
More Detailed Description of the Data Collection and Analysis Methods

Fatal Occupational Injury Counts

Since 1992, the Bureau of Labor Statistics’ CFOI program has been collecting information on the magnitude and characteristics of workplace fatal injuries in the United States. Now considered the “gold standard,” CFOI produces comprehensive, accurate, and timely counts of fatal work injuries. CFOI is a Federal-State cooperative program that has been implemented in all 50 States and the District of Columbia since 1992. Approximately 30 data elements are collected, coded, and tabulated, including information about the worker, the fatal incident, and the machinery or equipment involved. To compile counts that are as complete as possible, the census uses multiple sources to identify, verify, and profile fatal worker injuries. Information about each workplace fatality—occupation and other worker characteristics, equipment involved, and circumstances of the event—is obtained by combining the source records, such as death certificates, workers’ compensation reports, and Federal and State agency administrative reports. To ensure that fatalities are work-related, cases are substantiated with two or more independent source documents, or a source document and a follow-up questionnaire.

CFOI includes data for all fatal work injuries, whether the decedent was working in a job covered by the Occupational Safety and Health Administration (OSHA) or other Federal or State agencies or was outside the scope of regulatory coverage. For a fatality to be included in the census, the decedent must have been employed (that is, working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job. Fatalities to volunteer and unpaid family workers who perform the same duties and functions as paid workers are also included in the counts. Fatalities occurring among several other groups of workers are generally not covered by any Federal or State agencies, but are included in CFOI counts. These groups include self-employed and unpaid family workers, which accounted for about 18 percent of the fatalities; laborers on small farms, accounting for about 1 percent of the fatalities; and State and local government employees in States without OSHA-approved safety programs, which accounted for about 4 percent. (Approximately one-half of the States have approved OSHA safety programs, which cover State and local government employees).

Data presented in CFOI include only those deaths that resulted from occupational injuries. For this program, an injury is defined as any wound or damage to the body resulting from acute exposure to energy, such as heat, electricity, or impact from a crash or fall, or from the absence of such essentials as heat or oxygen, caused by a specific event or incident within a single workday or shift. Included are open wounds, intracranial and internal injuries, heatstroke, hypothermia, asphyxiation, acute poisonings resulting from short-term exposures limited to the worker’s shift, suicides and homicides, and work injuries listed as underlying or contributory causes of death.

Data for the program are compiled from various Federal, State, and local administrative sources including death certificates, workers’ compensation reports and claims, reports to various regulatory agencies, medical examiner reports, and police reports as well as news and other non-governmental reports. Diverse sources are used because studies have shown that no single source captures all job-related fatalities. CFOI draws information on fatal work injuries from as many as 25 different source documents – including death certificates, State workers’ compensation reports, news media accounts, and State motor vehicle incident reports. Information is also provided from such diverse sources as State farm bureaus, local police departments, emergency medical services,
and the National Association of Chiefs of Police. In addition, other Federal agencies having jurisdiction over or compiling data about fatalities affecting specific groups of workers provide data to BLS. These agencies include the Occupational Safety and Health Administration, the Employment Standards Administration, the Mine Safety and Health Administration, the Department of Defense, the U.S. Coast Guard, the Department of Justice, and the National Transportation Safety Board. This research was conducted with restricted access to the BLS CFOI data. The views expressed here do not necessarily reflect the views of the BLS.

**Economic Burden of Fatal Occupational Injuries**

Costs of fatal occupational injuries were estimated using a model developed by the Division of Safety Research within the National Institute for Occupational Safety and Health; more extensive information on the methods and derivation of the model is provided in Biddle (2004). Estimated costs by year of death; state of injury; sex, race, age, and occupation of the worker; event or exposure, source of injury, and industry groups in which the worker was employed are presented in Tables 1-51.

The cost-of-illness method, which combines direct and indirect costs, was employed to derive the societal cost of fatal occupational injuries. It calculates incidence-based costs, the lifetime cost of all fatal occupational injuries occurring in a given year regardless of what year the costs are accrued, rather than prevalence-based costs; information on the basic methodology is available at RTI (2006). Base information for each decedent was obtained through CFOI. Decedents who were identified as members of the U.S. military as well as decedents less than 16 years of age were not included in the cost calculations. Worker and case characteristics used in the cost calculations included: age, sex, occupation, and race of the worker; employer industry; and year of death. Although not necessary for the calculations, event or exposure, source of injury, and State of injury were obtained from CFOI to present societal costs for these groups. The direct and indirect costs of each occupational fatal injury reported by CFOI were calculated independently. Costs for all individual fatal occupational injuries were then summed for each characteristic or group of characteristics of interest.

The only direct cost was a single nominal value for medical costs in 1998 dollars of $11,276, which was obtained from the Detailed Claim Information (DCI) database from National Council on Compensation Insurance (Detailed Claim Information, 1992-1995). This database provides estimates of the costs of injuries and fatalities to workers based on a nationally representative sample. The administrative data collected from State worker’s compensation experiences contain information on injuries with lost workdays. Because each State varies in the requirements for worker’s compensation payment, the number of days lost prior to inclusion in this database ranges from two to seven days. However, this limitation does not affect the reporting on information for work-related fatalities. For this study, the mean of medical costs for fatalities over a 4-year period from the DCI was used. The dollar value was adjusted to 2003 dollars using the CPI-Medical Care Index shown in Appendix V (U.S. Department of Labor [BLS], 2009a).

The indirect lifetime cost of an individual occupational fatal injury was derived by calculating the present value of lost household production and future earnings of that worker summed from the year of death until that decedent would have reached age 67, accounting for the probability of survival were it not for the premature death—the human capital approach. These calculations build on a similar model developed by Dorothy Rice in 1965 (Rice, 1965). However, because this model calculates the cost of individual known fatalities, several modifications were made to the Rice model. First, because the decedents were known to be employed at the time of death, the calculation for participation rate in the labor force was eliminated. The assumption was made that if the
individuals would have survived, they would have remained in the workforce until the age of retirement. Second, the iterations were ceased when the decedent would have reached 67 rather than the age used in the Rice model, which was age 99. The age used in this model was selected based on the retirement age of a substantial proportion of the current workforce. However, if the victim was older than 67 at the time of death, a single year of indirect costs were included.

The indirect lifetime cost calculations are expressed as follows:

\[
PVF = \sum_{n=y}^{67} P_{y,q,s} (n) [Y_{s,j} (n) + Y_{s,h}^h (n)] * (1 + g)^{n-y} / (1 + r)^{n-y}
\]

where:

<table>
<thead>
<tr>
<th>PVF</th>
<th>= present discounted value of loss per person due to an individual occupational fatality</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P_{y,q,s} (n))</td>
<td>= probability that a person of age (y), race (q), and sex (s) will survive to age (n)</td>
</tr>
<tr>
<td>(y)</td>
<td>= age of the individual at death</td>
</tr>
<tr>
<td>(q)</td>
<td>= race of the individual</td>
</tr>
<tr>
<td>(s)</td>
<td>= sex of the individual</td>
</tr>
<tr>
<td>(n)</td>
<td>= age if the individual had survived</td>
</tr>
<tr>
<td>(Y_{s,j} (n))</td>
<td>= median annual compensation of an employed person of sex (s), specific occupation (j), and age (n) (includes median annual earnings, benefits, and wage growth adjustments)</td>
</tr>
<tr>
<td>(j)</td>
<td>= specific occupation of individual at death</td>
</tr>
<tr>
<td>(Y_{s,h}^h (n))</td>
<td>= mean annual imputed value of household production ((h)) of a person of sex (s) and age (n)</td>
</tr>
<tr>
<td>(h)</td>
<td>= imputed value of household production</td>
</tr>
<tr>
<td>(g)</td>
<td>= earnings growth rate attributable to overall productivity</td>
</tr>
<tr>
<td>(r)</td>
<td>= real discount rate (3%)</td>
</tr>
</tbody>
</table>
Indirect losses were adjusted by the probability that the individual would have survived were it not for the premature death that resulted from an occupational event or exposure, $P_{s,t}(n)$. The probability estimates used in this study were developed by the National Center for Health Statistics, Division of Vital Statistics (NCHS 1997). This agency used data from the 1990 Census of Populations (BoC 1992) as well as data on deaths occurring in the United States to U.S. residents for 3 years, 1989-91 (U.S. Department of Health and Human Services, 1996). These current life tables were based on a complete count of resident deaths in the United States during those years. Separate probabilities were calculated for each sex within the white population, the population other than white, and the black population. The initial survival table presented the number of persons in the sample surviving to exact age $x$. The percent of persons who, having attained age $x$, will survive to age $x + t$ was calculated by dividing $x + t$ by $x$ and multiplying by 100. The probability of survival by sex and race used in these cost estimate calculations can be found in Appendix VI.

The second major component in the indirect cost calculation is compensation or $Y_{s,t}(n)$. There are four elements of this component used in this model: base earnings, employee benefits, economy-wide productivity growth, and life-cycle wage growth.

CFOI provides information on the occupation of the decedent, but not the wage or salary at the time of death. Therefore, the base earnings for this model are an estimate of the earnings of the decedent established by the decedent’s occupation and sex at the time of death. Also, because of the lack of detailed employment information, the model assumes that the decedent had worked full-time in that occupation and would not have changed occupations nor left the job between the time of death and retirement age.

The base earnings were assigned to each fatality based on the decedent’s occupation and State of employment at the time of death derived from the BLS Occupational Employment Statistics (OES) Program (U.S. Department of Labor [BLS] 2009b). This semi-annual mail survey collects data on wage and salary workers in nonfarm establishments to produce wage estimates. Occupational wages are estimated for approximately 800 occupations. Wages from this survey were selected because they were estimated using the Standard Occupational Classification (SOC) classification scheme (OMB 2000), which is the same system used by CFOI to code occupation (see Appendix II). Under the recommendation of BLS staff and without a valid statistical reason to select mean earnings, median earnings were selected for this model.

For this model, base earnings were defined as median annual straight-time, gross pay enumerated by the 5-digit occupation code, taken from the 2000 SOC classification scheme, by State. Where data were not available for a specific detailed occupation, earnings from the next hierarchical level were substituted. These data were adjusted for inflation using the Implicit Price Deflators for Gross Domestic Product, which can be found in Appendix IX (U.S. Department of Commerce [BEA], 2009).

