers here do some grinding of their hand tools. The noise level is 90 dBA.

Three maintenance men are responsible for lubrication of motors and machines. They also spend an average of one hour per day arc welding on carbon steel, stainless steel, and galvanized steel parts. The only cleaning solvent used often enough to be recorded is acetone. In addition, these workers also recharge the batteries of all lift trucks and company vehicles.

Exhaust fans in the roof of the facility provide every area with general dilution ventilation. All welding is done under local exhaust hoods. All of the workers use a waterless hand cleaner and are encouraged to wash their hands with soap and water after using this cleaner.

This concludes the observations made during the walk-through protion of the survey.

Discussion of Completed Part II Forms

The completed Part II forms shown in Figures 2.1 - 2.3 are intended to demonstrate many of the coding techniques that will be most commonly used.

Pnemonic codes, as found in Appendix D, have been used for many of the exposures. Horizontal lines in columns 24 through 74 indicate that the characters found on the line immediately above are to be duplicated.

The exposures due to arc welding on the three types of steel are listed as a group exposure under welders and are referred to by the group designation, GRP 01, as exposures to maintenance men.

The welding flux used by the welder serves as an example of listing a trade name chemical as an exposure. In this case, zinc chloride is the only known component of the product. The "note" convention is used to describe the exposure to decomposition products of the flux since their exact composition is not known.

The copy instructions are used to denote that the electroplating foreman's exposures are identical to those of the electroplaters except for the duration of exposure.

Since all workers use the same waterless hand cleaner, it is convenient to list this exposure at the end and have it apply to all the occupational titles.

When exposures were originally listed for the maintenance men, the battery charging was not included. Since no space was left on the coding sheet, the addition can be made by using an insert statement as shown on page 3.

NATIONAL SURVEILLANCE NETWORK
NATIONAL OCCUPATIONAL HAZARD SURVEY

PART II – EXPOSURE DATA

DUPLICATE INTO EACH LINE BELOW

Card Code 1	Revision Number 2-4	Date Survey Started (Mo./Day/Yr.) 5-10	State Code 11-12	Facility Identifier 13-18	Page Number 19-21
3	009	01 05 72	11	012345	1

Remarks: WELDING

COMPUTER PROCESSING Line No. 22-23	Special Instructions 24-28	Number of Employees 29-31	EMPLOYEE GROUP TITLE 32-63 / POTENTIAL EXPOSURE Name 34-63	Code 64-68	Form 69	Int. 70	Dur. 71	Intended Control Code 72-73	Intended Control F/N 74	ACTIVITY
05		5	WELDERS							
10	GRP01		WGASE	76616	G	D	P	LV	F	
15			SSOX	69717	F	D	P	LV	F	
20			STOX		F	D	F	LV	F	
25			ZINC OXIDE	77190	F	D	P	LV	F	
30			UV	P0430		U	F	EF	F	
35			IR	P0410		D	F	EF	F	
40	E		WELDING RODS	76618	F	D	P	LV	F	
45			CGAS	76617	G	D	P	LV	F	
50			PBOX	42685	F	D	P	DV	F	
55			SNOX	73253	F	D	P	DV	F	
60	TRN01		KWIK FLUX							
65	MFG		ABC WELDING SUPPLY CO., NY, NY							
70			ZINC CHLORIDE	77150	V	U	P	LV	F	
75	E		FLUX	92410	V	D	P	LV	F	
80	NTE		TRN01 DECOMPOSES							
85	E		DP-F		F	D	P	LV	F	

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Figure 2-1

NATIONAL SURVEILLANCE NETWORK
NATIONAL OCCUPATIONAL HAZARD SURVEY

PART II – EXPOSURE DATA

DUPLICATE INTO EACH LINE BELOW					
Card Code (1)	Revision Number (2–4)	Date Survey Started (Mo./Day/Yr.) (5–10)	State Code (11–12)	Facility Identifier (13–18)	Page Number (19–21)
3	009	01 05 72	11	01234 5	2

Remarks

METAL MACHINING
MAINTENENCE

COMPUTER PROCESSING		Number of Employees (29–31)	EMPLOYEE GROUP TITLE (32–63) / POTENTIAL EXPOSURE Name (34–63)	Code (64–68)	Form (69)	Int. (70)	Dur. (71)	Intended Control Code (72–73)	F/N (74)	ACTIVITY
Line No. (22–23)	Special Instructions (24–28)									
05		4	LATHE OPERATORS							PRODUCTION WORK
10	TRN03		MASTER CUTTING OIL							
15	MFG		MASTER PRODUCTS INC., NY, NY							
20			CUTTING OIL	52131	V	D	F	D,V	F	
25	E		———	———	L	D	F	D,V	F	
30			N.C.	P0610		D	F	N.C.		90 dBA
35			STEEL	17475	D	D	P	D,V	F	
40			ALUMINUM OXIDE	20265	D	D	P	D,V	F	
45										
50		3	MAINTENENCE MEN							ROUTINE MACHINE REPAIR
55	GRP01									
60			LUBE OIL	52138	L	D	P	N.C.		
65			ACETONE	02820	V	D	P	D,V	F	
70										
75		2	ELECTROPLATERS							DIP PARTS IN TANK
80			COPPER CYANIDE		M	U	F	L,V	F	
85			SODIUM HYDROXIDE	69070	M	U	F	L,V	F	
90			CHROMIC ACID	19360	M	U	F	L,V	F	
95			———	———	M	U	F	O.C.	F	SURFACE ACTIVE AGENT
99			ULTRASONIC NOISE	P0610		U	F	N.C.		

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Figure 2-2

Figure 2-3

NATIONAL SURVEILLANCE NETWORK
NATIONAL OCCUPATIONAL HAZARD SURVEY

PART II – EXPOSURE DATA

DUPLICATE INTO EACH LINE BELOW

Card Code (1)	Revision Number (2–4)	Date Survey Started (Mo./Day/Yr.) (5–10)	State Code (11–12)	Facility Identifier (13–18)	Page Number (19–21)
3	009	01 05 72	11	012345	3

Remarks: ELECTROPLATING

COMPUTER PROCESSING		Number of Employees (29–31)	EMPLOYEE GROUP TITLE (32–63) / POTENTIAL EXPOSURE Name (34–63)	Code (64–68)	Form (69)	Int. (70)	Dur. (71)	Intended Control Code (72–73)	Intended Control F/N (74)	ACTIVITY
Line No. (22–23)	Special Instructions (24–28)									
05										
10										
15		1	ELECTROPLATING FOREMAN				P			
20	280									
25	310									
30	APP									
35	TRN		BORAX WATERLESS HAND CLEANER							
40	MFG		BORAX CO., INC., LOS ANGELES, *							
45	C		CALIFORNIA							
50	E		WATERLESS HAND CLEANER	76612	L	D	P	OC	F	PERSONAL HYGIENE
55	105									
60	320									
65	INS		PRBAT PB		G	U	P	DV	F	
70	275									
75	E									
80										

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Trade Name Shortcuts

Often a series of materials will be used which share common manufacturers or have similar uses. The following coding example illustrates a shortcut for recording three cleaning compounds made by Dupont, each having the same form, intensity duration and intended control. Xylene was the only chemical constituent available for all three trade names.

```
TRNØ1                DUPONT 63
MFGØ1                DUPONT CO.      N.Y., N.Y.
TRNØ2                DUPONT 64
TRNØ3                DUPONT 65
                     XYLENE                          VDP NC
E                    CLEANING COMPOUND               VDP NC
```

Several trade names by different manufacturers can be listed above one generic name if the following convention is used. The trade name immediately preceding the manufacturer is associated with that manufacturer. All other trade names apply to the first manufacturer above them. Thus, in the following example, TRNØ4 and TRNØ5 are made by Dupont while TRNØ6 and TRNØ7 are made by ESSO. Note also that they are all solvents with identical form, intensity, duration, and control.

```
TRNØ4                DUPONT 66
MFGØ4                DUPONT CO.      N.Y., N.Y.
TRNØ5                CB-22
TRNØ6                XY-19
MFGØ6                ESSO            Linden, N.J.
TRNØ7                WS-3
E                    SOLVENT                         VDP NC
```

GLOSSARY OF TERMS

Term	Definition
Biological Hazard	A plant or animal substance which is injurious to health because it has pathogenic, sensitizing or allergenic properties.
DOL	Department of Labor
Dust	Solid particles generated by handling, crushing, grinding, rapid impact, detonation, and decrepitation of organic or inorganic materials, such as rock, ore metal, coal, wood and grain. Dusts do not tend to flocculate except under electrostatic forces; they do not diffuse in air but settle under the influence of gravity. Dust is a term used in industry to describe airborne solid particles that range in size from 0.1 to 25 (1 = 1/10,000 cm = 1/25,000 in.) (μ is the abbreviation for micron.) dusts about 5μ in size usually will not remain airborne long enough to present an inhalation problem.
Employee	A general term for a wage earner or salaried worker. The terms "employee" and "worker" may be used interchangeably in the context of a work situation, but a "worker" is not an "employee" when he is no longer on the facility's payroll. The term "employee" does not include those persons working in the facility on a contractual, consultant or other basis. For example, the following types of workers are excluded: maintenance or security personnel when hired through another company; data processing or administrative personnel when furnished through a contractual arrangement; and secretarial or clerical personnel when supplied on a short-term basis through a temporary help employment contractor. The term "employee" includes those people directly paid by the facility who are eligible for the vacation plan, retirement program, pension fund and other normal fringe benefits provided by the facility's management.
Employee at Risk	A worker who is exposed to a potential occupational hazard because of contact with a toxic, physical or safety condition.
Employer	A general term for any individual, corporation or other operating group which hires workers (employees). The terms "employer" and "management" may be used interchangeably when used in the context of the facilities surveyed by NIOSH. The terms "company," "establishment," "partnership" are all synonymous with "employer".
Establishment	Synonymous with facility for the National Occupational Hazard Survey.
Exposure	A general term indicating employees' actual or potential, direct or indirect, contact with any chemical and biological agent, or physical and safety condition.

Term	Definition
Facility	A facility is a commercial, industrial, or service enterprise usually located at one site. (For example: a factory, mill, store, hotel, restaurant, movie theater, farm, ranch, bank, sale office, warehouse, or central administrative office.) If more than one business, service or operation is conducted at a single physical location, they will be included as one reporting facility unless there are separate administrative systems. Under these circumstances, each facility would also file separate reports for employment security and revenue activities. A singly administrated enterprise conducting the same type of activities at two or more different sites, i.e., chain of drug stores, restaurants, etc. will be considered to be one reporting facility.
Fumes	Solid particles generated by condensation from the gaseous state, generally after volatilization from molten metals. This physical change is often accompanied by a chemical reaction, such as oxidation. Fumes flocculate and sometimes coalesce. A fume is formed when a volatized solid, such as a metal, condense in cool air. The solid particles that make up a fume are extremely fine, usually less than 1.0μ. In most cases, the hot material reacts with the air to form an oxide. Examples are lead oxide fume from smelting and iron oxide fume from arc-welding. A fume can also be formed when a material such as magnesium metal is burned or when welding or gas cutting is done on galvanized metal.
Functioning	An exposure control is operating to produce the desired level of protection from a hazard.
Gases	Normally formless fluids which occupy the space or enclosure and which can be changed to the liquid or solid state only by the combined effect of increased pressure and decreased temperature. Gases diffuse. Examples are welding gases, internal combustion engine exhaust gases, and air.
Hazard	A material or condition which is or could prove to be injurious to the health of employees in a facility.
Mist	Suspended liquid droplets generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state, such as by splashing, foaming, or atomizing. Mist is formed when a finely divided liquid is suspended in the atmosphere. Examples are the oil mist produced during cutting and grinding operations, acid mists from electroplating, acid or alkali mists from pickling operations, paint spray mist from spraying operations and the condensation of water vapor to form a fog or rain.

Term	Definition
National Occupational Hazard Survey	A representatively sampled, on-site survey of American industry conducted under the authority of the Occupational Safety and Health Act. The purpose of the survey is the collection of basic descriptive information on the working environment in the manufacturing and non-manufacturing industries covered under the Act.
NIOSH	National Institute for Occupational Safety and Health
NOHS	National Occupational Hazard Survey.
Noise	The physical hazard caused by the action on the human ear of any unwanted, excessive sound.
Non-Functioning	A control is not operating to produce the desired level of protection from a hazard.
NSN	National Surveillance Network for Occupational Health. A national program to identify and evaluate continuously (1) the factors in the work environment which cause or contribute to occupational disease; (2) the incidence and prevalence of occupational disease; and (3) the cause and effect relationships between occupational disease and the factors of the work environment.
Occupational Disease	Illness resulting from health hazards present in an individual's working environment.
OSHA	Occupational Safety and Health Administration, Department of Labor.
PHS	Public Health Service.
Physical Hazard	A condition of the working environment which through prolonged exposure may prove injurious to health.
Plant	Synonymous with facility for the NSN Survey.
Radiation	The physical hazard caused by the emission of energy in the form of radiant waves or sub-atomic particles on the human body.
Respondent	The owner, manager, or other representative(s) of the facility assigned to provide answers to the surveyor's questions concerning the facility.
Safety Hazard	A condition present in a facility, material, or the habits and dress of employees which could cause injury due to an accident.
SIC	Standard Industrial Classification.

Term	Definition
Standard Industrial Classification	The national standard classification scheme developed by the Office of Statistical Standards for use in the grouping of establishments by the type of activity in which engaged. The four-digit SIC code is used by the NOHS to classify the activity of the total facility.
Smoke	Carbon or soot particles less than 0.1μ in size which result from the incomplete combustion of carbonaceous materials such as coal or oil. Smoke generally contains droplets as well as dry particles. Tobacco, for example, produces a wet smoke composed of minute tarry droplets. The size of the particles contained in tobacco smoke is about 0.25μ.
Survey	One of the on-site facility visits and data collection efforts of the National Occupational Hazard Survey, conducted by one of the NOHS surveyors.
Surveyor	The representative of NIOSH who is responsible for conducting the National Occupational Health Survey at the site of a facility.
Vapor	The gaseous form of substances which are normally in the solid or liquid state (at room temperature and pressure). The vapor can be changed back to the solid or liquid state either by increasing the pressure or decreasing the temperature alone. Vapors also diffuse. Evaporation is the process by which a liquid is changed into the vapor state and mixed with the surrounding atmosphere. Solvents with low boiling points will volatilize readily.
Vibration	The physical hazard caused by the action on the human body of machinery and/or materials rapidly moving in alternately opposite directions.
Work Area	That portion of the building devoted to the actual manufacturing of the product or to the provision of the service, whichever is conducted by the establishment. Some examples of exclusions are those buildings or portion of buildings devoted to the administrative or clerical functions of the establishment's business.
Worker	Synonymous with employee for the National Occupational Hazard Survey.

APPENDIX A

STATE CODES

01	Alabama	30	Montana
02	Alaska	31	Nebraska
04	Arizona	32	Nevada
05	Arkansas	33	New Hampshire
06	California	34	New Jersey
08	Colorado	35	New Mexico
09	Connecticut	36	New York
10	Delaware	37	North Carolina
11	District of Columbia	38	North Dakota
12	Florida	39	Ohio
13	Georgia	40	Oklahoma
14	Guam	41	Oregon
15	Hawaii	42	Pennsylvania
16	Idaho	43	Puerto Rico
17	Illinois	44	Rhode Island
18	Indiana	45	South Carolina
19	Iowa	46	South Dakota
20	Kansas	47	Tennessee
21	Kentucky	48	Texas
22	Louisiana	49	Utah
23	Maine	50	Vermont
24	Maryland	51	Virginia
25	Massachusetts	52	Virgin Islands
26	Michigan	53	Washington
27	Minnesota	54	West Virginia
28	Mississippi	55	Wisconsin
29	Missouri	56	Wyoming

APPENDIX B

STANDARD INDUSTRIAL CLASSIFICATIONS (SIC)

The complete set of Standard Industrial Classification Codes will be found in the Standard Industrial Classification Manual developed by the Office of Statistical Standards (Executive Office of the President/Bureau of the Budget, 1967).

The following pages list the standard short titles taken from the SIC Manual, and may be used if the Manual is not available. The standard short titles listed are grouped under the following major economic sectors:

A. Agriculture, Forestry, and Fisheries
B. Mining
C. Contract Construction
D. Manufacturing
E. Transportation, Communication, Electric, Gas, and Sanitary Services
F. Wholesale and Retail Trade
G. Finance, Insurance, and Real Estate
H. Services

These are the abbreviations used in the list:

& (ampersand)	=	and
exc or ex	=	except
Fed	=	Federal
incor	=	incorporated
misc	=	miscellaneous
nec	=	not elsewhere classified
Res	=	Reserve

STANDARD INDUSTRIAL CLASSIFICATION CODES

A. AGRICULTURE, FORESTRY, AND FISHERIES

Code	Short Title
01	**AGRICULTURAL PRODUCTION**
0112	Cotton
0113	Cash grains
0114	Tobacco
0119	Field crops, nec*
0122	Fruits and tree nuts
0123	Vegetables
0132	Dairies
0133	Broiler chickens
0134	Poultry, except broiler chickens
0135	Beef cattle
0136	Hogs
0139	Livestock, nec
0141	General Farms
0192	Horticultural specialties
0193	Animal specialties
0199	Agricultural production, nec
07	**AGRICULTURAL SERVICES AND HUNTING**
0712	Cotton ginning and compressing
0713	Grist mills
0714	Corn shelling, hay baling, threshing
0715	Packing of fruits and vegetables
0719	Agricultural services, nec
0722	Veterinarians and animal hospitals
0723	Poultry hatcheries
0729	Animal husbandry services, nec
0731	Horticultural services
0741	Hunting, trapping, game propagation
08	**FORESTRY**
0811	Timber tracts
0822	Forest nurseries
0823	Tree seed gathering and extracting
0842	Gathering barks & gums except pine
0843	Extraction of pine gum
0851	Forestry services
0861	Gathering of forest products, nec
09	**FISHERIES**
0912	Finfish
0913	Shellfish
0914	Whale products
0919	Miscellaneous marine products
0989	Fish hatcheries, farms & preserves

B. MINING

Code	Short Title
10	**METAL MINING**
1011	Iron ores
1021	Copper ores
1031	Lead and zinc ores
1042	Lode gold
1043	Placer gold
1044	Silver ores
1051	Bauxite and other aluminum ores
1062	Manganese ores
1064	Tungsten ores
1069	Ferroalloy ores, nec
1081	Metal mining services
1092	Mercury ores
1093	Titanium ores
1094	Uranium-radium-vanadium ores
1099	Metal ores, nec
11	**ANTHRACITE MINING**
1111	Anthracite
1112	Anthracite mining services
12	**BITUMINOUS COAL AND LIGNITE MINING**
1211	Bituminous coal
1212	Lignite
1213	Bituminous and lignite mining services, nec
13	**OIL AND GAS EXTRACTION**
1311	Crude petroleum and natural gas
1321	Natural gas liquids
1381	Drilling oil and gas wells
1382	Oil and gas exploration services
1389	Oil and gas field services, nec
14	**NONMETALLIC MINERALS, EXCEPT FUELS**
1411	Dimension stone
1422	Crushed and broken limestone
1423	Crushed and broken granite
1429	Crushed and broken stone, nec
1442	Construction sand and gravel
1446	Industrial sand
1452	Bentonite
1453	Fire clay
1454	Fuller's earth
1455	Kaolin and ball clay
1456	Feldspar
1459	Clay and related minerals, nec
1472	Barite
1473	Fluorospar
1474	Potash, soda, and borate minerals
1475	Phosphate rock
1476	Rock Salt
1477	Sulfur
1479	Chemical and fertilizer mining, nec
1481	Nonmetallic minerals services
1493	Mica
1494	Native asphalt and bitumens
1495	Pumice and pumicite
1496	Talc, soapstone, and pyrophyllite
1497	Natural abrasives, except sand
1498	Peat
1499	Nonmetallic minerals, nec

C. CONTRACT CONSTRUCTION

Code	Short Title
15	**GENERAL BUILDING CONTRACTORS**
1511	General building contractors
16	**HEAVY CONSTRUCTION CONTRACTORS**
1611	Highway and street construction
1621	Heavy construction, nec
17	**SPECIAL TRADE CONTRACTORS**
1711	Plumbing, heating, air conditioning
1721	Painting, paper hanging, decorating
1731	Electrical work
1741	**Masonry and other stonework**
1742	**Plastering and lathing**
1743	**Terrazzo, tile, marble, mosaic work**
1751	**Carpentering**
1752	**Floor laying and floor work, nec**
1761	**Roofing and sheet metal work**

*Not elsewhere classified

Code	Short Title
1771	Concrete work
1781	Water well drilling
1791	Structural steel erection
1792	Ornamental metal work
1793	Glass and glazing work
1794	Excavating and foundation work
1795	Wrecking and demolition work
1796	Installing building equipment, nec
1799	Special trade contractors, nec

D. MANUFACTURING

Code	Short Title
19	**ORDANCE AND ACCESSORIES**
1911	Guns, howitzers and mortars
1925	Complete guided missiles
1929	Ammunition, exc. for small arms, nec
1931	Tanks and tank components
1941	Sighting and fire control equipment
1951	Small arms
1961	Small arms ammunition
1999	Ordnance and accessories, nec
20	**FOOD AND KINDRED PRODUCTS**
2011	Meat packing plants
2013	Sausages and other prepared meats
2015	Poultry dressing plants
2021	Creamery butter
2022	Cheese, natural and processed
2023	Condensed and evaporated milk
2024	Ice cream and frozen desserts
2026	Fluid milk
2031	Canned and cured sea foods
2032	Canned specialties
2033	Canned fruits and vegetables
2034	Dehydrated food products
2035	Pickles, sauces and salad dressings
2036	Fresh and frozen packaged fish
2037	Frozen fruits and vegetables
2041	Flour and other grain mill products
2042	Prepared feeds for animals and fowls
2043	Cereal preparations
2044	Rice milling
2045	Blended and prepared flour
2046	Wet corn milling
2051	Bread, cake, and related products
2052	Cookies and crackers
2061	Raw cane sugar
2062	Cane sugar refining
2063	Beet sugar
2071	Confectionery products
2072	Chocolate and cocoa products
2073	Chewing gum
2082	Malt liquors
2083	Malt
2084	Wines, brandy, and brandy spirits
2085	Distilled liquor, except brandy
2086	Bottled and canned soft drinks
2087	Flavoring extracts and sirups, nec
2091	Cottonseed oil mills
2092	Soybean oil mills
2093	Vegetable oil mills, nec
2094	Animal and marine fats and oils
2095	Roasted coffee
2096	Shortening and cooking oils
2097	Manufactured ice
2098	Macaroni and spaghetti
2099	Food preparations, nec
21	**TOBACCO MANUFACTURERS**
2111	Cigarettes
2121	Cigars
2131	Chewing and smoking tobacco
2141	Tobacco stemming and redrying
22	**TEXTILE MILL PRODUCTS**
2211	Weaving mills, cotton
2221	Weaving mills, synthetics
2231	Weaving and finishing mills, wool
2241	Narrow fabric mills
2251	Women's hosiery, except socks
2252	Hosiery, nec
2253	Knit outerwear mills
2254	Knit underwear mills
2256	Knit fabric mills
2259	Knitting fabric mills, nec
2261	Finishing plants, cotton
2262	Finishing plants, synthetics
2269	Finishing plants, nec
2271	Woven carpets and rugs
2272	Tufted carpets and rugs
2279	Carpets and rugs, nec
2281	Yarn mills, except wool
2282	Throwing and winding mills
2283	Wool yarn mills
2284	Thread mills
2291	Felt goods, nec
2292	Lace goods
2293	Paddings and upholstery filling
2294	Processed textile waste
2295	Coated fabrics, not rubberized
2296	Tire cord and fabric
2297	Scouring and combing plants
2298	Cordage and twine
2299	Textile goods, nec
23	**APPAREL AND OTHER TEXTILE PRODUCTS**
2311	Men's and boys' suits and coats
2321	Men's and boys' shirts and nightwear
2322	Men's and boys' underwear
2323	Men's and boys' neckwear
2327	Men's and boys' separate trousers
2328	Men's and boys' work clothing
2329	Men's and boys' clothing, nec
2331	Women's and misses' blouses and waists
2335	Women's and misses' dresses
2337	Women's and misses' suits and coats
2339	Women's and misses' outerwear, nec
2341	Women's and children's underwear
2342	Corsets and allied garments
2351	Millinery
2352	Hats and caps, except millinery
2361	Children's dresses and blouses
2363	Children's coats and suits
2369	Children's outerwear, nec
2371	Fur goods
2381	Fabric dress and work gloves
2384	Robes and dressing gowns
2385	Waterproof outer garments
2386	Leather and sheep lined clothing
2387	Apparel belts
2389	Apparel and accessories, nec
2391	Curtains and draperies
2392	Housefurnishings, nec
2393	Textile bags
2394	Canvas products
2395	Pleating and stitching
2396	Automotive and apparel trimmings
2397	Schiffli machine embroideries
2399	Fabricated textile products, nec
24	**LUMBER AND WOOD PRODUCTS**
2411	Logging camps and logging contractors
2421	Sawmills and planning mills, general
2426	Hardwood dimension and flooring
2429	Special product sawmills, nec
2431	Millwork
2432	Veneer and plywood
2433	Prefabricated wood structures
2441	Nailed wooden boxes and shook
2442	Wirebound boxes and crates
2443	Veneer and plywood containers
2445	Cooperage
2491	Wood preserving
2499	Wood products, nec
25	**FURNITURE AND FIXTURES**
2511	Wood household furniture
2512	Upholstered household furniture
2514	Metal household furniture
2515	Mattresses and bedsprings
2519	Household furniture, nec
2521	Wood office furniture
2522	Metal office furniture
2531	Public building furniture
2541	Wood partitions and fixtures
2542	Metal partitions and fixtures
2591	Venetian blinds and shades
2599	Furniture and fixtures, nec
26	**PAPER AND ALLIED PRODUCTS**
2611	Pulp mills
2621	Paper mills, except building paper
2631	Paperboard mills
2641	Paper coating and glazing
2642	Envelopes
2643	Bags, except textile bags
2644	Wallpaper
2645	Die cut paper and board
2646	Pressed and molded pulp goods
2647	Sanitary paper products
2649	Converted paper products, nec
2651	Folding paperboard boxes
2652	Set-up paperboard boxes
2653	Corrugated and solid fiber boxes
2654	Sanitary food containers

Code	Short Title
2655	Fiber cans, drums, and related material
2661	Building paper and board mills
27	**PRINTING AND PUBLISHING**
2711	Newspapers
2721	Periodicals
2731	Book publishing
2732	Book printing
2741	Miscellaneous publishing
2751	Commercial printing, except lithographic
2752	Commercial printing, lithographic
2753	Engraving and plate printing
2761	Manifold business forms
2771	Greeting card publishing
2782	Blankbooks and loose-leaf binders
2789	Bookbinding and related work
2791	Typesetting
2793	Photoengraving
2794	Electrotyping and stereotyping
28	**CHEMICALS AND ALLIED PRODUCTS**
2812	Alkalies and chlorine
2813	Industrial gases
2815	Cyclic intermediates and crudes
2816	Inorganic pigments
2818	Industrial organic chemicals, nec
2819	Industrial inorganic chemicals, nec
2821	Plastics materials and resins
2822	Synthetic rubber
2823	Cellulosic man-made fibers
2824	Organic fibers, noncellulosic
2831	Biological products
2833	Medicinals and botanicals
2834	Pharmaceutical preparations
2841	Soap and other detergents
2842	Polishes and sanitation goods
2843	Surface active agents
2844	Toilet preparations
2851	Paints and allied products
2861	Gum and wood chemicals
2871	Fertilizers
2872	Fertilizers, mixing only
2879	Agricultural chemicals, nec
2891	Adhesives and gelatin
2892	Explosives
2893	Printing ink
2895	Carbon black
2899	Chemical preparations, nec
29	**PETROLEUM AND COAL PRODUCTS**
2911	Petroleum refining
2951	Paving mixtures and blocks
2952	Asphalt felts and coatings
2992	Lubricating oils and greases
2999	Petroleum and coal products, nec
30	**RUBBER AND PLASTICS PRODUCTS, NEC**
3011	Tires and inner tubes
3021	Rubber footwear
3031	Reclaimed rubber
3069	Fabricated rubber products, nec
3079	Miscellaneous plastics products
31	**LEATHER AND LEATHER PRODUCTS**
3111	Leather tanning and finishing
3121	Industrial leather belting
3131	Footwear cut stock
3141	Shoes, except rubber
3142	House slippers
3151	Leather gloves and mittens
3161	Luggage
3171	Women's handbags and purses
3172	Personal leather goods
3199	Leather goods, nec
32	**STONE, CLAY, AND GLASS PRODUCTS**
3211	Flat glass
3221	Glass containers
3229	Pressed and blown glass, nec
3231	Products of purchased glass
3241	Cement, hydraulic
3251	Brick and structural clay tile
3253	Ceramic wall and floor tile
3255	Clay refractories
3259	Structural clay products, nec
3261	Vitreous plumbing fixtures
3262	Vitreous china food utensils
3263	Fine earthenware food utensils
3264	Porcelain electrical supplies
3269	Pottery products, nec
3271	Concrete block and brick
3272	Concrete products, nec
3273	Ready-mixed concrete
3274	Lime
3275	Gypsum products
3281	Cut stone and stone products
3291	Abrasive products
3292	Asbestos products
3293	Gaskets and insulations
3295	Minerals, ground or treated
3296	Mineral wool
3297	Nonclay refractories
3299	Nonmetallic mineral products, nec
33	**PRIMARY METAL INDUSTRIES**
3312	Blast furnaces and steel mills
3313	Electrometallurgical products
3315	Steel wire and related products
3316	Cold finishing of steel shapes
3317	Steel pipe and tubes
3321	Gray iron foundries
3322	Malleable iron foundries
3323	Steel foundries
3331	Primary copper
3332	Primary lead
3333	Primary zinc
3334	Primary aluminum
3339	Primary nonferrous metals, nec
3341	Secondary nonferrous metals
3351	Copper rolling and drawing
3352	Aluminum rolling and drawing
3356	Nonferrous rolling and drawing, nec
3357	Nonferrous wire drawing and insulating
3361	Aluminum castings
3362	Brass, bronze, and copper castings
3369	Nonferrous castings, nec
3391	Iron and steel forgings
3392	Nonferrous forgings
3399	Primary metal products, nec
34	**FABRICATED METAL PRODUCTS**
3411	Metal cans
3421	Cutlery
3423	Hand and edge tools, nec
3425	Hand saws and saw blades
3429	Hardware, nec
3431	Metal sanitary ware
3432	Plumbing fittings and brass goods
3433	Heating equipment, except electrical
3441	Fabricated structural steel
3442	Metal doors, sash, and trim
3443	Fabricated plate work (boiler shops)
3444	Sheet metal work
3446	Architectural metal work
3449	Miscellaneous metal work
3451	Screw machine products
3452	Bolts, nuts, rivets, and washers
3461	Metal stampings
3471	Plating and polishing
3479	Metal coating and allied services
3481	Misc. fabricated wire products
3491	Metal barrels, drums, and pails
3492	Safes and vaults
3493	Steel springs
3494	Valves and pipe fittings
3496	Collapsible tubes
3497	Metal foil and leaf
3498	Fabricated pipe and fittings
3499	Fabricated metal products, nec
35	**MACHINERY, EXCEPT ELECTRICAL**
3511	Steam engines and turbines
3519	Internal combustion engines, nec
3522	Farm machinery
3531	Construction machinery
3532	Mining machinery
3533	Oil field machinery
3534	Elevators and moving stairways
3535	Conveyors and conveying equipment
3536	Hoists, cranes, and monorails
3537	Industrial trucks and tractors
3541	Machine tools, metal cutting types
3542	Machine tools, metal forming types
3544	Special dies, tools, jigs & fixtures
3545	Machine tool accessories
3548	Metalworking machinery, nec
3551	Food products machinery
3552	Textile machinery
3553	Woodworking machinery
3554	Paper industries machinery
3555	Printing trades machinery
3559	Special industry machine, nec
3561	Pumps and compressors
3562	Ball and roller bearings
3564	Blowers and fans
3565	Industrial patterns
3566	Power transmission equipment
3567	Industrial furnaces and ovens
3569	General industrial machinery, nec
3572	Typewriters
3573	Electronic computing equipment
3574	Calculating and accounting machines
3576	Scales and balances
3579	Office machines, nec