Individual ages for each fatality were available through the CFOI data, but median earnings for individual ages in the OES program were not available. The Current Population Survey (CPS) published median earnings for a particular age group was assigned to the median age of that age group. Twenty “ages” were created for each age group, representing 6-month age intervals. To derive an earnings value for each of the 20 “ages,” the difference between sequential age groups was calculated as:
Earnings_{x+1} - Earnings_x

where: Earnings = CPS published age group earnings

This difference was evenly distributed within the age group and then the proportion of the median age earnings for each age was determined. The process was repeated for both males and females and for each year of earnings data. Finally, the base earnings assigned to each fatality was derived by adjusting the median earnings for the occupation of the decedent by the proportion associated with the age, sex, and year of death for that decedent. The adjustments to earnings by age and sex are found in Appendix VII.

To more closely represent the market value of an employee’s compensation, the value of employee benefits was added to the base earnings. Employer benefits costs were taken from the Bureau of Labor Statistics, National Compensation Survey (NCS) Employment Cost Trends for the years 2003-2010 (U.S. Department of Labor [BLS], 2009c). The NCS collects data from state and local government and private sector establishments with one or more workers in the District of Columbia and the 50 States. Agricultural workers, workers in private households, the self-employed and those setting their own pay; volunteers, family members receiving token wages, and other unpaid workers; workers receiving compensation for a long-term disability compensation; and those not working in the U.S. were excluded from the survey. Probability samples were selected in three stages—geographic areas, establishments within sampled areas, and occupations within sampled establishments—to insure adequate representation of estimates. The table below provides the employer benefits costs as a percent of total employee compensation between 2003 and 2010 for this study.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>19.13</td>
</tr>
<tr>
<td>2004</td>
<td>19.93</td>
</tr>
<tr>
<td>2005</td>
<td>20.43</td>
</tr>
<tr>
<td>2006</td>
<td>20.48</td>
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<tr>
<td>2007</td>
<td>20.60</td>
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<tr>
<td>2008</td>
<td>20.68</td>
</tr>
<tr>
<td>2009</td>
<td>20.80</td>
</tr>
<tr>
<td>2010</td>
<td>21.05</td>
</tr>
</tbody>
</table>

These benefits include the employer’s share of legally required payments, retirement and savings plan payments; life insurance and death benefits payments; medical and medically related benefit payments; and miscellaneous benefit payments such as employee education expenditures, child care, and discounts on goods and service purchased from company by employee. To avoid double counting, categories of paid rest periods, lunch periods, wash-up time, travel time, clothes changing time, get-ready time, etc., and payments for time not worked such as paid vacations, holidays, sick leave, or State or National Guard duty, are excluded. The benefit dollar amounts were adjusted for inflation using the GDP deflator, which can be found in Appendix IX.
The economy-wide productivity growth element used the Employment Cost Index (ECI) to estimate how much earnings would rise in concert with the growth of the U.S. economy as a whole (U.S. Department of Labor [BLS], 2009d). The ECI measures the change in the cost of labor and includes both changes in wages and salaries as well as employee benefits costs.

This index is based on establishment surveys of compensation costs that cover all occupations within the private and public sector industries, excluding farms, households, self-employed, and the Federal government. After the sample is drawn, weighted probability sampling methods are used, with weighting in proportion to establishment size, to select occupations in each of the sampled establishments. That is, a fixed number of occupations are selected in each establishment using a process that gives occupations with greater employment a greater chance of selection.

The ECI uses the current-cost approach, in which annual costs are calculated based on the current price of benefits and current plan provisions. The annual cost is divided by the annual hours worked to derive the cost per hour worked for each benefit. Values for earnings and benefits are calculated separately by BLS and for this model. Because the model forecasts the decedent’s wages for up to 50 years into the future, it uses a long-term productivity growth rate, the average of the percent changes in the ECI from 1980 to 2010. The wage growth rate was reduced by one-half in the first year as deaths were assumed to be uniformly distributed by month. This is an inflation-free change in wages and represents an annual proxy for a change in productivity. The value of benefits was also adjusted using the same methodology.

To account for the final component of wage growth, estimates of the life-cycle growth, or the salary growth due to experience of the individual worker, were employed. The growth rate was calculated using wages from the historical income tables of the Current Population Survey (CPS) for the years 1980 through 1998 (U.S. Department of Labor [BLS], 2009e). Wage by age is the single necessary component for deriving career growth estimates and was available in mean, not median, values. The CPS presented mean wages in constant dollars by sex, race, and age group for each year. The rate of change for mean wages was determined for each sex and race within a specific age group. Wages for the initial age group (x) were subtracted from the wages of the next age group (x+1) and divided by the initial age-group wage: \( \frac{(x+1)-x}{x} \). This process was repeated for male and female decedents within each race category. For this study, it was assumed that the salary growth rate was constant within age groups—equal increments for each year of age within that age group. Specific career growth adjustment factors by age, sex and race are presented in Appendix X.

The home production losses \( Y_{s}^{h}(n) \) that are associated with a decedent of sex s and age n were derived from time-diary data captured in The National Human Activity Pattern Survey (NHAPS) study commissioned by the Environment Protection Administration (EPA) (Triplet’s work as cited in Expectancy Data, 2000). This two-stage Mitofsky-Waksberg random digit telephone dial sample design was used in the survey that covered the period from September 17, 1992 to October 1, 1994. Quarterly samples, stratified by the four major census regions (Northeast, Midwest, South, and West) and day of week (weekend versus weekday), were drawn with a total sample of 14,908 households, yielding 9,386 interviews. The University of Maryland’s Research Center conducted the survey interviews and requested the following for each activity the respondent performed during a 24-hour period: Start and end time of the activity, actual description of the activity, location where activity occurred, and
whether smoking occurred during the activity. The activities were initially coded into 11 broad categories and then into 91 micro-categories and 82 locations.

These data were regrouped into five super-categories: Household production, providing care, hygiene and personal care, leisure, and employment and education (Expectancy Data, 2000). Further refinement classified these categories into economic allocation of work and leisure. Finally household production time was defined as activities that could produce benefit for all members of the household—housework; food cooking and cleanup; outdoor chores, plants, and animals; home and auto maintenance; and obtaining goods and services. Providing care includes childcare; child guidance; playing with children; transporting children; and, providing care to others. This sub-category was defined as the time spent providing services that were channeled toward one or more persons. The market replacement value of this time was reported in 1998 dollars and based on the hourly wages plus the employer’s legally required benefit costs from the Bureau of Labor Statistics’ Occupational Employment Statistics (OES) survey and the employer compensation cost report. Values of time for each sub-category were from a shorter list of the OES occupations that more accurately correlated with those activities involved in household production or providing care. Finally, daily values were distributed by age and sex for each sub-category (Expectancy Data, 2000). For this study values of household production and providing care were combined within each age and gender category and multiplied by 365 to obtain annual values. Dollar values were adjusted using the GDP deflator (See Appendix IX). Because household production data were unavailable by race and occupation and available only for age and sex, the model assumes that estimates by age and sex were constant or the same for race and occupation group.

For public health evaluations that assume a societal perspective, the social discount rate—the rate at which society as a whole is willing to exchange present costs for future benefits—is appropriate. The Panel on Cost-Effectiveness in Health and Medicine under the auspices of the Public Health Service recommended applying a constant real discount rate of 3%, a rate exclusive of adjustment for inflation (U.S. Department of Health and Human Services, 1996). This Panel recommended recalculating the cost estimates using alternative discount rates to demonstrate the effect of initial assumptions regarding the appropriate societal rate. Cost estimates using multiple discount rates are presented in Appendix XII.

The overall lifetime societal cost of a traumatic fatal occupational injury is obtained by combining these indirect costs (PVF) with the actual dollar expenditures related to the fatal injury (direct costs). This method provides a conservative estimate of direct costs because medical expenses—only one of the many possible direct costs—was the only direct cost included in the total estimate. Because the majority of fatalities reported through CFOI occurred within one day of the injury event, medical expenses were only included in the first year calculations.

Discussion

The cost model used for developing these data tables produces a conservative estimate for lifetime economic costs of fatal occupational injuries. Moreover, it should be made clear that these estimates are not exact and precise; they are, instead, estimations, and are based on many factors. Estimates are subject to limitations of the model specification and the limitations associated with the level of detail and quality of data systems used in the calculations.

The model specification is most significantly limited by not producing a “complete” economic cost of occupational fatalities, in that intangible losses that are associated with premature death are not included. While it may be
intuitively appealing to provide some quantitative measure of these costs, rather than simply disregard them in determining the overall burden of the fatal injury, it is inescapable that the nature of the losses—pain, suffering, loss of consort and loss of traditional role, as well as emotional harm to the injured and the family—involves a subjective and personal component that is difficult to measure, if not immeasurable. It is for this reason that the intangible dimension is not considered in these calculations. Such a consideration would impose additional complexity and theoretical requirements on a model that is designed to provide a straightforward calculation of well-defined measures of costs associated with fatal occupational injury. This measure has great value in itself, and this measure should not be lessened by its failure to incorporate a measure that has confounded numerous authorities with advanced knowledge.

A further qualification of the findings of this study is that the use of a single category in the model to represent all direct costs of a fatal occupational injury contributes to the conservative nature of these estimates. Future work should explore inclusion of additional direct costs such as insurance administrative costs, employer retraining, and workplace disruption costs.

As a further measure to address the study limitation associated with the use of wage data that is State-specific, occupation-specific and of summed age categories, it is recommended that modifications to the model should include the use of values for multiple-job holders and age-specific estimates. Improvements in the specificity of benefits data by industry and occupation would greatly improve these cost estimates. Additionally, the accuracy of the estimates would benefit from a comprehensive analysis of the career growth-rate estimates. A longitudinal cohort study would shed needed light on the best method of deriving these estimates for the overall population.