Code	Short Title
3581	Automatic merchandising machines
3582	Commercial laundry equipment
3585	Refrigeration machinery
3586	Measuring and dispensing pumps
3589	Service industry machines, nec
3599	Misc. machinery, except electrical
36	**ELECTRICAL EQUIPMENT AND SUPPLIES**
3611	Electric measuring instruments
3612	Transformers
3613	Switchgear and switchboard apparatus
3621	Motors and generators
3622	Industrial controls
3623	Welding apparatus
3624	Carbon and graphite products
3629	Electrical industrial apparatus, nec
3631	Household cooking equipment
3632	Household refrigerators and freezers
3633	Household laundry equipment
3634	Electric housewares and fans
3635	Household vacuum cleaners
3636	Sewing machines
3639	Household appliances, nec
3641	Electric lamps
3642	Lighting fixtures
3643	Current-carrying wiring devices
3644	Noncurrent-carrying wiring devices
3651	Radio and TV receiving sets
3652	Phonograph records
3661	Telephone and telegraph apparatus
3662	Radio and TV communication equipment
3671	Electron tubes, receiving type
3672	Cathode ray picture tubes
3673	Electron tubes, transmitting
3674	Semiconductors
3679	Electronic components, nec
3691	Storage batteries
3692	Primary batteries, dry and wet
3693	X-ray apparatus and tubes
3694	Engine electrical equipment
3699	Electrical equipment, nec
37	**TRANSPORTATION EQUIPMENT**
3711	Motor vehicles
3712	Passenger car bodies
3713	Truck and bus bodies
3714	Motor vehicle parts and accessories
3715	Truck trailers
3721	Aircraft
3722	Aircraft engines and engine parts
3723	Aircraft propellers and parts
3729	Aircraft equipment, nec
3731	Ship building and repairing
3732	Boat building and repairing
3741	Locomotives and parts
3742	Railroad and street cars
3751	Motorcycles, bicycles, and parts
3791	Trailer coaches
3799	Transportation equipment, nec
38	**INSTRUMENTS AND RELATED PRODUCTS**
3811	Engineering & scientific instruments
3821	Mechanical measuring devices
3822	Automatic temperature controls
3831	Optical instruments and lenses
3841	Surgical and medical instruments
3842	Surgical appliances and supplies
3843	Dental equipment and supplies
3851	Ophthalmic goods
3861	Photographic equipment and supplies
3871	Watches and clocks
3872	Watchcases
39	**MISCELLANEOUS MANUFACTURING INDUSTRIES**
3911	Jewelry, precious metal
3912	Jewelers' findings and materials
3913	Lapidary work
3914	Silverware and plated ware
3931	Musical instruments and parts
3941	Games and toys
3942	Dolls
3943	Children's vehicles, except bicycles
3949	Sporting and athletic goods, nec
3951	Pens and mechanical pencils
3952	Lead pencils and art goods
3953	Marking devices
3955	Carbon paper and inked ribbons
3961	Costume Jewelry
3962	Artificial flowers
3963	Buttons
3964	Needles, pins, and fasteners
3991	Brooms and brushes
3993	Signs and advertising displays
3994	Morticians' goods
3996	Hard surface floor coverings
3999	Manufacturers, nec

E. TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, AND SANITARY SERVICES

Code	Short Title
40	**RAILROAD TRANSPORTATION**
4011	Railroads, linehaul operating
4013	Switching and terminal companies
4021	Railroad passenger car service
4041	Railway express service
41	**LOCAL AND INTERURBAN PASSENGER TRANSIT**
4111	Local and suburban transit
4119	Local passenger transportation, nec
4121	Taxicabs
4131	Intercity bus lines
4132	Intercity transportation, nec
4141	Local passenger charter service
4142	Charter service, except local
4151	School busses
4171	Bus terminal facilities
4172	Bus service facilities
42	**TRUCKING AND WAREHOUSING**
4212	Local trucking, without storage
4213	Trucking, except local
4214	Local trucking and storage
4221	Farm product warehousing and storage
4222	Refrigerated warehousing, nec
4223	Food lockers
4224	Household goods warehousing
4225	General warehousing and storage
4226	Special warehousing and storage, nec
4231	Trucking terminal facilities
44	**WATER TRANSPORTATION**
4411	Deep sea foreign transportation
4421	Noncontiguous area transportation
4422	Coastwise transportation
4423	Intercoastal transportation
4431	Great Lakes transportation
4441	Transportation on rivers and canals
4452	Ferries
4453	Lighterage
4454	Towing and tugboat service
4459	Local water transportation, nec
4463	Marine cargo handling
4464	Canal operation
4469	Water transportation services, nec
45	**TRANSPORTATION BY AIR**
4511	Certified air transportation
4521	Noncertified air transportation
4582	Airports and flying fields
4583	Airport terminal services
46	**PIPE LINE TRANSPORTATION**
4612	Crude petroleum pipe lines
4613	Refined petroleum pipe lines
4619	Pipe lines, nec
47	**TRANSPORTATION SERVICES**
4712	Freight forwarding
4721	Arrangement of transportation
4731	Stockyards
4742	Railroad car rental with service
4743	Railroad car rental without service
4782	Inspection and weighing services
4783	Packing and crating
4784	Fixed facilities for vehicles, nec
4789	Transportation services, nec
48	**COMMUNICATION**
4811	Telephone communication
4821	Telegraph communication
4832	Radio broadcasting
4833	Television broadcasting
4899	Communication services, nec
49	**ELECTRIC, GAS, AND SANITARY SERVICES**
4911	Electric companies and systems
4922	Natural gas transmission
4923	Gas transmission and distribution
4924	Natural gas distribution
4925	Gas production and/or distribution
4931	Electric and other services combined
4932	Gas and other services combined

Code	Short Title
4939	Combined companies & systems, nec
4941	Water supply
4952	Sewerage systems
4953	Refuse systems
4959	Sanitary services, nec
4961	Steam supply
4971	Irrigation systems

F. WHOLESALE AND RETAIL TRADE

Code	Short Title
50	**WHOLESALE TRADE**
5012	Automobiles and other motor vehicles
5013	Automotive equipment
5014	Tires and tubes
5022	Drugs, proprietaries, and sundries
5028	Paints and varnishes
5029	Chemicals and allied products, nec
5033	Piece goods
5034	Notions and other dry goods
5036	Men's clothing and furnishings
5037	Women's and children's clothing
5039	Footwear
5041	Groceries, general line
5042	Frozen foods
5043	Dairy products
5044	Poultry and poultry products
5045	Confectionery
5046	Fish and sea foods
5047	Meats and meat products
5048	Fresh fruits and vegetables
5049	Groceries and related products, nec
5052	Cotton
5053	Grain
5054	Livestock
5059	Farm product raw materials, nec
5063	Electrical appartaus and equipment
5064	Electrical appliances, TV and radios
5065	Electronic parts and equipment
5072	Hardware
5074	Plumbing and heating equipment
5077	Air conditioning and refrigeration
5081	Commercial machines and equipment
5082	Construction and mining machinery
5083	Farm machinery and equipment
5084	Industrial machinery and equipment
5085	Industrial supplies
5086	Professional equipment and supplies
5087	Service-establishment supplies
5088	Transportation equipment & supplies
5089	Machinery and equipment, nec
5091	Metals & minerals, except petroleum
5092	Petroleum and petroleum products
5093	Scrap and waste materials
5094	Tobacco and its products
5095	Beer, wine, and distilled beverages
5096	Paper and its products
5097	Furniture and home furnishings
5098	Lumber and construction materials
5099	Wholesalers, nec
52	**RETAIL TRADE BUILDING MATERIALS AND FARM EQUIPMENT**
5211	Lumber and other building materials
5221	Plumbing & heating equipment dealers
5231	Paint, glass, and wallpaper stores
5241	Electrical supply stores
5251	Hardware stores
5252	Farm equipment dealers
53	**RETAIL GENERAL MERCHANDISE**
5311	Department stores
5321	Mail order houses
5331	Variety stores
5341	Merchandising machine operators
5351	Direct selling organizations
5399	Misc general merchandise stores
54	**FOOD STORES**
5411	Grocery stores
5421	Meat and fish (sea food) markets
5431	Fruit stores and vegetable markets
5441	Candy, nut, and confectionery stores
5451	Dairy products stores
5462	Retail bakeries - baking and selling
5463	Retail bakeries - selling only
5499	Miscellaneous food stores
55	**AUTOMOTIVE DEALERS & SERVICE STATIONS**
5511	New and used car dealers
5521	Used car dealers
5531	Tire, battery, and accessory dealers
5541	Gasoline service stations
5591	Boat dealers
5592	Household trailer dealers
5599	Automotive dealers, nec
56	**APPAREL AND ACCESSORY STORES**
5611	Men's & boys' clothing & furnishings
5621	Women's ready-to-wear stores
5631	Women's accessory & specialty stores
5641	Children's and infants' wear stores
5651	Family clothing stores
5661	Shoe stores
5671	Custom tailors
5681	Furriers and fur shops
5699	Miscellaneous apparel & accessories
57	**FURNITURE AND HOME FURNISHINGS STORES**
5712	Furniture stores
5713	Floor covering stores
5714	Drapery and upholstery stores
5715	China, glassware, & metalware stores
5719	Miscellaneous home furnishings stores
5722	Household appliance stores
5732	Radio and television stores
5733	Music stores
58	**EATING AND DRINKING PLACES**
5812	Eating places
5813	Drinking places
59	**MISCELLANEOUS RETAIL STORES**
5912	Drug stores and proprietary stores
5921	Liquor stores
5932	Antique stores
5933	Secondhand stores
5942	Book stores
5943	Stationery stores
5952	Sporting goods stores
5953	Bicycle shops
5962	Hay, grain and feed stores
5969	Farm and garden supply stores, nec
5971	Jewelry stores
5982	Fuel and ice dealers, nec
5983	Fuel oil dealers
5984	Liquefied petroleum gas dealers
5992	Florists
5993	Cigar stores and stands
5994	News dealers and newsstands
5995	Hobby, toy, and game shops
5996	Camera & photographic supply stores
5997	Gift, novelty, and souvenir shops
5999	Miscellaneous retail stores, nec

G. FINANCE, INSURANCE, AND REAL ESTATE

Code	Short Title
60	**BANKING**
6011	Federal Reserve banks
6022	State banks, Federal Reserve
6023	State banks, not Federal Reserve FDIC
6024	State banks, not Federal Reserve not FDIC
6025	National banks, Federal Reserve
6026	National banks, not Federal Reserve, FDIC
6027	National banks, not FDIC
6028	Private banks, not incorp., not FDIC
6032	Mutual savings banks, Federal Reserve
6033	Mutual savings banks, nec
6034	Mutual savings banks, not FDIC
6042	Nondeposit trusts, Federal Reserve
6044	Nondeposit trusts, not FDIC
6052	Foreign exchange establishments
6053	Check cashing & currency exchanges
6054	Safe deposit companies
6055	Clearing house associations
6056	Corporations for banking abroad
6059	Functions related to banking, nec
61	**CREDIT AGENCIES OTHER THAN BANKS**
6112	Rediscounting, not for agricultural
6113	Rediscounting, for agricultural
6122	Federal savings & loan associations
6123	State associations, insured
6124	State associations, noninsured, FHLB
6125	State associations, noninsured, nec
6131	Agricultural credit institutions
6142	Federal credit unions
6143	State credit unions
6144	Nondeposit industrial loan companies
6145	Licensed small loan lenders
6146	Installment sales finance companies
6149	Misc personal credit institutions
6152	Bond and mortgage companies
6153	Short-term business credit
6159	Misc. business credit institutions
6161	Loan correspondents and brokers
62	**SECURITY, COMMODITY BROKERS & SERVICES**
6211	Security brokers and dealers
6221	Commodity contracts brokers, dealers
6231	Security and commodity exchanges
6281	Security and commodity services
63	**INSURANCE CARRIERS**
6312	Stock life insurance companies
6313	Mutual life insurance companies
6319	Life insurance carriers, nec
6322	Stock accident and health insurance
6323	Mutual accident and health insurance
6324	Hospital and medical service plans
6329	Accident and health insurance, nec
6332	Stock fire, marine, and casualty
6333	Mutual fire, marine, and casualty
6339	Fire, marine, and casualty, nec
6351	Surety companies
6352	Bank deposit insurance
6361	Title insurance
6399	Insurance carriers, nec
64	**INSURANCE AGENTS, BROKERS & SERVICE**
6411	Insurance agents, brokers & service
65	**REAL ESTATE**
6512	Nonresidential building operators
6513	Apartment building operators
6514	Dwelling operators, exc. apartments
6515	Agricultural property lessors
6516	Mining and oil property lessors
6517	Railroad property lessors
6518	Public utility property lessors
6519	Real property lessors, nec
6531	Agents, brokers, and managers
6541	Title abstract companies
6552	Subdividers and developers, nec
6553	Cemetery subdividers and developers
6561	Operative builders
66	**COMBINED REAL ESTATE, INSURANCE, ETC.**
6611	Combined real estate, insurance, etc.
67	**HOLDING AND OTHER INVESTMENT COMPANIES**
6711	Holding companies
6722	Management investment, open-end
6723	Management investment, closed-end
6724	Unit investment trusts
6725	Face-amount certificate companies
6732	Educational, religious, etc. trusts
6733	Trusts, nec
6792	Oil royalty companies
6793	Commodity trading companies
6794	Patent owners and lessors
6799	Investing institutions, nec

H. SERVICES

Code	Short Title
70	**HOTELS AND OTHER LODGING PLACES**
7011	Hotels, tourist courts, and motels
7021	Rooming and boarding houses
7031	Trailer parks
7032	Sporting and recreational camps
7041	Membership-basis organization hotels
72	**PERSONAL SERVICES**
7211	Power laundries, family & commercial
7212	Laundries, except power
7213	Linen supply
7214	Diaper service
7215	Coin-operated laundries and cleaning
7216	Dry cleaning plants, except rug
7217	Rug cleaning and repairing plants
7218	Industrial launderers
7221	Photographic studios
7231	Beauty shops
7241	Barber shops
7251	Shoe repair and hat cleaning shops
7261	Funeral service and crematories
7271	Garment pressing, alteration, repair
7299	Miscellaneous personal services
73	**MISCELLANEOUS BUSINESS SERVICES**
7311	Advertising agencies
7312	Outdoor advertising services
7313	Radio, TV, publisher representatives
7319	Miscellaneous advertising
7321	Credit reporting and collection
7331	Direct mail advertising
7332	Blueprinting and photocopying
7339	Stenographic and duplicating, nec
7341	Window cleaning
7342	Disinfecting and exterminating
7349	Miscellaneous services to buildings
7351	News syndicates
7361	Private employment agencies
7391	Research & development laboratories
7392	Business consulting services
7393	Detective and protective services
7394	Equipment rental and leasing
7395	Photofinishing laboratories
7396	Trading stamp services
7397	Commercial testing laboratories
7398	Temporary help supply service
7399	Business services, nec
75	**AUTO REPAIR, SERVICES, AND GARAGES**
7512	Passenger car rental and leasing
7513	Truck rental and leasing
7519	Utility and house trailer rental
7523	Parking lots

Code	Short Title
7525	Parking structures
7531	Top and body repair shops
7534	Tire retreading and repair shops
7535	Paint shops
7538	General automobile repair shops
7539	Automobile repair shops, nec
7542	Automobile laundries
7549	Automobile services, nec
76	**MISCELLANEOUS REPAIR SERVICES**
7622	Radio and television repair
7623	Refrigerator service and repair
7629	Electrical repair shops, nec
7631	Watch, clock, and jewelry repair
7641	Reupholstery and furniture repair
7692	Welding repair
7694	Armature rewinding shops
7699	Repair services, nec
78	**MOTION PICTURES**
7813	Motion picture production, except TV
7814	Motion picture production for TV
7815	Production of still, slide films
7816	Motion picture film exchanges
7817	Film or tape distribution for TV
7818	Motion picture distribution services
7821	Motion picture production services
7832	Motion picture theaters, exc. drive-in
7833	Drive-in motion picture theaters
79	**AMUSEMENT & RECREATION SERVICES, NEC**
7911	Dance halls, studios, and schools
7922	Theatrical producers and services
7929	Entertainers & entertainment groups
7932	Billiard and pool establishments
7933	Bowling alleys
7941	Sports promoters, athletic fields
7942	Public golf courses
7943	Coin-operated amusement devices
7945	Skating rinks
7946	Amusement parks
7947	Golf clubs and country clubs
7948	Race tracks and stables
7949	Amusement and recreation, nec
80	**MEDICAL AND OTHER HEALTH SERVICES**
8011	Offices of physicians and surgeons
8021	Office of dentists, dental surgeons
8031	Offices of osteopathic physicians
8041	Offices of chiropractors
8061	Hospitals
8071	Medical laboratories
8072	Dental laboratories
8092	Sanatoria, convalescent & rest homes
8099	Health and allied services, nec
81	**LEGAL SERVICES**
8111	Legal services
82	**EDUCATIONAL SERVICES**
8211	Elementary and secondary schools
8221	Colleges and universities, nec
8222	Junior colleges
8231	Libraries and information centers
8241	Correspondence schools
8242	Vocational schools
8299	Schools & educational services, nec
84	**MUSEUMS, BOTANICAL, ZOOLOGICAL GARDENS**
8411	Museums and art galleries
8421	Botanical and zoological gardens
86	**NONPROFIT MEMBERSHIP ORGANIZATIONS**
8611	Business associations
8621	Professional organizations
8631	Labor organizations
8641	Civil and social organizations
8651	Political organizations
8661	Religious organizations
8671	Charitable organizations
8699	Nonprofit member organizations, nec
88	**PRIVATE HOUSEHOLDS**
8811	Private households
89	**MISCELLANEOUS SERVICES**
8911	Engineering & architectural services
8921	Nonprofit research agencies
8931	Accounting, auditing, & bookkeeping
8999	Services, nec

I. FEDERAL GOVERNMENT

Code	Short Title
9101	Agriculture
9107	Agricultural services and hunting
9108	Forestry
9109	Fisheries
9110	Metal mining
9111	Anthracite mining
9112	Bituminous coal and lignite mining
9113	Oil and gas extraction
9114	Nonmetallic minerals, except fuels
9115	General building contractors
9116	Heavy construction contractors
9117	Special trade contractors
9119	Ordnance and accessories
9120	Food and kindred products
9120	Tobacco manufacturers
9122	Textile mill products
9123	Apparel and other textile products
9124	Lumber and wood products
9125	Furniture and fixtures
9126	Paper and allied products
9127	Printing and publishing
9128	Chemicals and allied products
9129	Petroleum and coal products
9130	Rubber and plastics products
9131	Leather and leather products
9132	Stone, clay and glass
9133	Primary metal industries
9134	Fabricated metal products
9135	Machinery, except electrical
9136	Electrical equipment and supplies
9137	Transportation equipment
9138	Instruments and related products
9139	Miscellaneous manufacturing industries
9140	Railroad transportation
9141	Local and interurban passenger transit
9142	Trucking and warehousing
9144	Water transportation
9145	Transportation by air
9146	Pipe line transportation
9147	Transportation services
9148	Communication
9149	Electric, gas, and sanitary services
9150	Wholesale trade
9152	Retail trade, building materials, farm equipment
9153	Retail general merchandise
9154	Food stores
9155	Automotive dealers and service stations
9156	Apparel and accessory stores
9157	Furniture and home furnishings stores
9158	Eating and drinking places
9159	Miscellaneous retail stores
9160	Banking
9161	Credit agencies other than banks
9162	Security, commodity brokers, and services
9163	Insurance carriers
9164	Insurance agents, brokers, and service
9165	Real estate
9166	Combined real estate, insurance, etc.
9167	Holding and other investment companies
9170	Hotels and other lodging places
9172	Personal services
9173	Miscellaneous business services
9175	Auto repair, services, and garages
9176	Miscellaneous repair services
9178	Motion pictures
9179	Amusement and recreation services
9180	Medical and other health services
9181	Legal services
9182	Educational services
9184	Museums, botanical, and zoological gardens
9186	Nonprofit membership organizations
9188	Private households
9189	Miscellaneous services
9190	Regular, government functions - executive, legislative, and judicial

APPENDIX C
CHEMICALS AND CHEMICAL COMPOUNDS
(ANNUAL LIST)

The "Chemicals and Chemical Compounds (Annual List)" is a condensed version of the Annual List of Toxic Substances, 1971, published by NIOSH. The list shows the names of the chemicals and chemical compounds, and the 5-digit codes that are used in lieu of the lengthy names during computer processing. This list is published as a separate volume, due to its length.

APPENDIX D
CHEMICALS AND CHEMICAL COMPOUNDS
(SHORT LIST)

Mnemonic Code	Code	Name
	92020	ABRASIVE
	92015	ABRASIVE SHOT
	92021	ABSORBENT
	92845	ACCELERATOR, RUBBER
ACAL	01038	ACETALDEHYDE
	80015	ACETATE
HAC	01568	ACETIC ACID
AC20	02740	ACETIC ANHYDRIDE
ACETO	02820	ACETONE
ACCY	02830	ACETONE CYANOHYDRIN
	02900	ACETONITRILE
	03195	2-ACETYLAMINOFLUORINE
ACETY	03298	ACETYLENE
	03350	ACETYLENE DICHLORIDE (1, 2-DICHLOROETHYLENE)
	03355	ACETYLENE TETRABROMIDE
TCE	73790	ACETYLENE TRICHLORIDE (TRICHLOROETHYLENE)
	90050	ACIDS
	03490	ACRIDINE
	03530	ACROLEIN
	03540	ACRYLAMIDE
	03570	ACRYLIC ACID
ACRYL	03800	ACRYLONITRILE (VINYL CYANIDE)
	03895	ACTIVATED SLUDGE
	03897	ACTIVATOR
	92030	ADHESIVE
	04065	AEROSOL CLEANER
AP	92770	AEROSOL PROPELLANT
	80016	AIR FRESHENER
	80039	AJAX
	04235	ALCOHOL
	80108	ALCOHOL-DENATURED
	04260	ALDRIN
	80090	ALIPHATIC HYDROCARBONS
ABDAC	04280	ALKYL BENZYL DIMETHYL AMMONIUM CHLORIDE
ADEBAC	80085	ALKYL DIMETHYL ETHYL BENZYL AMMONIUM CHLORIDE
ALLOH	04370	ALLYL ALCOHOL
ALCL	04460	ALLYL CHLORIDE
AGE	04530	ALLYL GLYCIDYL ETHER
	04590	ALLYL PROPYL DISULFIDE (ONION OIL)
AL203	20265	ALUMINA (ALUMINUM OXIDE; CORUNDUM; EMERY)
AL	04603	ALUMINUM
	04605	ALUMINUM CHLORIDE
AL203	20265	ALUMINUM OXIDE (ALUMIDE; CORUNDUM; EMERY)
ALOX	04608	ALUMINUM, OXIDES OF
	80037	ALUMINUM STEARATE
	80177	AMINE
	04975	4-AMINODIPHENYL
	04980	2-AMINOETHANOL
	05215	2-AMINOPYRIDINE
	06190	AMMATE (AMMONIUM SULFAMATE)

Mnemonic Code	Code	Name
NH3	05250	AMMONIA
NH4CL	05270	AMMONIUM CHLORIDE
	80038	AMMONIUM COMPOUNDS
	06063	AMMONIUM DICHROMATE
NH4OH	06145	AMMONIUM HYDROXIDE
NHNO	06163	AMMONIUM NITRATE
	06175	AMMONIUM PERSULFATE
	80158	AMMONIUM SULFATE
	06190	AMMONIUM SULFAMATE (AMMATE)
	06320	n-AMYL ACETATE
	06323	sec-AMYL ACETATE
	06330	AMYL ALCOHOL
ANIL	06580	ANILINE
	06985	ANIMAL PRODUCTS, NEC
	07040	ANISIDINE (o and p-isomers)
	92040	ANTIFREEZE
SB	07310	ANTIMONY
SBHB	69800	ANTIMONY HYDRIDE
SB203	07325	ANTIMONY OXIDE
SBOX	07328	ANTIMONY, OXIDES OF
SBCL3	07405	ANTIMONY TRICHLORIDE
	07415	ANTIOFFSET AND SMOOTH LAY COMPOUND
	92850	ANTIOXIDANT
	92050	ANTITOXICANT
	07465	APLITE
A	07485	ARGON
AH	80027	AROMATIC HYDROCARBONS
AS	07545	ARSENIC
ASOX	07555	ARSENIC, OXIDES OF
AS03	07570	ARSENIC TRIOXIDE
ASH3	07580	ARSINE
	90310	ASBESTOS
	90320	ASPHALT
	35750	AZINPHOS, METHYL (GUTHION)
	92060	BACTERICIDE
	08525	BACTERIOSTAT
	40370	BANANA OIL (ISOAMYL ACETATE)
BA	08625	BARIUM
BACL	08650	BARIUM CHLORIDE
	90330	BARIUM COMPOUNDS
BAOH	08655	BARIUM HYDROXIDE
BAOX	08658	BARIUM, OXIDES OF
	08705	BASE
	80040	BELT DRESSING
	90340	BENTONITE
BEN	09070	BENZENE (BENZOL)
	25710	1, 4-BENZENEDIOL (p-HYDROQUINONE; p-DIHYDROXY BENZENE; HYDROQUINOL; QUINOL)
	09318	BENZENE HEXACHLORIDE (LINDANE)
	09830	BENZIDINE
BEN	09070	BENZOL (BENZENE)
	10920	p-BENZOQUINONE
	11280	BENZOYL PEROXIDE
	11600	BENZYL CHLORIDE
BE	11770	BERYLLIUM

Mnemonic Code	Code	Name
	90350	BERYLLIUM COMPOUNDS
BEOX	11855	BERYLLIUM, OXIDES OF
	90360	BERYLLIUM SALTS
	92070	BINDER-ABRASIVE WHEEL
	12065	BINDER-FOUNDRY
	92080	BIOCIDE
BIO	12068	BIOLOGICAL SUBSTANCES, NEC
	27590	BIPHENYL (DIPHENYL)
BI	12783	BISMUTH
	12785	BISMUTH CHLORIDE
	90370	BISMUTH COMPOUNDS
BIOX	12795	BISMUTH, OXIDES OF
BI203	12798	BISMUTH OXIDE
	12845	BISPHENOL A
	92090	BLEACH
	92100	BLEACHING AGENT
	92110	BLENDING AGENT
BWTC	80087	BOILER WATER TREATMENT CHEMICAL
	12940	BORAX
H3B03	12960	BORIC ACID
	12961	BORON CARBIDE
	90380	BORON HYDRIDES
B203	12963	BORON OXIDE
BOX	12964	BORON, OXIDES OF
BBR3	12966	BORON TRIBROMIDE
BCL3	12970	BORON TRICHLORIDE
BF3	12980	BORON TRIFLUORIDE
	12985	BORON TRIFLUORIDE COMPLEXES
BC	80086	BOWL CLEANER
	92120	BRAKE FLUID
BRASS	90400	BRASS, CU, ZN, PB GROUP
BRASO	13025	BRASS, OXIDES OF
	90410	BRICK
	80012	BRIGHTENER
	90420	BRINE
BR	13100	BROMINE
	13103	BROMINE PENTAFLUORIDE
	31900	BROMOETHANE (ETHYL BROMIDE)
	13160	BROMOFORM
BRNZE	90430	BRONZE-CU, SN, PB GROUP
BRNZO	13275	BRONZE, OXIDES OF
	80116	BUFFER
	52136	BUNKER FUEL (OIL, FUEL NO. 6)
CAO	15755	BURNT LIME (CALCIUM OXIDE; UNSLAKED LIME; CALX; QUICKLIME)
BUT	13410	BUTADIENE
BUT	13410	1, 3-BUTADIENE
	13480	BUTANE
	13785	BUTANETHIOL (BUTYL MERCAPTAN)
	13850	n-BUTANOL
MEK	13980	2-BUTANONE (METHYL ETHYL KETONE)
	14143	1-BUTENE
	14144	2-BUTENE
	29930	2-BUTOXYETHANOL (BUTYL CELLOSOLVE)
	14380	BUTYL ACETATE
	14380	n-BUTYL ACETATE