Despite the acknowledged limitations of the estimates contained in these findings, the estimates themselves have substantial practical value, providing additional information about how injuries affect society and providing necessary information for decision-makers on relevant costs of fatal occupational injuries in relation to costs and selection of prevention programs. These cost outcomes additionally represent income that is not received and medical expenses incurred because of fatal injuries, and thus have direct bearing on State, regional and national economic measures of goods and services production, such as Gross Domestic Product (GDP) and other national income measures. These estimates can be further used to plan, augment and prioritize occupational injury prevention and control programs, policy analysis, evaluation of safety and health interventions, and advocacy for a safer work environment.

There remains substantive questions concerning various issues, such as the relative contribution of each of the components of the cost model, the possibly disproportionate contribution of the occupation, the industry division and the years of service to overall costs, the relative significance of the natural progression of career development, the aging of the workforce, and so forth.
It is unclear as to what component of the cost model is responsible for the greatest total costs or the highest average costs. Is there a cost premium for certain industries? Certain occupations? Certain age groups? It is known that certain occupations represent a stage of career development for certain persons, such as students, how do the changes in occupation effect the overall fatality cost estimates. As the population ages or proceeds in career-development, is there a natural progression from occupations with high risk characteristics to careers with lessened or altered risk characteristics that would reduce the overall costs of fatalities as occupations with less risk tend to have lower wages? Likewise, how does the mechanism by which women enter the workforce, and exit it during childbearing years, only to reenter it at a subsequent period in their lives, effect the cost of fatalities?

Finally, there remains an additional analysis that should be conducted. Based on total employment and labor-force participation by demographic category, trend analysis is warranted to help determine the best allocation of resources that are continually becoming scarcer.

Conclusions

The cost model and data sources used in this report combine to form an effective mechanism for determining the cost of fatal occupational injury. These cost estimates can be used to determine the specific burden of injury to particular demographic groups, as well as the circumstances of injury. This can be extremely useful in determining the cost to various constituencies—to the Nation, to States and Census regions, to various groups, industries, and occupations. In addition, this report provides the frequency of these events to indicate the extent of the occupational health problem. The more extended nature of the extent of the occupational health problem includes a component that is not considered here, the cost of suffering and loss of role, but the contribution of these data tables, in identifying the financial cost of fatal occupational injury, constitutes a major component in delimiting the scope of this injury. The use of economic losses, such as those calculated using this model, provides an additional measure to existing societal measures of frequency and rate of injury, to assist in defining the overall dimensions of traumatic workplace fatalities.
References

http://www.bea.gov/national/nipaweb/index.asp


Appendices

I. Bureau of Labor Statistics 1992 Occupational Injury and Illness Classification System (OIICS) for Event or Exposure and Source of Injury or Illness Code Structures
II. 2000 Standard Occupational Classification (SOC) Structure
III. 2000 Standard Occupational Classification (SOC) Structure Major Groups
IV. National Occupational Research Agenda (NORA) and Census of Fatal Occupational Injury (CFOI) Industry Categories
V. Selected SOC Occupational and NAICS Industry Categories
VI. Inflation Adjustment Factors Based on Consumer Price Index (Medical Care Major Group)
VII. Probability of Surviving an Additional Year by Age, Race, and Sex
VIII. Adjustment to Earnings by Age and Sex of Decedents at Time of Death
IX. Inflation Adjustment Factors Based on Gross Domestic Product Deflator
X. Adjustment Factors for Increases Associated with Career Growth by Age, Sex, and Race
XI. Annual Household Production Values by Age and Sex
XII. Sensitivity of Cost Estimates to Selected Discount Rates
SOURCE OF INJURY OR ILLNESS CODE STRUCTURE

DEFINITION

The source of injury or illness identifies the object, substance, bodily motion, or exposure which directly produced or inflicted the previously identified injury or illness.

RULES OF SELECTION:

3.1 Name as the source of injury or illness the object, substance, element, or bodily motion which directly produced the injury or illness previously identified in the nature of injury or illness classification.

3.2 If the injury or illness was inflicted by a specific part of a machine, tool, or vehicle, name the whole machine, tool, or vehicle as the source of injury except when:

   -- the part separated from or was independent of the "whole";
   -- the event is overexertion;
   -- the injury was inflicted by an overhead powerline or the electrical cord of an appliance, tool, or machine;
   -- the injury was inflicted by the floor of a vehicle in a non-transportation incident; or
   -- the incident involved a tractor and agricultural equipment combination.

   In these instances, code that part as source.

3.3 If the injury or illness was inflicted by a specific part of a structure (window, door, stairs) name that part as the source of injury.

3.4 When an injury or illness was produced by a filled container, name the container, not the contents, as the source unless the injury or illness was directly inflicted by the contents, such as hot liquids or chemicals.

3.5. Coding Bodily motion or position as the source of injury or illness:

   3.5.1 Name Bodily motion or position as the source of injury or illness only when the injury resulted solely from the stress or strain induced by the free movement of the body or its parts (voluntary or involuntary), or from the assumption of a strained or unnatural body position. Bodily motion or position includes injuries or illnesses resulting from reaching, turning, twisting, bending, walking, climbing,
running, and from efforts to recover from a loss of equilibrium, provided that the loss of equilibrium
does not result in a fall or in forcible contact with an object above the working surface.

Do not name Bodily motion or position as the source of injury or illness if the injury or illness resulted
from any of the following:

1) falling
2) bumping into or striking an external object
3) nonrepetitive lifting, pushing, pulling, wielding, or throwing an external object

3.5.2 For injuries or illnesses in which either Repetitive motion or Sustained viewing is coded as the
event, select bodily motion or position as the source of injury or illness.

3.6 If, as the result of a transportation accident, a person who was in or on a vehicle or mobile equipment is
injured, name the vehicle or mobile equipment as the source of injury.

3.7 Selecting Source from multiple objects or substances:

3.7.1 When an injury results from forcible contact with two or more objects, either simultaneously or in
rapid sequence, and it is impossible to determine which object directly produced the injury, select the
source as follows:

1) When the choice is between a moving object and a stationary object, select
the moving object. Example: If a person is struck by a moving vehicle
and thrown against a post, name the vehicle as the source of injury.

2) When the choice is between two moving objects or between two stationary
objects, select that which was contacted last. Example: If a person falls
from an elevator, striking one or more objects in the course of his fall, but
finally striking the floor, name the floor surface as the source of injury.

3.7.2 When an injury or illness results from two or more different objects or substances, all of which
contributed to producing the injury or illness, select the source code as follows:

1) When there are two substances from the Chemical Division, select the appropriate "Multiple"
   code for that combination of chemicals.

2) When the two objects or substances are in the same Division, select the Divisional n.e.c. code
   for that Division. If they are in the same group within a division, select the group n.e.c.

3) When the two objects or substances are not in the same Division, use the code for Other
   sources, n.e.c.
3.8 Select Weather and atmospheric conditions or geological events--Floods, Earthquakes, Avalanches--as the source of injury or illness when that is the only possible source identified. For example, if a worker sustained multiple injuries in an earthquake and no other source could be determined, select earthquake as the source of injury. However, if an employee were driving in a rainstorm and had an automobile accident resulting in injury, select vehicle as the source.

<table>
<thead>
<tr>
<th>Division Title</th>
<th>Source of Injury or Illness Rubric</th>
</tr>
</thead>
<tbody>
<tr>
<td>0* CHEMICALS AND CHEMICAL PRODUCTS</td>
<td>00 Chemicals and chemical products, unspecified</td>
</tr>
<tr>
<td></td>
<td>01* Acids</td>
</tr>
<tr>
<td></td>
<td>010 Acids, unspecified</td>
</tr>
<tr>
<td></td>
<td>011* Acid gases--halogen</td>
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<tr>
<td></td>
<td>0110 Acid gases, unspecified</td>
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<tr>
<td></td>
<td>0122 Hydrobromic acid</td>
</tr>
<tr>
<td></td>
<td>0123 Hydrochloric acid</td>
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<tr>
<td></td>
<td>0124 Hydrofluoric acid</td>
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<tr>
<td></td>
<td>0129 Inorganic acids--halogens, n.e.c.</td>
</tr>
<tr>
<td></td>
<td>013* Inorganic acids--other</td>
</tr>
<tr>
<td></td>
<td>0130 Inorganic acids, unspecified</td>
</tr>
</tbody>
</table>
0131 Chlorine-containing oxyacids
0132 Nitric acid
0133 Phosphoric acid
0134 Sulfuric acid
0139 Inorganic acids, n.e.c.
014* Organic acids
0140 Organic acids, unspecified
0141 Acetic acid, vinegar
0142 Acrylic acids
0143 Carbolic acids
0144 Hydrocyanic acid
0145 Peracetic acid
0146 Picric acid
0149 Organic acids, n.e.c.
018 Multiple acids
019 Acids, n.e.c.
02* Alkalies
020 Alkalies, unspecified
021* Calcium hydroxides, calcium oxides
0210 Calcium hydroxide, calcium oxides, unspecified
0211 Cement, mortar mix--dry
0212 Cement, mortar--wet
0213 Lime
0219 Calcium hydroxide, calcium oxides, n.e.c.
022* Carbonates--calcium, sodium
0220 Carbonates--calcium, sodium, unspecified
0221 Limestone, calcium carbonate
0222 Sodium bicarbonate, baking soda
0223 Sodium carbonate, soda ash
0229 Carbonates, n.e.c.
023 Lithium hydroxide
024 Sodium and potassium hydroxide, potassium carbonate
028 Multiple alkalies
029 Alkalies, n.e.c.
03* Aromatics and hydrocarbon derivatives, except halogenated
030 Aromatics and hydrocarbon derivatives, except halogenated, unspecified
031* Alcohols
0310 Alcohol, unspecified
0311 Antifreeze
0312 Ethanol
0313 Ethylene glycol
0314 Fusel oil
0315 Methanol
0316 Propanol
0319 Alcohol, n.e.c.
032* Aldehydes
0320 Aldehydes, unspecified
0321 Acetaldehyde
0322 Acrolein
0323 Formaldehyde
0324 Formalin
0329 Aldehydes, n.e.c.
033* Amines--nonaromatic
0330 Nonaromatic amines, unspecified
0331 Methyl amine
0339 Nonaromatic amines, n.e.c.
034* Aromatics
0340 Aromatics, unspecified
0341 Aniline and other aromatic amines
0342 Benzene
0343 Toluene
0344 Xylene
0349 Aromatics, n.e.c.
035* Ethers
0350 Ethers, unspecified
0351 Diethyl ether
0352 Dimethyl ether
0353 Ethylene oxide
0354 Methyl ethyl ether
0355 Vinyl ether
0359 Ethers, n.e.c.
036* Ketones
0360 Ketones, unspecified
0361 Acetone
0362 Mesityl oxide
0363 Methyl ethyl ketone
0364 Methyl N-butyl ketone
0369 Ketones, n.e.c.
037* Peroxides
0370 Peroxides, unspecified
0371 Benzoyl peroxide
0372 Hydrogen peroxide
0373 Lithium peroxide
0374 Potassium peroxide
0375 Sodium peroxide
0379 Peroxides, n.e.c.
038 Multiple aromatics and hydrocarbon derivatives, except halogenated
039* Aromatics and hydrocarbon derivatives, except halogenated, n.e.c.
0391 Nitro hydrocarbons
0399 Other aromatics and hydrocarbon derivatives, except halogenated, n.e.c.
04* Halogens and halogen compounds
040 Halogens and halogen compounds, unspecified
041* Bromine and bromine compounds
0410 Bromine compounds, unspecified
0411 Bromine
0412 Ethylene dibromide
0413 Methyl bromide
0414 Potassium bromide
0419 Bromine compounds, n.e.c.
042* Chlorine and chlorine compounds
0420 Chlorine compounds, unspecified
0421 Carbon tetrachloride
0422 Chlorine, chlorine bleach
0423 Methyl chloride
0424 Pentachlorophenol
0425 Perchloroethylene
0426 Polychlorinated biphenyls (PCBs)
0427 Trichloroethylene
0429 Chlorine compounds, n.e.c.
043* Fluorine and fluorine compounds
0430 Fluorine compounds, unspecified
0431 Fluorine
0432 Fluorotrichloromethane
0433 Fluorocarbons, n.e.c.
0434 Methyl fluoride
0439 Fluorine compounds, n.e.c.
044 Iodine and iodine compounds
048 Multiple halogens and halogen compounds
049 Halogens and halogen compounds, n.e.c.
05* Metallic particulates, trace elements, dusts, powders, fumes
050 Metallic particulates, trace elements, dusts, powders, fumes, unspecified
051 Arsenic, arsenic compound
052 Beryllium and beryllium compounds
053 Cadmium and cadmium compounds
054* Lead and lead compounds
0540 Lead and lead compounds, unspecified
0541 Inorganic lead compounds
0542 Organic lead compounds
0549 Lead and lead compounds, n.e.c.
055 Mercury and compounds
056* Other metallics and compounds
0561 Aluminum and aluminum compounds
0562 Antimony
0563 Chromium and chromium compounds
0564 Iron and iron compounds
0565 Magnesium and magnesium compounds
0566 Manganese
0567 Nickel and nickel compounds
0568 Zinc and zinc compounds
0569 Other metallics and compounds, n.e.c.
057 Welding or soldering fumes, unspecified or n.e.c.
058 Multiple metallics and metallic compounds
059 Metallic particulates, trace elements, dusts, powders, fumes, n.e.c.
06* Agricultural chemicals and other pesticides
060 Agricultural chemicals and other pesticides, unspecified
061 Fertilizers, plant food, n.e.c.
062 Fumigants, n.e.c.
063 Fungicides
064* Herbicides
0640 Herbicides, unspecified
0641 Benzoic and phenylacetic acids
0642 Bipyridyls
0643 Carbamate and thiocarbamate herbicides
0644 Dinitro compounds
0645 Phenols
0646 Triazines
0649 Herbicides, n.e.c.
065* Insecticides
0650 Insecticides, unspecified
0651 Carbamate insecticides
0652 Organochlorine compounds
0653 Organophosphorus compounds
0658 Multiple insecticides
0659 Insecticides, n.e.c.
066 Rodenticides
068 Multiple agricultural and horticultural chemicals
069 Agricultural and horticultural chemicals, n.e.c.
07* Chemical products—general
070 Chemical products, unspecified
071 Adhesives, glues, n.e.c.
072* Beauty preparations, cosmetics, n.e.c.
0720 Beauty preparations, cosmetics, unspecified
0721 Hair preparations
0729 Other beauty preparations, cosmetics
073* Cleaning and polishing agents, disinfectants, n.e.c.
0730 Cleaning and polishing agents, unspecified
0731 Bleach—nonchlorine, nonperoxide
0732 Disinfectants
0733 Drain and oven cleaners
0734 Polishes
0735 Scouring powders
0736 Soap products
0737 Synthetic detergents and shampoos
0738 Multiple cleaning and polishing agents
0739 Other cleaning and polishing agents
074* Drugs, alcohol, medicines
0740 Drugs and medicines, unspecified
0741 Alcoholic beverages
0742 Drugs--nonmedicinal
0743 Medicines
0748 Multiple drugs, medicines
0749 Drugs and medicines, n.e.c.
075* Explosives, blasting agents, n.e.c.
0750 Explosives, blasting agents, unspecified
0751 Dynamite
0752 Flammable gas, unspecified
0753 Gunpowder
0754 Pyrotechnics, fireworks
0759 Other explosives, blasting agents
076* Paint, lacquer, shellac, varnish, n.e.c.
0760 Paint, lacquer, shellac, varnish, unspecified
0761 Lacquer, shellac, varnish
0762 Paint
0768 Multiple paint, lacquer, shellac, or varnishes
0769 Other paint, lacquer, shellac, varnish
077* Solvents, degreasers, n.e.c.
0770 Solvents, degreasers, unspecified
0771 Naphtha solvents
0772 Paint removers, thinners
0773 Dry cleaning fluids, n.e.c.
0778 Multiple solvents, degreasers
0779 Other solvents, degreasers
079* Other chemical products
0790 Other chemical products, unspecified
0791 Dyes, inks
0792 Tear gas, mace
0793 Photographic and copying solutions
0799 Chemical products, n.e.c.
08* Coal, natural gas, petroleum fuels and products, n.e.c.
080 Coal, natural gas, petroleum fuels and products, unspecified
081* Coal and coal products
0810 Coal products, unspecified
0811 Coal
0812 Coke and other coal manufactures
0819 Coal and coal products, n.e.c.
082 Natural gas
083 Petroleum, crude oil
084* Petroleum fuels, distillates, products, n.e.c.
0840 Petroleum fuels, distillates, products, unspecified
0841 Butane
0842 Gasoline, diesel fuel, jet fuel
0843 Kerosene, heating oil
0844 Lubricating greases, cutting oils
0845 Propane
0849 Other petroleum fuels, distillates, products
089 Coal, natural gas, petroleum fuels and products, n.e.c.
09* Other chemicals

091* Ammonia and ammonium compounds

0910 Ammonia and ammonium compounds, unspecified

0911 Ammonia, anhydrous ammonia

0912 Ammonium hydroxide

0913 Ammonium nitrate

0914 Ammonium sulfate

0918 Multiple ammonia and ammonium compounds

0919 Ammonia and ammonium compounds, n.e.c.

092* Cryogenic gases

0920 Cryogenic gases, unspecified

0921 Liquid fluorine

0922 Liquid helium

0923 Liquid hydrogen

0924 Liquid nitrogen

0925 Liquid oxygen

0929 Cryogenic gases, n.e.c.

093* Cyanide and cyanide compounds, n.e.c.

0930 Cyanide and cyanide compounds, unspecified

0931 Hydrogen cyanide

0938 Multiple cyanides

0939 Other cyanide and cyanide compounds

094* Oxygen and oxygen compounds, n.e.c.

0940 Oxygen and oxygen compounds, unspecified

0941 Carbon monoxide

0942 Carbon dioxide, dry ice

0943 Nitrogen oxides
0944 Oxygen--nonliquified
0945 Ozones
0948 Multiple oxygen and oxygen compounds
0949 Other oxygen and oxygen compounds, n.e.c.
095* Plastics, resins
0950 Plastics, unspecified
0951 Cyanates
0952 Resins
0953 Urethanes
0954 Vinyl chloride, polyvinyl chloride
0959 Plastics, resins, n.e.c.
096* Sewer gas, mine gas, methane
0960 Sewer gas, mine gas, unspecified
0961 Methane gas
0962 Mine gas
0963 Sewer gas
097* Sulfur and sulfur compounds
0970 Sulfur and sulfur compounds, unspecified
0971 Carbon bisulfide
0972 Hydrogen sulfide
0973 Sulfur dioxide
0978 Multiple sulfur and sulfur compounds
0979 Sulfur and sulfur compounds, n.e.c.
098* Multiple chemicals or chemical mixtures, n.e.c.
0980 Multiple chemicals or chemical mixtures, unspecified
0981 Ammonia and chlorine
0982 Chlorine and phosphoric acid
0983 Chlorine and cleaning agent, n.e.c.
0989 Other multiple chemicals or chemical mixtures
099 Chemicals and chemical products, n.e.c.

1* CONTAINERS

10 Containers, unspecified
11* Containers--nonpressurized
110 Containers--nonpressurized, unspecified
111 Bags, sacks, totes
112 Barrels, kegs, drums
113 Bottles, jugs, flasks
114 Boxes, crates, cartons
115 Buckets, baskets, pails
116 Cans
117 Pots, pans, trays
118 Tanks, bins, vats
119 Containers--nonpressurized, n.e.c.
12* Containers--pressurized
120 Containers--pressurized, unspecified
121 Boilers
122 Hoses
123 Oxygen tanks
124 Pressure lines, except hoses
125 Propane tanks
129 Containers--pressurized, n.e.c.
13* Containers--variable restraint
130 Containers--variable restraint, unspecified
131 Bundles, bales
132 Packages, parcels
133 Reels, rolls
139 Containers--variable restraint, n.e.c.
14* Dishes, drinking cups, beverage glasses
140 Dishes, drinking cups, beverage glasses, unspecified
141 Dishes, bowls
142 Drinking cups, beverage glasses
149 Dishes, drinking cups, beverage glasses, n.e.c.
15* Luggage, handbags
150 Luggage, unspecified
151 Briefcases
152 Handbags, pocketbooks, wallets
153 Suitcases
159 Luggage, n.e.c.
16 Skids, pallets
19 Containers, n.e.c.