Mnemonic Code	Code	Name
	14382	sec-BUTYL ACETATE
	14384	tert-BUTYL ACETATE
	14420	BUTYL ALCOHOL
2BUTA	14410	sec-BUTYL ALCOHOL
	14400	tert-BUTYL ALCOHOL
	14865	n-BUTYLALDEHYDE
	14440	BUTYLAMINE
	14444	tert-BUTYLAMINE
	29930	BUTYL CELLOSOLVE (2-BUTOXYETHANOL)
	14655	tert-BUTYL CHROMATE
BGE	14720	n-BUTYL GLYCIDYL ETHER
	13785	BUTYL MERCAPTAN (BUTANETHIOL)
	14930	p-tert-BUTYLTOLUENE
CD	15570	CADMIUM
	90440	CADMIUM COMPOUNDS
CDOX	15630	CADMIUM, OXIDES OF
	90450	CADMIUM SALTS-SOLUBLE
	80041	CALCIUM
	15700	CALCIUM ARSENATE
CAC2	15703	CALCIUM CARBIDE
CACO3	15705	CALCIUM CARBONATE (LIMESTONE)
CACL2	15720	CALCIUM CHLORIDE
	15730	CALCIUM CYANAMIDE
CAOH2	15743	CALCIUM HYDROXIDE (HYDRATED LIME; SLAKED LIME)
CAOCL	15746	CALCIUM HYPOCHLORITE
CAO	15755	CALCIUM OXIDE (UNSLAKED LIME; CALX; QUICKLIME; BURNT LIME)
	80042	CALCIUM SILICATE
	15765	CALCIUM STEARATE
CAO	15755	CALX (CALCIUM OXIDE; UNSLAKED LIME; QUICKLIME; BURNT LIME)
	90460	CARBAMATES
	47800	CARBARYL (SEVIN; 1-NAPHTHYL-n-METHYL CARBAMATE)
	20930	CARBODIIMIDE (CYANAMIDE)
PHEN	55460	CARBOLIC ACID (PHENOL)
WGASE	17389	CARBON ARC LAMP GASES
	17388	CARBOMETHANE
	17370	CARBON BISULFIDE (CARBON DISULFIDE)
CB	17360	CARBON BLACK
CO2	17367	CARBON DIOXIDE
CS2	17370	CARBON DISULFIDE (CARBON BISULFIDE)
	17385	CARBON HEXACHLORIDE (HEXACHLOROETHANE; PERCHLOROETHANE; CARBON TRICHLORIDE)
CO	17460	CARBON MONOXIDE
	17475	CARBON STEEL (STEEL)
CCL4	17490	CARBON TETRACHLORIDE (TETRACHLOROMETHANE)
	17385	CARBON TRICHLORIDE (CARBON HEXACHLORIDE; HEXACHLOROETHANE; PERCHLOROETHANE)
COCL2	57710	CARBONYL CHLORIDE (PHOSGENE)
SIC	17525	CARBORUNDUM (SILICON CARBIDE)
	90470	CARBOXYLIC ACIDS
	92130	CARBURETOR CLEANER
	17595	CARPET CLEANER
	92135	CATALYST
	80025	CAULKING COMPOUND
	92140	CAUSTIC CLEANER
KOH	60440	CAUSTIC POTASH (POTASSIUM HYDROXIDE)

Mnemonic Code	Code	Name
NAOH	69070	CAUSTIC SODA (LYE; SODIUM HYDROXIDE)
	32450	CELLOSOLVE-SOLVENT (ETHYLENE GLYCOL MONOETHYL ETHER)
	46930	CELLOSOLVE ACETATE (ETHYLENE GLYCOL MONOETHYL ETHER ACETATE)
	90480	CELLULOID
	17683	CELLULOSE
	17685	CELLULOSE NITRATE (NITROCELLULOSE)
	17694	CEMENT-GLUE
	17695	CEMENT-PORTLAND
	17745	CERIUM
	17775	CESIUM
	17855	CHALK
	17857	CHARCOAL
	92150	CHELATING AGENT
	51590	CHLORDANE
	73500	CHLORINATED CAMPHENE (TOXAPHENE)
	18035	CHLORINATED DIPHENYL OXIDE
CH	90500	CHLORINATED HYDROCARBONS
CL	18040	CHLORINE
CLO2	18045	CHLORINE DIOXIDE
CLF3	18050	CHLORINE TRIFLUORIDE
	18065	CHLOROACETALDEHYDE
	18070	CHLOROACETIC ACID
	18080	a-CHLOROACETOPHENONE (PHENACYLCHLORIDE)
CLBE	18190	CHLOROBENZENE (MONOCHLOROBENZENE)
OCBM	18240	o-CHLOROBENZYLIDENE MALONITRILE
	18250	CHLOROBROMOMETHANE
	18260	2-CHLORO-1, 3-BUTADIENE (CHLOROPRENE)
	18393	CHLORODIPHENYL
	90510	CHLORODIPHENYLS
	20901	1-CHLORO-2, 3-EPOXYPROPANE
ECL	31970	CHLOROETHANE (ETHYL CHLORIDE)
	18400	2-CHLOROETHANOL
VCL	76445	CHLOROETHYLENE (VINYL CHLORIDE)
	18500	CHLOROFORM (TRICHLOROMETHANE)
	90530	CHLORONITRO ANILINES
	90540	CHLORONITRO BENZENES
	18590	1-CHLORO-1-NITROPROPANE
	18710	CHLOROPICRIN (NITROTRICHLOROMETHANE)
	18260	CHLOROPRENE (2-CHLORO-1, 3-BUTADIENE)
	29010	CHLOROPROPYLENE OXIDE
	73760	CHLOROTHENE
	90550	CHROMATES
	90560	CHROME PLATING COMPOUND
H2CRO	19360	CHROMIC ACID
	90570	CHROMIC SALTS (CHROMIUM SALTS, CHROMOUS SALTS)
	19395	CHROMIUM
	90580	CHROMIUM COMPOUNDS
CROX	19425	CHROMIUM, OXIDES OF
	90570	CHROMIUM SALTS (CHROMOUS SALTS, CHROMIC SALTS)
CRO3	19430	CHROMIUM TRIOXIDE
	90570	CHROMOUS SALTS (CHROMIC SALTS, CHROMIUM SALTS)
	19680	CITRIC ACID
	90590	CLAY
CC	92160	CLEANING COMPOUND
NAOCL	69090	CLOROX (SODIUM HYPOCHLORITE)

Mnemonic Code	Code	Name
	92170	COAGULATOR
	19765	COAGULANT
	90600	COAL (Anthracite)
	19767	COAL (Bituminous)
	90610	COAL TAR
	90620	COAL TAR PITCH VOLATILES
	19769	COATING
	19770	COBALT
	90630	COBALT COMPOUNDS
	19935	COKE
	80004	COLORING AGENT
	19985	COLUMBIUM (NIOBIUM)
	19995	COMET
	80030	CONCRETE
	20063	CONTACT CEMENT
	20064	CONTACT CLEANER-ELECTRICAL
	92175	COOLANT
CU	20115	COPPER
	90640	COPPER COMPOUNDS
CUCN	20155	COPPER CYANIDE
CUOX	20170	COPPER, OXIDES OF
	92180	COPY MACHINE FLUID
	20245	CORK
	80018	CORRECTION FLUID
	92185	CORROSION INHIBITOR
AL2O3	20265	CORUNDUM (ALUMINUM OXIDE; ALUMINA; EMERY)
	92190	COSMETIC SOLVENT
	94040	COTTON
	68970	CRAG HERBICIDE
	90650	CREOSOTE-MIXED PHENOLS
CRE	20380	CRESOL (CRESYLIC ACID)
CRE	20380	CRESYLIC ACID (CRESOL)
	20627	CROCCUS
	20630	CROTONALDEHYDE
	20810	CRYOLITE
	20850	CUMENE
	80020	CURING AGENT
	52131	CUTTING FLUID
	20930	CYANAMIDE (CARBODIIMIDE)
	90670	CYANIDES
	90680	CYANIDE SOLUTION
	20970	CYANOGEN (ETHANE DINITRILE)
	90690	CYCLOALKANES
CYC	21190	CYCLOHEXANE
	21560	CYCLOHEXANOL (HEXAHYDROPHENOL)
	21660	CYCLOHEXANONE (KETOHEXAMETHYLENE)
	80043	CYCLOHEXANONE PEROXIDE
	21705	CYCLOHEXENE
C5H6	20065	CYCLOPENTADIENE
RDX	22210	CYCLOTRIMETHYLENE TRINITRAMINE
	24270	2, 4-D (2, 4-DICHLOROPHENOXYACETIC ACID)
DDT	73750	DDT (DICHLORODIPHENYLTRICHLOROMETHANE)
DDVP	24440	DDVP (DICHLORVOS)
DP-ACF	80187	DECOMPOSITION PRODUCTS-ACID CORE FLUX
DP-F	80125	DECOMPOSITION PRODUCTS-FLUX

Mnemonic Code	Code	Name
DP-G	22734	DECOMPOSITION PRODUCTS-GENERAL (NOTE: The above is used in a NOTE, only when neither of the following DP's are appropriate.)
	80127	DECOMPOSITION PRODUCTS-METAL COATING
DP-CO	22736	DECOMPOSITION PRODUCTS-OIL, CUTTING
DP-O	22737	DECOMPOSITION PRODUCTS-OIL, GENERAL
DP-HO	22738	DECOMPOSITION PRODUCTS-OIL, HYDRAULIC
DP-LO	22739	DECOMPOSITION PRODUCTS-OIL, LUBE
DP-PO	22741	DECOMPOSITION PRODUCTS-OIL, PENETRATING
DP-QO	22742	DECOMPOSITION PRODUCTS-OIL, QUENCH
DP-VO	22743	DECOMPOSITION PRODUCTS-OIL, VEGETABLE
DP-PA	92635	DECOMPOSITION PRODUCTS-PAINT
DP-BUT	22745	DECOMPOSITION PRODUCTS-POLYMER, BUTADIENE RUBBER
DP-POL	22746	DECOMPOSITION PRODUCTS-POLYMER, GENERAL
DP-ISO	22747	DECOMPOSITION PRODUCTS-POLYMER, NATURAL RUBBER
DP-N	80138	DECOMPOSITION PRODUCTS-POLYMER, NYLON
DP-NEO	22748	DECOMPOSITION PRODUCTS-POLYMER, NEOPRENE RUBBER
DP-PY	80137	DECOMPOSITION PRODUCTS-POLYMER, POLYESTER
DP-PE	22749	DECOMPOSITION PRODUCTS-POLYMER, POLYETHYLENE
DP-PS	22751	DECOMPOSITION PRODUCTS-POLYMER, POLYSTYRENE
DP-TEF	60925	DECOMPOSITION PRODUCTS-POLYMER, POLYTETRAFLUOROETHYLENE
DP-PU	22753	DECOMPOSITION PRODUCTS-POLYMER, POLYURETHANE
DP-PVC	22754	DECOMPOSITION PRODUCTS-POLYMER, POLYVINYL CHLORIDE
DP-PR	22755	DECOMPOSITION PRODUCTS-RESIN, PHENOLIC
DP-UR	22756	DECOMPOSITION PRODUCTS-RESIN, UREA-FORMALDEHYDE
DP-RCF	80126	DECOMPOSITION PRODUCTS-ROSIN CORE FLUX
DP-V	92965	DECOMPOSITION PRODUCTS-VARNISH
DP-WF	80174	DECOMPOSITION PRODUCTS-WRAPPING FILM
	92200	DEFOAMER AGENT
	92210	DEFOLIANT
	92220	DEGREASER
	92230	DEHAIRING AGENT
	22840	DEMETON (SYSTOX)
	92240	DENATURANT
	80006	DEOXIDIZER
	92250	DESCUMMING AGENT
	92255	DETERGENT
	80095	DEVELOPER
DAAL	23010	DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)
	38110	DIAMINE (HYDRAZINE; 1, 1-DIMETHYLHYDRAZINE)
	23230	1, 2-DIAMINOETHANE
	80045	DIAMMONIUM HYDROGEN PHOSPHATE
	23275	DIAMOND
	23304	DIATOMACEOUS EARTH-NATURAL
	23370	DIAZOMETHANE
B2H6	23650	DIBORANE
	26420	DIBROM (DIMETHYL 1, 2-DIBROMO-2, 2-DICHLOROETHYL PHOSPHATE)
EDBR	23660	1, 2-DIBROMOETHANE (ETHYLENE DIBROMIDE)
	23865	DIBUTYL PHOSPHATE
	23870	DIBUTYL PHOSPHITE
	23880	DIBUTYLPHTHALATE
	23980	DICHLOROACETYLENE
	24003	o-DICHLOROBENZENE
	24006	p-DICHLOROBENZENE
	24025	3, 3-DICHLOROBENZIDINE

Mnemonic Code	Code	Name
DCDFM	24095	DICHLORODIFLUOROMETHANE (FREON 12)
	24100	1, 3-DICHLORO-5, 5-DIMETHYLHYDANTOIN
DDT	73750	DICHLORODIPHENYLTRICHLOROETHANE (DDT)
EDCL	24120	1, 1-DICHLOROETHANE (ETHYLIDENE CHLORIDE)
	24130	1, 2-DICHLOROETHANE
	03350	1, 2-DICHLOROETHYLENE (ACETYLENE DICHLORIDE)
	24150	2, 2-DICHLOROETHYL ETHER
	24185	DICHLOROFLUOROMETHANE
MECL2	47270	DICHLOROMETHANE (METHYLENE CHLORIDE)
	24235	DICHLOROMONOFLUOROMETHANE (FREON 21)
	24255	1, 1-DICHLORO-1-NITROETHANE
	24270	2, 4-DICHLOROPHENOXYACETIC ACID (2, 4-D)
	24390	1, 2-DICHLOROPROPANE
	24425	DICHLOROTETRAFLUOROETHANE
DDVP	24440	DICHLORVOS (DDVP)
	24600	DIELDRIN
	52132	DIESEL FUEL
	24615	DIETHANOLAMINE
	24680	DIETHYLAMINE
	24930	DIETHYLAMINO ETHANOL
	25145	DIETHYLENE DIOXIDE (1, 4-DIOXANE)
DEG	25545	DIETHYLENE GLYCOL (DIGLYCOL)
	25210	DIETHYLENE TRIAMINE
	32590	DIETHYL ETHER (ETHYL ETHER)
DEHP	25365	DI (2-ETHYLHEXYL) PHTHALATE (DI-sec-OCTYL PHTHALATE)
	25515	DIFLUORODIBROMOMETHANE
DGE	12846	DIGLYCIDYL ETHER
	25545	DIGLYCOL (DIETHYLENE GLYCOL)
	25710	DIHYDROXYBENZENE (1, 4-BENZENEDIOL, p-HYDROQUINONE)
	25820	DIISOBUTYL KETONE (2, 6-DIMETHYHEPTANONE)
	25850	DIISOPROPYL AMINE
	25905	DIISOPROPYL ETHER (ISOPROPYL ETHER)
	26075	DIMETHOXYMETHANE (METHYLAL)
	26095	N, N-DIMETHYL ACETAMIDE
	26130	DIMETHYLAMINE
	26175	4-DIMETHYLAMINOAZOBENZENE
	76910	DIMETHYLAMINOBENZENE (XYLIDENE)
	26335	N, N-DIMETHYLANILINE
	26350	DIMETHYL BENZENE
IPAL	40987	DIMETHYL CARBINOL (ISOPROPYL ALCOHOL, ISOPROPANOL)
	80083	3, 5-DIMETHYL-4-CHLOROPHENOL
	26420	DIMETHYL-1, 2-DIBROMO-2, 2-DICHLOROETHYL PHOSPHATE (DIBROM)
	26560	DIMETHYL FORMAMIDE
	25820	2, 6-DIMETHYLHEPTANONE (DIISOBUTYL KETONE)
	38110	1, 1-DIMETHYLHYDRAZINE (DIAMINE, HYDRAZINE)
	26615	DIMETHYLMETHANE (PROPANE)
	26735	DIMETHYL NITROSOAMINE
	59210	DIMETHYL PHTHALATE
	26880	DIMETHYL SULFATE
	27046	m-DINITROBENZENE
	27048	o-DINITROBENZENE
	27050	p-DINITROBENZENE
	27080	4, 6-DINITRO-o-CRESOL
	27110	2, 4-DINITROPHENOL
	80046	DINITROPHENYL CHROMATE