2* FURNITURE AND FIXTURES
20 Furniture and fixtures, unspecified
21* Cases, cabinets, racks, shelves
210 Cases, cabinets, racks, shelves, unspecified
211 Bookcases
212 Cabinets, cases--display, storage
213 Counters, counter tops
214 Garment racks, other racks
215 Lockers
216 Partitions
217 Shelving
219 Cases, cabinets, racks, shelves, n.e.c.
22* Floor, wall, window coverings
220 Floor, wall, window coverings, unspecified
221 Floor coverings, nonstructural
222 Wall coverings
223 Window coverings, blinds, shades, or draperies
229 Floor, wall, window coverings, n.e.c.
23* Furniture
230 Furniture, unspecified
231 Beds, bedding, mattresses
232 Benches, workbenches, saw horses
233 Chairs
234 Desks
235 Sofas
236 Tables, worktables
239 Furniture, n.e.c.
24* Other fixtures
240 Other fixtures, unspecified
241* Lighting equipment
2410 Lighting equipment, unspecified
2411 Lamps
2412 Light bulbs
2419 Lighting equipment, n.e.c.
242* Plumbing fixtures
2420 Plumbing fixtures, unspecified
2421 Bathtubs
2422 Sinks
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2423</td>
<td>Toilets</td>
</tr>
<tr>
<td>2429</td>
<td>Plumbing fixtures, n.e.c.</td>
</tr>
<tr>
<td>249</td>
<td>Other fixtures, n.e.c.</td>
</tr>
<tr>
<td>29</td>
<td>Furniture and fixtures, n.e.c.</td>
</tr>
<tr>
<td>30</td>
<td>Machinery, unspecified</td>
</tr>
<tr>
<td>31</td>
<td>Agricultural and garden machinery</td>
</tr>
<tr>
<td>310</td>
<td>Agricultural and garden machinery, unspecified</td>
</tr>
<tr>
<td>311</td>
<td>Harvesting and threshing machinery</td>
</tr>
<tr>
<td>3110</td>
<td>Harvesting and threshing machinery, unspecified</td>
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<tr>
<td>3111</td>
<td>Balers</td>
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<tr>
<td>3112</td>
<td>Combines</td>
</tr>
<tr>
<td>3113</td>
<td>Harvesters, reapers</td>
</tr>
<tr>
<td>3114</td>
<td>Threshers</td>
</tr>
<tr>
<td>3119</td>
<td>Harvesting and threshing machinery, n.e.c.</td>
</tr>
<tr>
<td>312</td>
<td>Mowing machinery</td>
</tr>
<tr>
<td>3120</td>
<td>Mowing machinery, unspecified</td>
</tr>
<tr>
<td>3121</td>
<td>Lawn mowers--nonriding, powered</td>
</tr>
<tr>
<td>3122</td>
<td>Lawn mowers--riding</td>
</tr>
<tr>
<td>3123</td>
<td>Mowers--tractor</td>
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<tr>
<td>3129</td>
<td>Mowing machinery, n.e.c.</td>
</tr>
<tr>
<td>313</td>
<td>Plowing, planting, and fertilizing machinery</td>
</tr>
<tr>
<td>3130</td>
<td>Plowing, planting, and fertilizing machinery, unspecified</td>
</tr>
<tr>
<td>3131</td>
<td>Plowing and cultivating machinery</td>
</tr>
<tr>
<td>3132</td>
<td>Seed planting machinery</td>
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<tr>
<td>3133</td>
<td>Spreading machinery--agricultural</td>
</tr>
<tr>
<td>3139</td>
<td>Plowing, planting, and fertilizing machinery, n.e.c.</td>
</tr>
<tr>
<td>319</td>
<td>Other agricultural and garden machinery</td>
</tr>
</tbody>
</table>
3190 Other agricultural and garden machinery, unspecified
3191 Dairy and milk processing machinery--specialized
3192 Feed grinders, crushers, mixers--agricultural
3193 Spraying and dusting machinery--agricultural
3199 Agricultural and garden machinery, n.e.c.
32* Construction, logging, and mining machinery
320 Construction, logging, and mining machinery, unspecified
321* Excavating machinery
3210 Excavating machinery, unspecified
3211 Backhoes
3212 Bulldozers
3213 Steam and power shovels
3214 Trenchers
3219 Excavating machinery, n.e.c.
322* Loaders
3220 Loaders, unspecified
3221 Bucket loaders
3222 End loaders
3223 Front end loaders
3229 Loaders, n.e.c.
323* Logging and wood processing machinery--specialized
3230 Logging and wood processing machinery--specialized, unspecified
3231 Chippers
3232 Debarkers
3233 Harvesters, including feller-buncher, sheet
3234 Log loaders, including heel boom
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3235</td>
<td>Forwarder/yarder</td>
</tr>
<tr>
<td>3236</td>
<td>Mechanical harvester</td>
</tr>
<tr>
<td>3237</td>
<td>Slasher</td>
</tr>
<tr>
<td>3238</td>
<td>Skidder--cable and grapple</td>
</tr>
<tr>
<td>3239</td>
<td>Logging and wood processing machinery--specialized, n.e.c.</td>
</tr>
<tr>
<td>324*</td>
<td>Mining and drilling machinery</td>
</tr>
<tr>
<td>3240</td>
<td>Mining and drilling machinery, unspecified</td>
</tr>
<tr>
<td>3241</td>
<td>Drilling machines, drilling augers</td>
</tr>
<tr>
<td>3242</td>
<td>Mineral sorters, separators, concentrators</td>
</tr>
<tr>
<td>3243</td>
<td>Tunnelling machines</td>
</tr>
<tr>
<td>3249</td>
<td>Mining and drilling machinery, n.e.c.</td>
</tr>
<tr>
<td>325*</td>
<td>Road grading and surfacing machinery</td>
</tr>
<tr>
<td>3250</td>
<td>Road grading and surfacing machinery, unspecified</td>
</tr>
<tr>
<td>3251</td>
<td>Asphalt and mortar spreaders</td>
</tr>
<tr>
<td>3252</td>
<td>Graders, levellers, planers, scrapers</td>
</tr>
<tr>
<td>3253</td>
<td>Road linemarking machinery</td>
</tr>
<tr>
<td>3254</td>
<td>Steam rollers, road pavers</td>
</tr>
<tr>
<td>3259</td>
<td>Road grading and surfacing machinery, n.e.c.</td>
</tr>
<tr>
<td>329*</td>
<td>Other construction, logging, and mining machinery</td>
</tr>
<tr>
<td>3290</td>
<td>Other construction, logging, and mining machinery, unspecified</td>
</tr>
<tr>
<td>3291</td>
<td>Agitators, mixers--earth, mineral</td>
</tr>
<tr>
<td>3292</td>
<td>Compactors, crushers, pulverizers--earth, mineral</td>
</tr>
<tr>
<td>3293</td>
<td>Pile drivers, tamping machinery</td>
</tr>
<tr>
<td>3294</td>
<td>Pile extractors</td>
</tr>
<tr>
<td>3299</td>
<td>Construction, logging, and mining machinery, n.e.c.</td>
</tr>
</tbody>
</table>
33* Heating, cooling, and cleaning machinery and appliances

330 Heating, cooling, and cleaning machinery and appliances, unspecified

331* Cooling and humidifying machinery and appliances

3310 Cooling and humidifying machinery and appliances, unspecified

3311 Air conditioning units

3312 Fans, blowers--wall, floor, ceiling, ventilation

3313 Humidifiers, dehumidifiers, vaporizers

3314 Refrigerators, freezers, ice makers

3319 Cooling and humidifying machinery and appliances, n.e.c.

332* Heating and cooking machinery and appliances

3320 Heating and cooking machinery and appliances, unspecified

3321 Beverage heating and percolating equipment and appliances

3322 Broiling and frying equipment and appliances

3323 Fabric pressers and ironing appliances

3324 Furnaces, heaters

3325 Kilns

3326 Ranges, cooking ovens, grills, toasters, food warmers

3327 Steaming equipment and appliances

3329 Heating and cooking machinery and appliances, n.e.c.

333* Washers, dryers, and cleaning machinery and appliances

3330 Washers, dryers, and cleaning machinery and appliances, unspecified

3331 Car or vehicle washing machinery

3332 Clothes dryers

3333 Clothes washers
3334 Dish washers
3335 Hair and hand dryers
3336 Vacuum cleaners
3339 Washers, dryers, and cleaning machinery and appliances, n.e.c.
339 Heating, cooling, and cleaning machinery and appliances, n.e.c.
34* Material handling machinery
340 Material handling machinery, unspecified
341* Conveyors—gravity
3410 Conveyors—gravity, unspecified
3411 Chutes
3412 Conveyors—roller
3413 Conveyors—wheel
3419 Conveyors—gravity, n.e.c.
342* Conveyors—powered
3420 Conveyors—powered, unspecified
3421 Conveyors—belt
3422 Conveyors—bucket, cup
3423 Conveyors—chain
3424 Conveyors—live roller
3425 Conveyors—pan
3426 Conveyors—pneumatic
3427 Conveyors—screw, auger
3428 Conveyors—slot
3429 Conveyors—powered, n.e.c.
343* Cranes
3430 Cranes, unspecified
3431 Cranes--floating
3432 Cranes--gantry
3433 Cranes--hammerhead
3434 Cranes--mobile, truck, rail mounted
3435 Cranes--monorail and underhung
3436 Cranes--overhead
3437 Cranes--portal, tower, pillar
3438 Storage and retrieval hoist systems
3439 Cranes, n.e.c.
344* Overhead hoists
3440 Overhead hoists, unspecified
3441 Overhead hoists--electric powered
3442 Overhead hoists--manual
3443 Overhead hoists--pneumatic powered
3449 Overhead hoists, n.e.c.
345* Derricks
3450 Derricks, unspecified
3451 Derricks--A-frame
3452 Derricks--basket
3453 Derricks--breast
3454 Derricks--gin pole
3455 Derricks--guy
3459 Derricks, n.e.c.
346* Elevators, aerial lifts
3460 Elevators, aerial lifts, unspecified
3461 Bucket or basket hoist--truck mounted
3462 Dumbwaiters
3463 Elevators--electric
3464 Elevators--hydraulic
3465 Elevators--hand operated
3466 Manlifts
3469 Elevators, aerial lifts, n.e.c.
347* Jacks
3470 Jacks, unspecified
3471 Jacks--hydraulic
3472 Jacks--mechanical
3473 Jacks--pneumatic
3479 Jacks, n.e.c.
349* Other material handling machinery
3491 Winders, unwinders
3499 Material handling machinery, n.e.c.
35* Metal, woodworking, and special material machinery
350 Metal, woodworking, and special material machinery, unspecified
351* Bending, rolling, shaping machinery
3510 Bending, rolling, shaping machinery, unspecified
3511 Bending, crimping machines
3512 Shearing machines
3513 Rolling mills, rolling, calendering machinery
3519 Bending, rolling, shaping machinery, n.e.c.
352* Boring, drilling, planing, milling machinery
3520 Boring, drilling, planing, milling machinery, unspecified
3521 Drills--stationary
3522 Planing machines
3523 Milling machines
3524 Reaming machines
3529 Boring, drilling, planing, milling machinery, n.e.c.
353* Extruding, injecting, forming, molding machinery
3530 Extruding, injecting, forming, molding machinery, unspecified
3531 Casting machinery
3532 Extruding machinery
3533 Forging machinery
3534 Plastic injection molding machinery
3539 Extruding, injecting, forming, molding machinery, n.e.c.
354* Grinding, polishing machinery
3540 Grinding, polishing machinery, unspecified
3541 Grinders, abraders
3542 Honing, polishing, lapping machinery
3549 Grinding, polishing machinery, n.e.c.
355* Lathes
3550 Lathes, unspecified
3551 Metalworking lathes
3552 Woodworking lathes
3559 Lathes, n.e.c.
356* Presses, except printing
3560 Presses, except printing, unspecified
3561 Assembly presses
3562 Brake presses
3563 Punch presses
3569 Presses, except printing, n.e.c.
357* Sawing machinery--stationary
3570 Sawing machinery--stationary, unspecified
3571 Arm saws, radial arm saws
3572 Band saws
3573 Table saws
3579 Sawing machinery--stationary, n.e.c.
358 Threading and tapping machines
359* Other metal, woodworking, and special material machinery
3591 Electrochemical and discharge machinery (EDM)
3592 Laser cutting machinery
3593 Pressure fluid cutting machinery
3594 Spot welding machinery
3599 Metal, woodworking, and special material machinery, n.e.c.
36* Office and business machinery
360 Office and business machinery, unspecified
361* Electronic computers and peripheral equipment
3610 Electronic computers and peripheral equipment, unspecified
3611 Cathode ray tubes (CRTs) and video display terminals (VDTs)
3612 Computers--electronic
3613 Keyboards--computer
3614 Optical scanners
3615 Printers and plotters--computer
3619 Electronic computers and peripheral equipment, n.e.c.
362* Office, banking, and retail machinery
3620 Office and banking machinery, unspecified
3621 Automated teller machines
3622 Calculating machines and cash registers
3623 FAX machines
3624 Mailing and metering machines
3625 Photocopiers
3626 Typewriters and word processing equipment
3629 Office and banking machinery, n.e.c.
37* Special process machinery
370 Special process machinery, unspecified
371* Food and beverage processing machinery--specialized
3710 Food and beverage processing machinery--specialized, unspecified
3711 Food slicers
3712 Juice, oil, fat extractors
3713 Meat grinders
3714 Mixers, blenders, whippers--food and beverage
3719 Food and beverage processing machinery--specialized, n.e.c.
372* Medical, surgical, and X-ray machinery and equipment
3720 Medical, surgical, and X-ray machinery and equipment, unspecified
3721 Medical machinery and equipment, except X-ray
3722 X-ray, magnetic resonance imaging (MRIs), and fluoroscope machinery and equipment
3729 Medical, surgical, and X-ray machinery and equipment, n.e.c.
373* Packaging, bottling, wrapping machinery
3730 Packaging, bottling, wrapping machinery, unspecified
3731 Bottling, canning, filling machinery
3732 Packaging, wrapping, bundling machinery
3733 Product labeling machinery
3734 Sealing, stapling machinery
3739 Packaging, bottling, wrapping machinery, n.e.c.
374* Paper production machinery
3740 Paper production machinery, unspecified
3741 Calendars/supercalendars--paper production
3742 Coaters--paper production
3743 Dryers--paper production
3744 Formers--paper production
3745 Slitters, winders--paper production
3746 Washers, bleachers, refiners--paper production
3749 Paper production machinery, n.e.c.
375* Printing machinery and equipment
3750 Printing machinery and equipment, unspecified
3751 Bindery machinery
3752 Engraving machinery
3753 Presses--printing
3754 Typesetting machinery
3759 Printing machinery and equipment, n.e.c.
376* Textile, apparel, leather production machinery
3760 Textile, apparel, leather production machinery, unspecified
3761 Dyeing machinery--textile
3762 Knitting machinery
3763 Picking, carding, combing machinery
3764 Sewing, stitching machinery
3765 Spinning machinery
3766 Weaving machinery
3769 Textile, apparel, leather production machinery, n.e.c.
379* Other special process machinery
3790 Other special process machinery, unspecified
3791 Centrifuges
3792 Distilling and rectifying machinery
3793 Dyeing machinery, except textile
3794 Gas liquefying machinery
3795 Paint mixing machinery
3796 Painting, priming, metal coating machinery
3797 Pumps
3799 Special process machinery, n.e.c.
39* Miscellaneous machinery
391* Audio and video equipment
3910 Audio and video equipment, unspecified
3911 Radios, stereos, and other audio equipment
3912 Telephones and communication equipment
3913 Televisions
3914 Video players and recorders--tape and disk
3919 Audio and video equipment, n.e.c.
392 Product assembly machinery, n.e.c.
393 Product testing, inspecting, and diagnostic machinery, n.e.c.
399* Other machinery
3990 Other machinery, unspecified
<table>
<thead>
<tr>
<th>4* PARTS AND MATERIALS</th>
<th>40 Parts and materials, unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>41* Building materials--solid elements</td>
<td>410 Building materials, unspecified</td>
</tr>
<tr>
<td>411* Bricks, blocks, structural stone</td>
<td>4110 Bricks, blocks, structural stone, unspecified</td>
</tr>
<tr>
<td>4111 Bricks and pavers</td>
<td>4112 Concrete blocks, cinder blocks</td>
</tr>
<tr>
<td>4113 Structural stones or slabs, n.e.c.</td>
<td>4119 Bricks, blocks, structural stone, n.e.c.</td>
</tr>
<tr>
<td>412* Pipes, ducts, tubing</td>
<td>4120 Pipes, ducts, tubing, unspecified</td>
</tr>
<tr>
<td>4121 Concrete or clay pipes and conduits</td>
<td>4122 Ducts</td>
</tr>
<tr>
<td>4123 Metal pipe, tubing</td>
<td>4124 Pipe fittings</td>
</tr>
<tr>
<td>4125 Plastic or rubber pipe and tubing</td>
<td></td>
</tr>
</tbody>
</table>
4129 Pipes, ducts, tubing, n.e.c.
413* Structural metal materials
4130 Structural metal materials, unspecified
4131 Angle irons
4132 Bars, rods, reinforcing bar (rebar)
4133 Beams
4134 Grates
4135 Plates, metal panels
4136 Rails
4137 Sheet metal
4139 Structural metal materials, n.e.c.
414* Tiles, shingles
4140 Tiles, shingles, unspecified
4141 Ceiling tiles
4142 Ceramic or stone tiles--drain, roof, multipurpose
4143 Roof shingles, except tile
4144 Vinyl floor tiles
4149 Tiles, shingles, n.e.c.
415* Wood, lumber
4150 Wood, lumber, unspecified
4151 Dimensional lumber: 2x4, 2x3, etc.
4152 Plywood, wood paneling; particle, chip, flake board
4153 Wood pieces, trim pieces, n.e.c.
4159 Wood, lumber, n.e.c.
419* Other building materials--solid elements
4190 Other building materials--solid elements, unspecified
4191 Fencing and screening material, n.e.c.
4192 Flashing
4193 Glass, window panes
4194 Gutters, downspouts
4195 Sheet flooring
4196 Siding--aluminum, vinyl
4197 Structural hardware, n.e.c.
4198 Wallboard, drywall
4199 Other building materials--solid elements, n.e.c.
42* Fasteners, connectors, ropes, ties
420 Fasteners, connectors, ropes, ties, unspecified
421* Fasteners
4210 Fasteners, unspecified
4211 Clamps, couplings
4212 Nails, brads, tacks
4213 Nuts, bolts, washers
4214 Rivets
4215 Screws
4216 Spikes
4217 Staples
4219 Fasteners, n.e.c.
422* Ropes, ties, chains
4220 Ropes, ties, chains, unspecified
4221 Bands
4222 Bungee cords
4223 Chains, n.e.c.
4224 Rope, twine, string
4225 Strapping
4226 Wire--nonelectrical
4229 Ropes, ties, chains, n.e.c.
423 Valves, nozzles
429 Fasteners, connectors, ropes, ties, n.e.c.
43* Hoisting accessories
430 Hoisting accessories, unspecified
431 Fixtures, load indicators
432 Hooks, shackles, magnets, clamshells
433 Slings
439 Hoisting accessories, n.e.c.
44* Machine, tool, and electric parts
440 Machine, tool, and electric parts, unspecified
441* Electric parts
4410 Electric parts, unspecified
4411 Electrical wiring
4412 Generators
4413 Magnetic and electrolytic apparatus
4414 Motors
4415 Power lines, transformers, convertors
4416 Relays, rheostats, starters, controls
4417 Switchboards, switches, fuses
4419 Electric parts, n.e.c.
442* Machine and appliance parts
4420 Machine and appliance parts, unspecified
4421 Dies, molds, patterns
4422 Drives--chain, leather, fabric, vee belt
4423 Drums, pulleys, sheaves
4424 Engines, turbines, except vehicle
4425 Friction clutches
4426 Gears
4427 Rollers
4429 Machine and appliance parts, n.e.c.
443* Tool parts, accessories
4430 Tool parts, accessories, unspecified
4431 Drill bits--unattached
4432 Saw blades--unattached
4439 Tool parts, accessories, n.e.c.
449 Machine, tool, and electric parts, n.e.c.
45* Metal materials--nonstructural
450 Metal materials--nonstructural, unspecified
451 Metal sheets, ingots, bars--nonstructural
452 Molten or hot metals, slag
459 Metal materials--nonstructural, n.e.c.
46* Tars, sealants, caulking, insulating material
460 Tars, sealants, caulking, insulation, unspecified
461 Asphalt, roofing tar
462 Fiberglass insulation
463 Foam caulking, foam insulation
464 Joint compound, patching compounds
465 Plastic, vinyl caulking
466 Sealants, waterproofers, n.e.c.
469 Tars, sealants, caulking, insulation, n.e.c.
47* Tarps and sheeting--nonmetal
470 Tarps and sheeting, nonmetal, unspecified
471 Roofing paper, roofing felt
472 Tarps; plastic, or fabric sheeting
479 Tarps and sheeting, nonmetal, n.e.c.
48* Vehicle and mobile equipment parts
480 Vehicle and mobile equipment parts, unspecified
481* Tires, inner tubes, wheels
4810 Tires, inner tubes, wheels, unspecified
4811 Bike tires
4812 Tire inner tubes
4813 Tires, except bike
4814 Wheels, tire rims
4819 Tires, inner tubes, wheels, n.e.c.
482* Engine parts and accessories
4820 Engine parts and accessories, unspecified
4821 Battery
4822 Belts, hoses
4823 Engine block
4824 Fan
4825 Muffler, exhaust
4826 Radiator
4827 Transmission
4829 Engine parts and accessories, n.e.c.
483 Trailers
484 Windshields, vehicle windows
489 Vehicle and mobile equipment parts, n.e.c.
49 Parts and materials, n.e.c.
5* PERSONS, PLANTS, ANIMALS, AND MINERALS