Mnemonic Code	Code	Name
	27125	2, 4-DINITROTOLUENE
	25145	1, 4-DIOXANE (DIETHYLENE DIOXIDE)
	27590	DIPHENYL (BIPHENYL)
	27615	DIPHENYLAMINE
	27705	DIPHENYLCARBAZONE
MDI	27780	DIPHENYLMETHANE DIISOCYANATE (METHYLENE BISPHENYL ISOCYANATE)
HEP	36060	DIPROPYL METHANE (HEPTANE, HEPTYL HYDRIDE)
DEHP	25365	DI-sec-OCTYL PHTHALATE (DI(2-ETHYLHEXYL) PHTHALATE)
	92260	DISINFECTANT
	80165	DOLOMITE
	80019	DRAIN OPENER
	28673	DRAINO
	92270	DRILLING FLUID
	92280	DUPLICATOR FLUID
	92290	DYE
	92300	DYE SOLVENT
	92310	DYE STUFF
	90710	DYNAMITE
	28805	ELASTIC
	28807	EMBALMING FLUID
	28808	EMBALMING PREPARATION FLUID
AL203	20265	EMERY (ALUMINUM OXIDE, ALUMINA, CORUNDUM)
	92320	EMULSIFIER
	28855	ENAMEL
	28880	ENDOSULFAN (THIODAN)
	36630	ENDRIN
	93060	ENZYMES
ECH	29010	EPICHLOROHYDRIN
	90720	EPOXY
	90730	EPOXY COMPOUNDS
EO	32550	1, 2-EPOXYETHANE (ETHYLENE OXIDE)
PLO	63550	1, 2-EPOXYPROPANE (PROPYLENE OXIDE)
	35120	2, 3-EPOXY-1-PROPANOL (GLYCIDOL)
	90740	EPOXY RESINS
	80120	ERADICATOR
	92860	ERUSTICATOR (RUST REMOVER)
	90750	ESTERS
	80026	ETCHING COMPOUND
	29325	ETHANE
	20970	ETHANE DINITRILE (CYANOGEN)
	32760	ETHANETHIOL (ETHYL MERCAPTAN)
ETOH	31500	ETHANOL (ETHYL ALCOHOL)
EAM	04980	ETHANOLAMINE (MONOETHANOLAMINE)
	90760	ETHERS
	31350	2-ETHOXYETHANOL
	31390	2-ETHOXYETHYLACETATE
ETAC	31470	ETHYL ACETATE
EAC	31490	ETHYL ACRYLATE
ETOH	31500	ETHYL ALCOHOL (ETHANOL)
	31520	ETHYLAMINE
	31800	ETHYL sec-AMYL KETONE
EB	31830	ETHYL BENZENE
	31900	ETHYL BROMIDE (BROMOETHANE)
EBK	36330	ETHYL BUTYL KETONE (3-HEPTANONE)

Mnemonic Code	Code	Name
ECL	31970	ETHYL CHLORIDE (CHLOROETHANE)
	32200	ETHYLENE CHLOROHYDRIN
	32220	ETHYLENEDIAMINE
EDBR	23660	ETHYLENE DIBROMIDE (1, 2-DIBROMOETHANE)
EG	32385	ETHYLENE GLYCOL
	80171	ETHYLENE GLYCOL DINITRATE
	32450	ETHYLENE GLYCOL MONOETHYL ETHER (CELLOSOLVE-SOLVENT)
	46930	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE (CELLOSOLVE ACETATE)
	32470	ETHYLENE GLYCOL MONOMETHYL ETHER (METHYL CELLOSOLVE)
	46935	ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE (METHYLCELLOSOLVE ACETATE)
	32520	ETHYLENE IMINE
EO	32550	ETHYLENE OXIDE (1, 2-EPOXYETHANE)
	32590	ETHYL ETHER (DIETHYL ETHER)
	32610	ETHYL FORMATE (FORMIC ETHER)
2EH	32645	2-ETHYL-HEXANOL (2-ETHYLHEXYL ALCOHOL)
2EH	32645	2-ETHYLHEXYL ALCOHOL (2-ETHYL-HEXANOL)
EDCL	24120	ETHYLIDENE CHLORIDE (1, 1-DICHLOROETHANE)
	32760	ETHYL MERCAPTAN (ETHANETHIOL)
	32840	N-ETHYL MORPHOLINE
	32925	ETHYL POLYSILICATE
	80173	ETHYL PROPIONATE
	32940	ETHYL SILICATE (TETRAETHYL-o-SILICATE)
	92330	EXPLOSIVE
	92355	FABRIC
	92340	FABRIC FINISHER
	92345	FABRIC MODIFIER
	92350	FABRIC PLASTICIZER
	33085	FABRIC SOFTENER
	33115	FELDSPAR
	16280	FERBAM
FECL2	33160	FERRIC CHLORIDE
	33165	FERRIC SULFATE
	33230	FERROUS SULFATE
FEV	33235	FERROVANADIUM
	92360	FERTILIZER-CHEMICAL
	92365	FERTILIZER-ORGANIC
	80140	FIBER BOARD
	33245	FIBERGLASS
	90810	FIBERGLASS FABRIC
	90820	FIBERGLASS INSULATION
	80022	FILLER COMPOUND
	80023	FILTER MEDIA
	92370	FIRE EXTINGUISHER
	80001	FIRE RETARDANT
	92380	FLATTING AGENT
	92390	FLAVORING AGENT
	90800	FLINT
	33305	FLOOR WAX
	92400	FLOTATION AGENT
	33307	FLOUR
	90840	FLUORIDES
F	33370	FLUORINE
	90830	FLUORINE COMPOUNDS

Mnemonic Code	Code	Name
	33415	FLUOROBORIC ACID
TCFM	33565	FLUOROTRICHLOROMETHANE (FREON 11, TRICHLOROFLUOROMETHANE)
CAF2	33595	FLUORSPAR
	92410	FLUX
	92420	FOOD ADDITIVE
	92425	FOOD PRESERVATIVE
FDS	33635	FOODSTUFF
FDST	33637	FOODSTUFF-THERMAL DECOMPOSITION OF
HCHO	33640	FORMALDEHYDE (METHANAL, FORMALIN)
HCHO	33640	FORMALIN (METHANAL, FORMALDEHYDE)
	33675	FORMAMINE (HEXAMETHYLENETETRAMINE; HEXAMINE; METHENAMINE; UROTROPIN)
	90850	FORMATES
HCOOH	33720	FORMIC ACID
	32610	FORMIC ETHER (ETHYL FORMATE)
	33895	FOUNTAIN SOLUTION
	90860	FREON
TCFM	33565	FREON 11 (FLUOROTRICHLOROMETHANE, TRICHLOROFLUOROMETHANE)
DCDFM	24095	FREON 12 (DICHLORODIFLUOROMETHANE)
	24235	FREON 21 (DICHLOROMONOFLUOROMETHANE)
	71447	FREON 112
	74337	FREON 113 (TRIFLUOROTRICHLOROETHANE)
	92430	FUEL
	90870	FULLER'S EARTH
	92440	FUMIGANT
	92450	FUNGICIDE
	34185	FURAN
FUR	34120	FURFURAL (2-FURANCARBONAL; 2-FURALDEHYDE; FURAL; FURALE)
	34370	FURFURYL ALCOHOL
	34455	FURNITURE POLISH
	34585	GALLIUM
	69775	GALVANIZED STEEL
GN	90883	GASOLINE-LEAD CONTENT UNKNOWN
GL	90880	GASOLINE-LEADED
GU	90885	GASOLINE-UNLEADED (WHITE GAS)
	34715	GELATIN
GE	34770	GERMANIUM
	90890	GERMANIUM COMPOUNDS
GEOX	34792	GERMANIUM, OXIDES OF
	34815	GERMICIDE
	90900	GLASS
	76622	GLASS CLEANER (WINDOW CLEANER)
	90910	GLASS WOOL
	80024	GLAZING COMPOUND
	34892	GLAZE
	90920	GLUE-EPOXY BASE
	90925	GLUE-GUM
	92460	GLUE-OTHER
	90930	GLUE-RUBBER BASE
G	35085	GLYCERIN (GLYCERINE; GLYCEROL; 1, 2, 3-PROPANETRIOL)
G	35085	GLYCERINE (GLYCEROL; GLYCERIN; 1, 2, 2-PROPANETRIOL)
G	35085	GLYCEROL (GLYCERINE; GLYCERIN; 1, 2, 3-PROPANETRIOL)
	35120	GLYCIDOL (2, 3-EPOXY-1-PROPANOL)
	90950	GLYCOLS
AU	35455	GOLD

Mnemonic Code	Code	Name
AUOX	35457	GOLD, OXIDES OF
	90960	GOLD PLATING COMPOUND
C	17366	GRAPHITE (PLUMBAGO)
	35505	GRAVEL
	92470	GREASE
	92473	GREASE REMOVER
	80005	GRINDING COMPOUND
GWD	35507	GRINDING WHEEL DUST
	80049	GUM ARABIC
	35745	GUNK
	35750	GUTHION (AZINPHOS, METHYL)
	90980	GYPSUM
HF	35755	HAFNIUM
	92475	HAIR SPRAY
	92480	HAIR TONIC
	91000	HALIDES
	91010	HALOGENATED HYDROCARBON INSECTICIDES
	91030	HALOGENATED HYDROCARBONS
	92490	HARDENER
HE	35925	HELIUM
	35927	HEMATITE (IRON OXIDE, RED)
	80134	HEMP
	35960	HEPTACHLOR
HEP	36060	HEPTANE (DIPROPYL METHANE; HEPTYL HYDRIDE)
	36340	2-HEPTANONE (METHYL (n-AMYL) KETONE)
EBK	36330	3-HEPTANONE (ETHYL BUTYL KETONE)
HEP	36060	HEPTYL HYDRIDE (HEPTANE; DIPROPYL METHANE)
	91040	HETEROCYCLIC NITROGEN COMPOUNDS
	17385	HEXACHLOROETHANE (PERCHLOROETHANE; CARBON TRICHLORIDE; CARBON HEXACHLORIDE)
	36690	HEXACHLORONAPHTHALENE
	36710	HEXACHLOROPHENE
	21560	HEXAHYDROPHENOL (CYCLOHEXANOL)
	33675	HEXAMETHYLENETETRAMINE (FORMAMINE; HEXAMINE; METHENAMINE; UROTROPIN)
	33675	HEXAMINE (HEXAMETHYLENETETRAMINE; FORMAMINE; METHENAMINE; UROTROPIN)
HEX	36955	HEXANE (n-HEXANE)
HEX	36955	n-HEXANE (HEXANE)
MBK	37330	2-HEXANONE (METHYL BUTYL KETONE; METHYL n-BUTYL KETONE)
MIK	37510	HEXONE (METHYL ISOBUTYL KETONE)
	37520	sec-HEXYL ACETATE (METHYL AMYL ACETATE)
CAOH2	15743	HYDRATED LIME (CALCIUM HYDROXIDE; SLAKED LIME)
	38110	HYDRAZINE (DIAMINE; 1, 1-DIMETHYLHYDRAZINE)
	91050	HYDRAZINE SALTS
HBR	38575	HYDROBROMIC ACID (HYDROGEN BROMIDE)
	91060	HYDROCARBON PARAFFINS
	91070	HYDROCARBONS
HCL	38580	HYDROCHLORIC ACID (MURIATIC ACID, HYDROGEN CHLORIDE)
HCN	38530	HYDROCYANIC ACID (HYDROGEN CYANIDE; PRUSSIC ACID)
HFA	38550	HYDROFLUORIC ACID (HYDROGEN FLUORIDE)
H2	38585	HYDROGEN
HBR	38575	HYDROGEN BROMIDE (HYDROBROMIC ACID)
HCL	38580	HYDROGEN CHLORIDE (HYDROCHLORIC ACID, MURIATIC ACID)
HCN	38530	HYDROGEN CYANIDE (HYDROCYANIC ACID; PRUSSIC ACID)

Mnemonic Code	Code	Name
HFA	38550	HYDROGEN FLUORIDE (HYDROFLUORIC ACID)
H202	38605	HYDROGEN PEROXIDE
H2SE	38610	HYDROGEN SELENIDE
H2S	38620	HYDROGEN SULFIDE
	36645	HYDROQUINOL (HYDROQUINONE; QUINOL; p-DIHYDROXYBENZENE; 1, 4-BENZENEDIOL)
	36645	HYDROQUINONE (1, 4-BENZENEDIOL; p-DIHYDROXYBENZENE; HYDROQUINOL; QUINOL)
	38950	HYDROXYLAMINE HYDROCHLORIDE (HYDROXYLAMMONIUM CHLORIDE)
	38950	HYDROXYLAMMONIUM CHLORIDE (HYDROXYLAMINE HYDROCHLORIDE)
	38965	HYDROXYL ORGANIC COMPOUNDS
DAAL	23010	4-HYDROXY-4-METHYL-2-PENTANONE (DIACETONE ALCOHOL)
	91080	HYPOCHLORITES
	39365	ILLITE
	91085	IMIDES
	39820	INDENE
	80011	INDICATOR
IN	39860	INDIUM
	91090	INDIUM COMPOUNDS
	39995	INDUSTRIAL WASTE
	92520	INK
	92523	INK DRIER
	92760	INK, PRINTING
	92525	INK REMOVER
	92530	INK SOLVENT
	92545	INSECTICIDE
	92540	INSECT REPELLENT
	92550	INSULATION
	92553	INTENSIFIER
	40025	IODIDES
I	40030	IODINE
FE	91095	IRON
FEOX	40297	IRON, OXIDES OF
FE203	40298	IRON OXIDE ORE (MAGNETITE)
	35927	IRON OXIDE, RED (HEMATITE)
	91100	IRON SALTS-SOLUBLE
	40370	ISOAMYL ACETATE (BANANA OIL)
	40380	ISOAMYL ALCOHOL (3-METHYL-1-BUTANOL; ISOBUTYL CARBINOL)
	40410	ISOBUTYL ACETATE
	40430	ISOBUTYL ALCOHOL
	40380	ISOBUTYL CARBINOL (3-METHYL-1-BUTANOL; ISOAMYL ALCOHOL)
	40595	ISOCYANATES
	40910	ISOPHORONE
ISO	40940	ISOPRENE (3-METHYL-1, 3-BUTADIENE)
IPAL	40987	ISOPROPANOL (ISOPROPYL ALCOHOL)
	40982	2-ISOPROPOXYPROPANE
	40984	ISOPROPYL ACETATE
IPAL	40987	ISOPROPYL ALCOHOL (ISOPROPANOL)
	40990	ISOPROPYL AMINE
	25905	ISOPROPYL ETHER (DIISOPROPYL ETHER)
IGE	41150	ISOPROPYLGLYCIDYL ETHER
	91110	JET FUEL
	41775	KAOLIN
	41776	KAOLINITE
	91115	KEROSENE (OIL, FUEL NO. 1)

Mnemonic Code	Code	Name
	41840	KETENE
	21660	KETOHEXAMETHYLENE (CYCLOHEXANONE)
	91120	KETONES
	42035	KRYPTON
	92555	LACQUER
	42355	LACQUER THINNER
	91140	LACTONES
	80051	LANOLIN
	91150	LATEX
	80008	LAUNDRY ADDITIVE
	42405	LAYOUT FLUID
PB	42490	LEAD
	42510	LEAD ARSENATE
	91160	LEAD COMPOUNDS
	42600	LEAD FLUOROBORATE
PB304	42680	LEAD OXIDE
PBOX	42685	LEAD, OXIDES OF
	42805	LEATHER
	92560	LEAVENING AGENT
CAOH2	15743	LIME, SLAKED (HYDRATED LIME; CALCIUM HYDROXIDE)
CAO	15755	LIME, UNSLAKED (CALX; CALCIUM OXIDE; QUICKLIME; BURNT LIME)
CACO3	15705	LIMESTONE (CALCIUM CARBONATE)
	43025	LIMONITE
	09318	LINDANE (BENZENE HEXACHLORIDE)
	80053	LINSEED OIL
LPG	91190	LIQUID PETROLEUM GAS
LIH	43115	LITHIUM HYDRIDE
	92570	LUBRICANT
	43195	LUCITE
NAOH	69070	LYE (SODIUM HYDROXIDE; CAUSTIC SODA)
	43315	LYSOL
	92580	MACHINE COOLANT
MG	43320	MAGNESIUM
	80144	MAGNESIUM CARBONATE
MGCL2	43360	MAGNESIUM CHLORIDE
MGOX	43390	MAGNESIUM, OXIDES OF
FE203	40298	MAGNETITE (IRON OXIDE ORE)
	43470	MALATHION
MAH	43660	MALEIC ANHYDRIDE
MN	44000	MANGANESE
	44025	MANGANESE COMPOUNDS
MNO2	44030	MANGANESE DIOXIDE
MNOX	44035	MANGANESE, OXIDES OF
	44105	MASONITE
	92590	MEDICINE
	44840	MERCUROCHROME
HG	44870	MERCURY
	44915	MERCURY COMPOUNDS
HGOX	45315	MERCURY, OXIDES OF
	80156	MERTHIOLATE
	45360	MESITYL OXIDE
	92600	METAL
	80054	METAL DEFECT DETECTOR
	45385	METAL FINISH

Mnemonic Code	Code	Name
	80113	METAL SURFACE TREATMENT
HCHO	33640	METHANAL (FORMALIN; FORMALDEHYDE)
CH4	45655	METHANE
CH3HS	45850	METHANETHIOL (METHYL MERCAPTAN)
MEOH	45930	METHANOL (METHYL ALCOHOL)
	33675	METHENAMINE (FORMAMINE; HEXAMETHYLENETETRAMINE; HEXAMINE; UROTROPIN)
	46210	METHOXYCHLOR
	46240	2-METHOXYETHANOL
	46410	METHYL ACETATE
	46435	METHYLACETYLENE (PROPYNE)
	46450	METHYL ACRYLATE
	26075	METHYLAL (DIMETHOXYMETHANE)
MEOH	45930	METHYL ALCOHOL (METHANOL)
MENH2	46470	METHYLAMINE
	37520	METHYL AMYL ACETATE (sec-HEXYL ACETATE)
	46620	METHYL AMYL ALCOHOL
	36340	METHYL (n-AMYL) KETONE (2-HEPTANONE)
MEBR	46890	METHYL BROMIDE
ISO	40940	3-METHYL-1, 3-BUTADIENE (ISOPRENE)
	40380	3-METHYL-1-BUTANOL (ISOBUTYL CARBINOL; ISOAMYL ALCOHOL)
MBK	37330	METHYL BUTYL KETONE (METHYL n-BUTYL KETONE, 2-HEXANONE)
	32470	METHYL CELLOSOLVE (ETHYLENE GLYCOL MONOMETHYL ETHER)
	46935	METHYLCELLOSOLVE ACETATE (ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE)
MCL	45770	METHYL CHLORIDE
TRIC	73760	METHYL CHLOROFORM (1, 1, 1-TRICHLOROETHANE)
	47030	METHYLCYCLOHEXANE
	47040	METHYLCYCLOHEXANOL
	47045	o-METHYLCYCLOHEXANONE
MDI	27780	METHYLENE BISPHENYL ISOCYANATE (DIPHENYL METHANE DIISOCYANATE)
MECL2	47270	METHYLENE CHLORIDE (DICHLOROMETHANE)
MEK	13980	METHYL ETHYL KETONE (2-BUTANONE)
MEKP	80105	METHYL ETHYL KETONE PEROXIDE
	33850	METHYL FORMATE
	47410	3-METHYL-5-HEPTANONE
	45655	METHYL HYDRIDE (METHANE)
	80055	METHYL p-HYDROXY BENZOATE
	47600	METHYL IODIDE
	47605	METHYL ISOAMYL KETONE
	47610	METHYL ISOBUTYL CARBINOL
MIK	37510	METHYL ISOBUTYL KETONE (HEXONE)
	47625	METHYL ISOCYANATE
	45850	METHYL MERCAPTAN (METHANETHIOL)
	47700	METHYL METHACRYLATE
	80155	METHYL ORANGE
	47855	METHYL PARATHION
MIK	37510	4-METHYL-2-PENTANONE
	54480	METHYL PROPYL KETONE (2-PENTANONE)
	80154	METHYL RED
	48330	METHYL SILICATE
	76510	alpha-METHYL STYRENE (VINYL TOLUENE)
	71900	METHYL TUADS (TETRAMETHYLTHIURAM DISULFIDE; THIRAM)
	17340	MEVINPHOS
	48535	MICA

Mnemonic Code	Code	Name
	48545	MINERAL SPIRITS
	48615	MOISTURIZER
	92610	MOLD RELEASE
	48625	MOLYBDENUM
MOS2	80056	MOLYBDENUM DISULFIDE
MOX	48628	MOLYBDENUM, OXIDES OF
	48655	MONEL STEEL
MONEO	48656	MONEL STEEL, OXIDES OF
	18190	MONOCHLOROBENZENE (CHLOROBENZENE)
EAM	04980	MONOETHANOLAMINE (ETHANOLAMINE)
	48780	MONOMETHYLANILINE
	48800	MONOMETHYLHYDRAZINE
	92620	MORDANT
	48910	MORPHOLINE
HCL	38580	MURIATIC ACID (HYDROCHLORIC ACID, HYDROGEN CHLORIDE)
	49580	NAPHTHA-COAL TAR
NAPH	49600	NAPHTHALENE
	90520	NAPHTHALENES, CHLORINATED
PD	49582	NAPHTHA-PETROLEUM (PETROLEUM DISTILLATES)
ANTU	07440	alpha-NAPHTHA THIUREA
	50065	beta-NAPHTHYLAMINE
	47800	1-NAPHTHYL-n-METHYL CARBAMATE (CARBARYL; SEVIN)
NG	50195	NATURAL GAS
	50315	NEON
NI	50420	NICKEL
	50430	NICKEL CARBONYLS
	50440	NICKEL CHLORIDE
NIOX	50495	NICKEL, OXIDES OF
	50510	NICKEL SULFATE
	50570	NICOTINE
	50675	NI-HARD STEEL
	50676	NI-HARD STEEL, OXIDES OF
	19985	NIOBIUM (COLUMBIUM)
HNO3	50742	NITRIC ACID
	50745	NITRIC OXIDE
	50058	NITRILO TRIACETIC ACID
	50748	p-NITROANILINE
	50760	NITROBENZENE
	17685	NITROCELLULOSE (CELLULOSE NITRATE)
	50775	p-NITROCHLOROBENZENE
	50783	NITRODIMETHYL AMINE
	50785	NITRO-DIPHENYL
	50795	NITROETHANE
N2	50865	NITROGEN
NO2	50870	NITROGEN DIOXIDE
NOX	50875	NITROGEN, OXIDES OF
	50883	NITROGEN PENTOXIDE
NO2	50873	NITROGEN TETROXIDE
	50885	NITROGEN TRIFLUORIDE
	50888	NITROGEN TRIOXIDE
	50890	NITROGLYCERINE (TRINITROGLYCERIN)
	50910	NITROMETHANE
	50930	m-NITROPHENOL
	50950	o-NITROPHENOL
	50940	p-NITROPHENOL

Mnemonic Code	Code	Name
	51100	1-NITROPROPANE
	51090	2-NITROPROPANE
	51110	n-NITROSODIMETHYLAMINE
	51115	NITROTOLUENE
	18710	NITROTRICHLOROMETHANE (CHLOROPICRIN)
	51118	NITROUS OXIDE
	80031	NUTRIENT MEDIA
	80013	NYLON
	51585	OCTACHLORONAPHTHALENE
	51705	OCTANE
OILC	52131	OIL, CUTTING
OILF	80123	OIL, FUEL (GENERAL)
	91115	OIL, FUEL NO. 1 (KEROSENE)
	52132	OIL, FUEL NO. 2 (DIESEL FUEL)
	52133	OIL, FUEL NO. 3
	52134	OIL, FUEL NO. 4
	52135	OIL, FUEL NO. 5
	52136	OIL, FUEL NO. 6 (OIL, BUNKER C)
	52137	OIL, FUSEL
	92500	OIL, HYDRAULIC
	52138	OIL, LUBE
	52139	OIL, MINERAL
	52141	OIL, MOTOR
	04590	OIL, ONION (ALLYL PROPYL DISULFIDE)
	52142	OIL, OTHER
	52143	OIL, PENETRATING
	52144	OIL, QUENCH
	52145	OIL, VEGETABLE
	80096	OILS, ESSENTIAL
	52365	OSMIUM
	52370	OSMIUM TETROXIDE
	52480	OXALIC ACID
	53395	OXIDIZING AGENT
02	53525	OXYGEN-GAS
LOX	53526	OXYGEN-LIQUID
	53530	OXYGEN DIFLUORIDE
03	53590	OZONE
	92630	PAINT
DP-PA	92635	PAINT, DECOMPOSITION PRODUCTS OF
	92640	PAINT DRIER
	92645	PAINT REMOVER
	92650	PAINT THINNER
	53615	PALLADIUM
	80168	PALLADIUM, OXIDES OF
	94140	PAPER
	53815	PARAFFIN
	53900	PARAQUAT
	53920	PARATHION
	53975	PASTE
	54130	PENTABORANE
	54155	PENTACHLORONAPHTHALENE
	54160	PENTACHLOROPHENOL
	54185	PENTAERYTHERITOL
	54243	n-PENTANE
	54246	iso-PENTANE

Mnemonic Code	Code	Name
	54480	2-PENTANONE (METHYL PROPYL KETONE)
	17385	PERCHLOROETHANE (CARBON HEXACHLORIDE; CARBON TRICHLORIDE; HEXACHLOROETHANE)
PCE	54790	PERCHLOROETHYLENE (TETRACHLOROETHYLENE)
	54800	PERCHLOROMETHYL MERCAPTAN
	54810	PERCHLORYL FLUORIDE
	54835	PERMANGANATE
	92660	PESTICIDE
PD	49582	PETROLEUM DISTILLATES (NAPHTHA-PETROLEUM)
	80059	PETROLEUM SULFONATE
	18080	PHENACYLCHLORIDE (a-CHLOROACETOPHENONE)
PHEN	55460	PHENOL (CARBOLIC ACID)
PH	56240	PHENOLPHTHALEIN
	56950	p-PHENYLENEDIAMINE
	57210	PHENYL ETHER
	57240	PHENYLETHYLENE
PGE	57280	PHENYL GLYCIDYL ETHER
	57300	PHENYLHYDRAZINE
	57700	PHOSDRIN
COCL2	57710	PHOSGENE (CARBONYL CHLORIDE)
	80060	PHOSPHATE
	57740	PHOSPHINE
H3P04	58520	PHOSPHORIC ACID
PW	59125	PHOSPHOROUS-WHITE
PY	59130	PHOSPHOROUS-YELLOW
	59160	PHOSPHOROUS PENTACHLORIDE
	59162	PHOSPHOROUS PENTASULFIDE
	59115	PHOSPHOROUS PENTOXIDE
	59166	PHOSPHOROUS TRICHLORIDE
	92670	PHOTOGRAPHIC CHEMICAL
	92675	PHOTOGRAPHIC DEVELOPER
	80117	PHOTOGRAPHIC FIXER
	59173	PHOTOGRAPHIC PLATE CLEANER
	59185	PHTHALIC ACID
PAH	59230	PHTHALIC ANHYDRIDE
	59450	PICRIC ACID (2, 4, 6-TRINITROPHENOL)
	59465	PIGMENT
	80061	PINE OIL
	80033	PIPE JOINT SEALER
	60110	PIVAL (2-PIVALYL-1, 3-INDANDIONE; PINDONE)
	60110	2-PIVALYL-1, 3-INDANDIONE (PIVAL; PINDONE)
	60110	PINDONE (2-PIVALYL-1, 3-INDANDIONE; PIVAL)
	80007	PLASTER
	60122	PLASTER OF PARIS
	60123	PLASTIC
	92680	PLASTIC BODY FILLER
	92685	PLASTICIZER
	92690	PLATING COMPOUND
	92700	PLATING SOLUTION
	60125	PLATINUM
	80166	PLATINUM, OXIDES OF
C	17366	PLUMBAGO (GRAPHITE)
	76626	PLYWOOD (WOOD-RESIN BONDED)
	92720	POLISH
	60215	POLONIUM

Mnemonic Code	Code	Name
	80062	POLYCARBONATE
	60242	POLYELECTROLYTE
	60244	POLYESTER
	60246	POLYETHYLENE
	80010	POLYETHER
	80063	POLYETHYLENE GLYCOL
	60248	POLYMER
	60275	POLYPROPYLENE
	60285	POLYSTYRENE
DP-TEF	60295	POLYTETRAFLUOROETHYLENE, DECOMPOSITION OF
	60297	POLYURETHANE
PVC	60298	POLYVINYL CHLORIDE
	60350	POTASH (POTASSIUM CARBONATE)
K	60315	POTASSIUM
	60350	POTASSIUM CARBONATE (POTASH)
KCN	60400	POTASSIUM CYANIDE
	80064	POTASSIUM DICHROMATE
KOH	60440	POTASSIUM HYDROXIDE (CAUSTIC POTASH)
	80065	POTASSIUM OXIDE
	60585	POZZOLITH
	60665	PRECIPITATING AGENT
	92740	PRESERVATIVE
	92750	PRIMER
	80097	PRINTING CHEMICAL
	92760	PRINTING INK
PR-ACS	80128	PRODUCTS OF ACID CORE SOLDER
PC-C	60711	PRODUCTS OF COMBUSTION-COAL OR COKE
PC-O	60712	PRODUCTS OF COMBUSTION-FUEL OIL
PC-GL	60713	PRODUCTS OF COMBUSTION-GASOLINE (LEADED)
PC-GN	60714	PRODUCTS OF COMBUSTION-GASOLINE (LEAD CONTENT UNKNOWN)
PC-GU	60715	PRODUCTS OF COMBUSTION-GASOLINE (UNLEADED)
C-GAS	60716	PRODUCTS OF COMBUSTION-GENERAL
	80089	PRODUCTS OF COMBUSTION-JET FUEL
PC-K	60717	PRODUCTS OF COMBUSTION-KEROSENE
PC-NG	60718	PRODUCTS OF COMBUSTION-NATURAL GAS
PC-P	60719	PRODUCTS OF COMBUSTION-PROPANE
PC-W	60721	PRODUCTS OF COMBUSTION-WOOD
PR-RCS	80172	PRODUCTS OF ROSIN CORE SOLDER
	26615	PROPANE (DIMETHYLMETHANE)
	35085	1, 2, 3-PROPANETRIOL (GLYCERINE; GLYCEROL; GLYCERIN)
	62000	PROPARGYL ALCOHOL
	62270	beta-PROPIOLACTONE
	63265	n-PROPYL ACETATE
	63280	n-PROPYL ALCOHOL
PL	63495	PROPYLENE
	63520	PROPYLENE DICHLORIDE
PLG	63525	PROPYLENE GLYCOL
	63540	PROPYLENE IMINE
PLO	63550	PROPYLENE OXIDE (1, 2-EPOXYPROPANE)
	63620	n-PROPYL NITRATE
	46435	PROPYNE (METHYLACETYLENE)
HCN	38530	PRUSSIC ACID (HYDROCYANIC ACID; HYDROGEN CYANIDE)
	92780	PUMICE
	92790	PUTTY
	65070	PYRETHRUM