51* Animals and animal products
510 Animals, unspecified
511* Animal products--nonfood
5110 Animal products--nonfood, unspecified
5111 Bones, shells
5112 Feathers
5113 Fur, wool
5114 Hides--leather
5119 Animal products--nonfood, n.e.c.
512* Birds and fowl
5120 Birds and fowl, unspecified
5121 Birds, except fowl
5122 Chicken
5123 Ducks
5124 Geese
5125 Turkey
5129 Birds and fowl, n.e.c.
513 Fish, shellfish
514 Insects, arachnids (spiders, ticks, scorpions, etc.)
515* Mammals, except humans
5150 Mammals, unspecified
5151 Cats
5152 Cattle
5153 Dogs
5154 Horses
5155 Rats, rodents
5156 Sheep
5157 Swine
5159 Mammals, n.e.c.
516 Reptiles, snakes
517 Animal waste products, including manure
519 Animals, n.e.c.
52* Food products--fresh or processed
520 Food products, unspecified
521 Bakery products, candy, confections, snack foods
522 Beverages, n.e.c.
523 Dairy products
524 Fruits, nuts, vegetables
525 Grains, grain mill products
526 Meat, poultry
527 Seafood
528 Multiple foods or groceries
529* Other food products--fresh or processed
5291 Fats, oils
5292 Sugar, cocoa, chocolate
5299 Other food products--fresh or processed, n.e.c.
53* Infectious and parasitic agents
530 Infectious and parasitic agents, unspecified
531 Bacteria
532 Fungi
533 Viruses
539 Infectious and parasitic agents, n.e.c.
54* Metallic minerals
540 Metallic minerals, unspecified
541 Metal ores--nonradiating
542* Radiating metals, natural and processed
5420 Radiating metals, natural and processed, unspecified
5421 Plutonium
5422 Radium
5423 Uranium
5429 Radiating metals, natural and processed, n.e.c.
549 Metallic minerals, n.e.c.
55* Nonmetallic minerals, except fuel
550 Nonmetallic minerals, except fuel, unspecified
551 Asbestos
552 Boulders
553 Clay--natural and processed
554 Dirt, earth
555 Rocks, crushed stone
556 Sand, gravel
557 Silica
559 Nonmetallic minerals, except fuel, n.e.c.
56* Person--injured or ill worker
561 Bodily conditions of injured, ill worker
562 Bodily motion or position of injured, ill worker
569 Person--injured or ill worker, n.e.c.
57* Person--other than injured or ill worker
570 Person--other than injured or ill worker, unspecified
571 Bodily fluids or substances of person
572 Co-worker, former co-worker of injured or ill worker
573 Health care patient or resident of health care facility
574 Relative of injured or ill worker
579 Person--other than injured or ill worker, n.e.c.
58* Plants, trees, vegetation--not processed
580 Plants, trees, vegetation, unspecified
581 Cash grain crops
582 Field crops
583 Flowers
584 Houseplants
585 Poison ivy, oak, sumac
586 Shrubs, grasses
587 Trees, logs
589 Plants, trees, vegetation--not processed, n.e.c.
59 Persons, plants, animals, and minerals, n.e.c.

6* STRUCTURES AND SURFACES

60 Structures and surfaces, unspecified
61* Building systems
610 Building system, unspecified
611 Climate control system
612 Plumbing system
619 Building system, n.e.c.
62* Floors, walkways, ground surfaces
620 Floors, walkways, ground surfaces, unspecified
621 Escalators
622* Floors
6220 Floor, unspecified
6221 Floor of building
6222 Floor of elevator
6223 Floor of mine
6224 Floor of scaffold, staging, or temporary work platform
6225 Floor of vehicle
6229 Floor, n.e.c.
623 Ground
624 Sidewalks, paths, outdoor walkways
625* Stairs, steps
6250 Stairs, steps, unspecified
6251 Stairs, steps—indoors
626 Street, road
627* Surfaces below ground level, n.e.c.
6270 Surfaces below ground level, unspecified
6271 Ditches, channels, trenches, excavations
6279 Surfaces below ground level, n.e.c.
628 Parking lots
629* Other floors, walkways, ground surfaces
6290 Other floors, walkways, ground surfaces, unspecified
6291 Piers, wharfs
6292 Ramps, runways, loading docks
6293 Moving walkways
6299 Floors, walkways, ground surfaces, n.e.c.
63* Other structural elements
630 Other structural elements, unspecified
631 Doors
632 Fences, fence panels
633 Gates
634 Roof
635 Roof trusses
636 Skylights
637 Walls
638 Windows
639 Structural elements, n.e.c.
64* Structures
640 Structures, unspecified
641 Bridges, dams, locks
642 Buildings--office, plant, residential
643 Grandstands, stadia
644* Mines, caves, tunnels
6440 Mines, caves, tunnels, unspecified
6441 Mines, mine tunnels
6442 Pedestrian tunnels
6443 Sewers, manholes, storm drains
6444 Subway and train tunnels
6449 Mines, caves, tunnels, n.e.c.
645 Pools
646* Scaffolds, staging
6460 Scaffolds--staging, unspecified
6461 Scaffolds--improvised staging
6462 Scaffolds--selfsupporting staging
6463 Scaffolds--staging supported by structure or other means
6464 Scaffolds--suspended staging
6469 Scaffolds--staging, n.e.c.
647 Towers, poles
648 Other structures
6480 Other structures, unspecified
6481 Guardrails, road dividers
6482 Hydrants
6483 Wells
6489 Structures, n.e.c.
69 Structures and surfaces, n.e.c.