Mnemonic Code	Code	Name
	65080	PYRIDINE
	66495	QUARTZ
CAO	15755	QUICKLIME (CALCIUM OXIDE; UNSLAKED LIME; CALX; BURNT LIME)
	36645	QUINOL (HYDROQUINONE; HYDROQUINOL; p-DIHYDROXYBENZENE)
	66950	QUINONE
	67163	RADIUM
	67165	RADON
	80014	RAYON
	80088	REAGENT
	92800	REDUCING AGENT
	92810	REFRIGERANT
	80021	REINFORCING MATERIAL
	92820	RESIN
	92830	RETARDER
RH	67405	RHODIUM
	92840	RODENTICIDE
	67525	RONNEL
	67528	ROOFING TAR
	67530	ROTENONE
ROUGE	67535	ROUGE
	67536	ROX
	13410	RUBBER, BUTADIENE
	13455	RUBBER, BUTADIENE STYRENE
	67537	RUBBER, NATURAL
	67538	RUBBER, NEOPRENE
	67539	RUBBER, OTHER
	67541	RUBIDIUM
	67555	RUSITE
	92855	RUST INHIBITOR
	92860	RUST REMOVER (ERUSTICATOR)
	67855	SALTS
	67857	SALT WATER-OCEAN
	67915	SAND
	67918	SAND, SILICA FREE
	67935	SANITIZER
	68105	SCANDIUM
	68205	SCRATCH REMOVER
	68208	SEACOAL
	92865	SEALANT
SE	68295	SELENIUM
	68340	SELENIUM HEXAFLUORIDE
	47800	SEVIN (CARBARYL; 1-NAPHTHYL-n-METHYL CARBAMATE)
	68505	SEWAGE, COMBINED-SANITARY SEWAGE PLUS URBAN RUNOFF
	68508	SEWAGE, SANITARY
	68509	SHALE
	68511	SHAMPOO
	68512	SHELLAC
SIO2	23305	SILICA, AMORPHOUS (SILICON DIOXIDE)
SIO2F	68645	SILICA, CRYSTALLINE, FREE
	68655	SILICA, GEL
	68657	SILICATE OF SODA (SODIUM SILICATE)
	68658	SILICATES
SI	68695	SILICON
SIC	17525	SILICON CARBIDE (CARBORUNDUM)
SIO2	23305	SILICON DIOXIDE (SILICA, AMORPHOUS)

Mnemonic Code	Code	Name
	68659	SILICONE
AG	68730	SILVER
	80142	SILVER NITRATE
AGOX	68748	SILVER, OXIDES OF
	92880	SIZING COMPOUND
CAOH2	15743	SLAKED LIME (CALCIUM HYDROXIDE; HYDRATED LIME)
	68763	SLATE
	68764	SLUDGE-SEWAGE TYPE
	68766	SOAP
	68768	SOAPSTONE
NACO3	68850	SODA ASH (SODIUM CARBONATE)
NA	68765	SODIUM
	80069	SODIUM BICARBONATE
	80071	SODIUM BISULFATE
NACO3	68850	SODIUM CARBONATE (SODA ASH)
NACLO	68870	SODIUM CHLORATE
NACL	68880	SODIUM CHLORIDE
NACRO	68900	SODIUM CHROMATE
	68905	SODIUM CITRATE
NACN	68950	SODIUM CYANIDE
	69040	SODIUM FLUOROACETATE
	69055	SODIUM HEXAMETAPHOSPHATE
NAOH	69070	SODIUM HYDROXIDE (CAUSTIC SODA; LYE)
NAOCL	69090	SODIUM HYPOCHLORITE (CLOROX)
	69375	SODIUM PROPIONATE
	80073	SODIUM METABORATE
	80079	SODIUM METASILICATE
	68657	SODIUM SILICATE (SILICATE OF SODA)
	69445	SODIUM STEARATE
	69460	SODIUM SULFIDE
NASO	69470	SODIUM SULFITE
	80153	SODIUM THIOSULFATE
	80075	SODIUM TRICHLOROPHENATE
	80076	SODIUM TRIPOLYPHOSPHATE
	92890	SOFTENER
	80032	SOIL
	92900	SOIL ADDITIVE
	69615	SOLID WASTE
	92910	SOLVENT
	80121	SOYA ALKYD RESIN
	69705	SPOT REMOVER
	92920	STABILIZER
SS	69715	STAINLESS STEEL
SSOX	69717	STAINLESS STEEL, OXIDES OF
	69713	STAIN, WOOD
	80077	STANNIC CHLORIDE
	69735	STANNOUS FLUORIDE
	69738	STARCH
	17475	STEEL (CARBON STEEL)
	80118	STEEL BLUE
	69775	STEEL, GALVANIZED
STOX	80124	STEEL, OXIDES OF
SBH3	69800	STIBINE (ANTIMONY HYDRIDE)
	69855	STODDARD SOLVENT
	80112	STRIPPING SOLUTION

Mnemonic Code	Code	Name
	69935	STRONTIUM
	70060	STRYCHNINE
STY	70130	STYRENE (VINYL BENZENE)
S	70845	SULFUR
SO2	70860	SULFUR DIOXIDE
	70865	SULFUR HEXAFLUORIDE
H2SO4	70870	SULFURIC ACID
	70900	SULFUR MONOCHLORIDE
	70940	SULFUR PENTAFLUORIDE
	70960	SULFURYL FLUORIDE
	70995	SURFACTANT
	80136	SWEEPING COMPOUND
	71025	SYNTHETIC FABRIC
	22840	SYSTOX (DEMETON)
	73900	2, 4, 5-T (2, 4, 5-TRICHLOROPHENOXYACETIC ACID)
	71055	TALC
	71058	TALCUM POWDER
TA	71095	TANTALUM
	71135	TAR
	71193	TEDION (2, 4, 5, 4-TETRACHLORODIPHENYL SULFONE)
	88705	TEFLON, DECOMPOSITION PRODUCTS OF
TE	71197	TELLURIUM
	71200	TELLURIUM HEXAFLUORIDE
	71306	m-TERPHENYL
	71308	o-TERPHENYL
	71310	p-TERPHENYL
	80078	TETRACETIC ACID
	71447	1, 1, 2, 2-TETRACHLORO-1, 2-DIFLUOROETHANE (FREON 112)
	71193	2, 4, 5, 4-TETRACHLORODIPHENYL SULFONE (TEDION)
	71460	1, 1, 2, 2-TETRACHLOROETHANE
PCE	54790	TETRACHLOROETHYLENE (PERCHLOROETHYLENE)
	17490	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)
	71500	TETRACHLORONAPHTHALENE
TEDP	71610	TETRAETHYL DITHIOPYROPHOSPHATE
TEPB	71640	TETRAETHYL LEAD
	32940	TETRAETHYL-o-SILICATE (ETHYL SILICATE)
TEPP	71680	TETRAETHYL PYROPHOSPHATE
	71695	TETRAHYDROFURAN
TMPB	71860	TETRAMETHYL LEAD
	71880	TETRAMETHYL SUCCINONITRILE
	71900	TETRAMETHYLTHIURAMDISULFIDE (THIRAM; METHYL TUADS)
	71930	TETRANITRO METHANE
	72055	TETRYL (2, 4, 6-TRINITROPHENYLMETHYLNITRAMINE)
TH	72095	THALLIUM
THOX	72085	THALLIUM, OXIDES OF
	92930	THICKENER
	92940	THINNER
	28880	THIODAN (ENDOSULFAN)
	71900	THIRAM (METHYL TUADS; TETRAMETHYLTHIURAMDISULFIDE)
TH	72985	THORIUM
SN	73075	TIN
	73252	TIN FLUOROBORATE
SNOX	73253	TIN, OXIDES OF
TI	73255	TITANIUM
TIO2	73258	TITANIUM DIOXIDE

Mnemonic Code	Code	Name
TOL	73300	TOLUENE (TOLUOL)
TDI	73390	TOLUENE-2, 4-DIISOCYANATE
	73470	o-TOLUIDINE
TOL	73300	TOLUOL (TOLUENE)
	73495	TONER
	73500	TOXAPHENE (CHLORINATED CAMPHENE)
	73515	TRANSMISSION FLUID
	73525	TREMOLITE
	73730	TRIBUTYL PHOSPHATE
TRIC	73760	1, 1, 1-TRICHLOROETHANE (METHYL CHLOROFORM)
	73770	1, 1, 2-TRICHLOROETHANE
TCE	73790	TRICHLOROETHYLENE (ACETYLENE TRICHLORIDE)
TCFM	33565	TRICHLOROFLUOROMETHANE (FREON 11, FLUOROTRICHLOROMETHANE)
	18500	TRICHLOROMETHANE (CHLOROFORM)
	73870	TRICHLORONAPHTHALENE
	73900	2, 4, 5-TRICHLOROPHENOXYACETIC ACID (2, 4, 5-T)
	73960	1, 2, 3-TRICHLOROPROPANE
	74010	1, 1, 2-TRICHLORO-1, 2, 2-TRIFLUOROETHANE
	74617	TRIDYMITE
	74175	TRIETHYLAMINE
	74335	TRIFLUOROMONOBROMOMETHANE
	74337	TRIFLUOROTRICHLOROETHANE (FREON 113)
	74405	TRIMETHYL BENZENE
	50890	TRINITROGYLCERIN (NITROGLYCERIN)
	59450	2, 4, 6-TRINITROPHENOL (PICRIC ACID)
	72055	2, 4, 6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
TNT	74550	TRINITROTOLUENE
	74600	TRIORTHOCRESYL PHOSPHATE
	74613	TRIOX
	74635	TRIPHENYL PHOSPHATE
	74655	TRIPOLI
TSP	74795	TRISODIUM PHOSPHATE
W	74980	TUNGSTEN
	74990	TURPENTINE
	92950	TYPE CLEANER
	75155	UNDERCOATING
UNCH	75158	UNIDENTIFIED CHEMICAL
CAO	15755	UNSLAKED LIME (CALX; QUICKLIME; BURNT LIME; CALCIUM OXIDE)
U	75205	URANIUM
	75265	URBAN RUNOFF
	75915	URETHANE COMPOUND
	76005	UROTROPIN (FORMAMINE; HEXAMETHYLENETETRAMINE; HEXAMINE; METHENAMINE)
V	76165	VANADIUM
V205	76210	VANADIUM PENTOXIDE
	92960	VARNISH
	92965	VARNISH, DECOMPOSITION PRODUCTS OF
	92970	VARNISH DRYER
	76275	VARSOL
	94205	VEGETABLE PRODUCTS, NEC
	94215	VEHICLE, PAINT
	76355	VERMICULITE
VA	76420	VINYL ACETATE
STY	70130	VINYL BENZENE (STYRENE)
VCL	76445	VINYL CHLORIDE

Mnemonic Code	Code	Name
	76448	VINYL COMPOUNDS
	03800	VINYL CYANIDE (ACRYLONITRILE)
	80000	VINYL PLASTIC
	76510	VINYL TOLUENE (alpha-METHYL STYRENE)
	76605	VITHANE
	76610	WARFARIN
WHC	76612	WATERLESS HAND CLEANER
	80029	WATERPROOFING AGENT
	76613	WATER SOFTENER
	80009	WATER TREATMENT COMPOUND
	76614	WAX
	76615	WAX REMOVER
WGASE	76616	WELDING GASES, ELECTRIC
CGAS	76617	WELDING GASES, GAS
WR	76618	WELDING RODS
	92980	WETTING AGENT
GU	90885	WHITE GAS (GASOLINE-UNLEADED)
	80003	WHITENING AGENT
	80129	WINDEX
	76622	WINDOW CLEANER (GLASS CLEANER)
	94220	WOOD
	76623	WOOD FILLER-PLASTIC WOOD TYPE
	92990	WOOD PRESERVATIVE
	76624	WOOD, PRESSED
	76626	WOOD, RESIN BONDED (PLYWOOD)
	76627	WOOD SEALER
	69713	WOOD STAIN
	93200	WOOL
	76715	XENON
	76720	XYLENE (XYLOL)
	76910	XYLIDINE (DIMETHYLAMINOBENZENE)
	76720	XYLOL(XYLENE)
Y	77055	YTTRIUM
ZN	77115	ZINC
ZNCL2	77150	ZINC CHLORIDE
	77155	ZINC CHROMATE
ZNO2	77190	ZINC OXIDE
ZNOX	77195	ZINC, OXIDES OF
	77215	ZINC STEARATE
	80141	ZIRCON
ZR	77265	ZIRCONIUM

APPENDIX E

PHYSICAL HAZARDS

Mnemonic Code	Code	Name
DA	P0110	DECREASED AIR PRESSURE
IA	P0120	INCREASED AIR PRESSURE
LM	P0310	LASER/MASER
IR	P0410	INFARED RADIATION
IO	P0412	IONIZING RADIATION
RF	P0418	LONG WAVE RADIO FREQUENCY
MW	P0420	MICROWAVE RADIATION
UV	P0430	ULTRAVIOLET RADIATION
BL	P0440	ULTRAVIOLET RADIATION-BLACK LIGHT
XR	P0450	X-RADIATION
PH	P0510	OTHER PHYSICAL HAZARDS
NC	P0610	CONTINUOUS NOISE
NM	P0620	IMPACT NOISE
PN	P0615	POTENTIAL CONTINUOUS NOISE
PM	P0625	POTENTIAL IMPACT NOISE
NU	P0640	ULTRASONIC NOISE
VB	P0650	VIBRATION
ET	P0710	ELEVATED TEMPERATURE
DT	P0720	DEPRESSED TEMPERATURE

APPENDIX F

EXPOSURE FORM CODE

Code	Name
D	Dust*
F	Fume
G	Gas
L	Liquid
M	Mist
P	Particles: slivers, flakes, chips, curls, and other fragments*
S	Smoke
V	Vapor

*NOTE: Dust refers to respirable solid material, frequently susnended in the air. Dust tends to generate a health hazard.

Particles refer to non-respirable solid material. Particles tend to cause safety hazards.

APPENDIX G

INTENDED CONTROL

Code	Name
	Personal Protective Gear
EP	Ear Protection
	Muffs
	Plugs
EF	Eye and Face Protection
	Face shields (hoods)
	Goggles
	Safety glasses (clear and tinted)
	Welding helmets
	Laser glasses and goggles
FP	Foot Protection
	Foot guards
	Safety shoes
	Boots
HG	Hand Protection
	Gloves
	Protective barrier skin creams
HP	Head Protection (Caps and Hats)
	Dielectric
	Bump
	Impact
PC	Protective Clothing
	Suits (coats)
	Aprons
	Sleeves
	Pants
	Respiratory Protective Devices
CR	Chemical Cartridge Respirators (Half and Full Mast)
FR	Filter Respirators (Half and Full Mast)
GR	Gas Mask Respiratory Devices
OR	Other Respiratory Protective Devices
SR	Supplied Air Respiratory Gear
	Self-contained breathing apparatus
	Air line respirator
	Hose mask with and without blowers
	Abrasive blasting helmets, hoods or masks
	Ventilation
DV	General Dilution Ventilation
LV	Local Exhaust Ventilation
NV	Natural Ventilation
	Other Means of Control
IC	Isolation, Enclosure, Shielding, Distance
LT	Limited Time
OC	Other (includes Mazing, Alarms, Countdown Procedures, After Burners, Periodic Maintenance, Thermostat Controls, etc.)
	No Control
NC	No Control

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