7 Tools, instruments, and equipment

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Tools, instruments, and equipment, unspecified</td>
</tr>
<tr>
<td>71</td>
<td>Handtools--nonpowered</td>
</tr>
<tr>
<td>710</td>
<td>Handtools--nonpowered, unspecified</td>
</tr>
<tr>
<td>711</td>
<td>Boring handtools--nonpowered</td>
</tr>
<tr>
<td>7110</td>
<td>Boring handtools--nonpowered, unspecified</td>
</tr>
<tr>
<td>7111</td>
<td>Augers</td>
</tr>
<tr>
<td>7112</td>
<td>Braces</td>
</tr>
<tr>
<td>7113</td>
<td>Drills</td>
</tr>
<tr>
<td>7119</td>
<td>Boring handtools--nonpowered, n.e.c.</td>
</tr>
<tr>
<td>712</td>
<td>Cutting handtools--nonpowered</td>
</tr>
<tr>
<td>7120</td>
<td>Cutting handtools--nonpowered, unspecified</td>
</tr>
<tr>
<td>7121</td>
<td>Axes, hatchets</td>
</tr>
<tr>
<td>7122</td>
<td>Bolt cutters</td>
</tr>
<tr>
<td>7123</td>
<td>Chisels</td>
</tr>
<tr>
<td>7124</td>
<td>Knives</td>
</tr>
<tr>
<td>7125</td>
<td>Saws</td>
</tr>
<tr>
<td>7126</td>
<td>Scissors, snips, shears</td>
</tr>
<tr>
<td>7129</td>
<td>Cutting handtools--nonpowered, n.e.c.</td>
</tr>
</tbody>
</table>
713* Digging handtools--nonpowered
7130 Digging handtools--nonpowered, unspecified
7131 Hoes
7132 Picks
7133 Shovels
7134 Trowels
7139 Digging handtools--nonpowered, n.e.c.
714* Gripping handtools--nonpowered
7140 Gripping handtools--nonpowered, unspecified
7141 Pliers, tongs
7142 Vises, clamps
7149 Gripping handtools--nonpowered, n.e.c.
715* Measuring handtools--nonpowered
7150 Measuring handtools--nonpowered, unspecified
7151 Calipers, micrometers
7152 Dividers
7153 Gauges
7154 Levels
7155 Plumb bobs
7156 Rulers, tape measures
7157 Squares
7159 Measuring handtools--nonpowered, n.e.c.
716* Striking and nailing handtools--nonpowered
7160 Striking handtools--nonpowered, unspecified
7161 Hammers
7162 Mallets
7163 Punches, counterpunches, countersinks
| 7164 | Sledges            |
| 7169 | Striking handtools--nonpowered, n.e.c. |
| 717* | Surfacing handtools--nonpowered |
| 7170 | Surfacing handtools--nonpowered, unspecified |
| 7171 | Files              |
| 7172 | Planes             |
| 7173 | Sanders            |
| 7174 | Sharpening stones and wheels |
| 7179 | Surfacing handtools--nonpowered, n.e.c. |
| 718* | Turning handtools--nonpowered |
| 7180 | Turning handtools--nonpowered, unspecified |
| 7181 | Screwdrivers       |
| 7182 | Wrenches           |
| 7189 | Turning handtools--nonpowered, n.e.c. |
| 719* | Other handtools--nonpowered |
| 7190 | Other handtools--nonpowered, unspecified |
| 7191 | Brooms, mops, and other cleaning tools |
| 7192 | Crowbars           |
| 7193 | Pitchforks, sading forks |
| 7194 | Rakes              |
| 7195 | Stapling tools--nonpowered |
| 7199 | Handtools--nonpowered, n.e.c. |
| 72*  | Handtools--powered |
| 720  | Handtools--powered, unspecified |
| 721* | Boring handtools--powered |
| 7210 | Boring handtools--powered, unspecified |
| 7211 | Augers--powered    |
7212 Braces—powered
7213 Drills—powered
7214 Routers and molders—powered
7219 Boring handtools—powered, n.e.c.
722* Cutting handtools—powered
7220 Cutting handtools—powered, unspecified
7221 Chainsaws—powered
7222 Chisels—powered
7223 Knives—powered
7224 Saws—powered, except chainsaws
7229 Cutting handtools—powered, n.e.c.
723* Striking and nailing handtools—powered
7230 Striking handtools—powered, unspecified
7231 Hammers—powered
7232 Jackhammers—powered
7233 Punches—powered
7234 Riveters—powered
7239 Striking handtools—powered, n.e.c.
724* Surfacing handtools—powered
7240 Surfacing handtools—powered, unspecified
7241 Buffers, polishers, waxers—powered
7242 Hand grinders—powered
7243 Sanders—powered
7244 Sandblasters—powered
7249 Surfacing handtools—powered, n.e.c.
725* Turning handtools—powered
7250 Turning handtools—powered, unspecified
7251 Bolt setters--powered
7252 Impact wrenches--powered
7253 Screwdrivers--powered
7259 Turning handtools--powered, n.e.c.
726* Welding and heating handtools--powered
7260 Welding and heating handtools--powered, unspecified
7261 Blow torches
7262 Soldering irons--powered
7263 Welding torches--powered
7269 Welding and heating handtools--powered, n.e.c.
729* Other handtools--powered
7290 Other handtools--powered, unspecified
7291 Nail guns--powered
7293 Scrubbers--powered
7294 Sprayers--paint
7295 Stapling tools--electric or pneumatic
7299 Handtools--powered, n.e.c.
73* Handtools--power not determined
730 Handtools--power not determined, unspecified
731* Boring handtools--power not determined
7310 Boring handtools--power not determined, unspecified
7311 Augers--power not determined
7312 Braces--power not determined
7313 Drills--power not determined
7319 Boring handtools--power not determined, n.e.c.
732* Cutting handtools--power not determined
7320 Cutting handtools--power not determined, unspecified
7321 Chisels--power not determined
7322 Knives--power not determined
7323 Saws--power not determined
7329 Cutting handtools--power not determined, n.e.c.
733* Striking and nailing handtools--power not determined
7330 Striking and nailing handtools--power not determined, unspecified
7331 Hammers--power not determined
7332 Punches--power not determined
7339 Striking and nailing handtools--power not determined, n.e.c.
734* Surfacing handtools--power not determined
7340 Surfacing handtools--power not determined, unspecified
7341 Sanders--power not determined
7349 Surfacing handtools--power not determined, n.e.c.
735* Turning handtools--power not determined
7350 Turning handtools--power not determined, unspecified
7351 Screwdrivers--power not determined
7352 Wrenches--power not determined
7359 Turning handtools--power not determined, n.e.c.
739* Other handtools--power not determined
7391 Staplers--power not determined
7399 Handtools--power not determined, n.e.c.
74* Ladders
740 Ladders, unspecified
741 Ladders--fixed
742* Ladders--movable
7420 Movable ladders, unspecified
7421 Extension ladders
7422 Step ladders
7423 Straight ladders
7424 Truck mounted ladders, aerial ladder trams
7429 Movable ladders, n.e.c.
749 Ladders, n.e.c.
75* Medical and surgical instruments
750 Medical and surgical instruments, unspecified
751 Needles and syringes
752 Scalpels
759 Medical and surgical instruments, n.e.c.
76* Photographic equipment
760 Photographic equipment, unspecified
761 Cameras--still and motion picture
762 Photographic paper and cloth
763 Projectors--still and motion picture
764 Tripods, stands
769 Photographic equipment, n.e.c.
77* Protective equipment, except clothing
770 Protective equipment, except clothing, unspecified
771 Dust masks
772 Earplugs and hearing protectors
773 Face shields, welding masks
774 Hard hats
775 Lifelines, lanyards, safety belts or harnesses
776 Respirators
777 Safety glasses or goggles
779 Protective equipment, except clothing, n.e.c.
78* Recreation and athletic equipment
780 Recreation and athletic equipment, unspecified
781 Camping equipment
782 Gymnasium and exercise equipment
783 Playground equipment
784 Riding goods and equipment
785 Snow skiing goods and equipment
786 Water sports equipment
789 Recreation and athletic equipment, n.e.c.
79* Other tools, instruments, and equipment
791 Clocks
792 Cooking and eating utensils, except knives
793* Firearms
7930 Firearm, unspecified
7931 Pistol, handgun, revolver
7932 Rifle
7933 Shotgun
7939 Firearm, n.e.c.
794 Health care and orthopedic equipment, n.e.c.
795* Musical instruments
7950 Musical instrument, unspecified
7951 Pianos
7959 Other musical instruments
796* Sewing notions, n.e.c
7960 Sewing notions, unspecified
7961 Fabric pins, safety pins
7962 Sewing needles
7969 Sewing notions, n.e.c.
797 Wheelchairs
798* Writing, drawing, and art supplies.
7980 Writing, drawing, and art supplies, unspecified
7981 Art supplies and materials, except paint
7982 Chalk, crayons, marking devices
7983 Pens and pencils
7989 Writing, drawing, and art supplies, n.e.c.
799 Tools, instruments, and equipment, n.e.c.

8* VEHICLES

80 Vehicle, unspecified
81* Air vehicle
810 Aircraft, unspecified
811* Aircraft--powered fixed wing
8110 Aircraft--powered fixed wing, unspecified
8111 Jet
8112 Propeller-driven aircraft
8119 Aircraft--powered fixed wing, n.e.c.
812* Aircraft--powered rotary wing
8120 Aircraft--rotary wing, unspecified
8121 Helicopter
8122 Hovercraft
8129 Aircraft--rotary wing, n.e.c.
813* Aircraft--nonpowered
8130 Aircraft--nonpowered, unspecified
8131 Glider, nonpowered
8132 Parachute
8139 Aircraft--nonpowered, n.e.c.
819 Aircraft, n.e.c.
82* Highway vehicle, motorized
820 Highway vehicle, unspecified
821 Automobile
822 Bus
823 Motorcycle, moped
824 Motor home, recreational vehicle
825* Truck
8250 Truck, unspecified
8251 Delivery truck
8252 Dump truck
8253 Pickup truck
8254 Semitrailer, tractor trailer, trailer truck
8259 Truck, n.e.c.
826 Van--passenger or light delivery
829 Highway vehicle, motorized, n.e.c.
83* Highway vehicle, nonmotorized
830 Highway vehicle, nonmotorized, unspecified
831* Animal or human powered vehicle
8311 Horse drawn carriage
8312 Bicycle
8319 Animal or human powered vehicle, n.e.c.
839 Highway vehicle, nonmotorized, n.e.c.
84* Offroad vehicle, nonindustrial
840 Offroad vehicle, nonindustrial, unspecified
841 All terrain vehicle (ATV)
842 Golf cart, powered
843 Snowmobile
849 Offroad vehicle, nonindustrial, n.e.c.
85* Plant and industrial powered vehicles, tractors
850 Plant and industrial powered vehicles, unspecified
851* Forklift
8510 Forklift, unspecified
8511 Counterbalance rider--high lift
8512 Hand/rider forklift truck--motorized
8513 Order picker high lift truck
8514 Pallet lift truck--motorized
8515 Platform lift truck--high or low lift
8516 Reach rider lift truck
8517 Single side loader rider truck
8518 Straddle rider lift truck
8519 Forklift, n.e.c.
852* Powered industrial carrier, except forklifts
8520 Powered industrial carrier, unspecified
8521 Container carrier
8522 Lumber carrier
8523 Stacker carrier
8524 Straddle carrier
8529 Powered industrial carrier, n.e.c.
853 Tractor
859 Plant and industrial powered vehicle, n.e.c.
86* Plant and industrial vehicle--nonpowered
860 Plant and industrial vehicle--nonpowered, unspecified
861 Cart, dolly, handtruck
862 Wheelbarrow
869 Plant and industrial vehicle--nonpowered, n.e.c.
87* Rail vehicle
870 Rail vehicle, unspecified
871 Amusement park rail vehicle
872 Streetcar, trolley
873 Subway
874 Train
879 Rail vehicle, n.e.c.
88* Water vehicle
880 Water vehicle, unspecified
881 Barge
882 Canoe, kayak, rowboat, raft
883 Jet skis
884 Motorboat, yachts
885 Sailboat, sailing ship
886 Ships--other than sail powered
887 Tugboat, commercial fishing boat
889 Water vehicle, n.e.c.
89 Vehicless, n.e.c.

9* OTHER SOURCES

91* Ammunition
910 Ammunition, unspecified
911 Bullets
912 Explosive devices
913 Pellets
919 Ammunition, n.e.c.
92* Apparel and textiles
920 Apparel and textiles, unspecified
921* Clothing and shoes
9210 Clothing, unspecified
9211 Belts, gloves, neckties, scarves
9212 Blouses, shirts, dresses, trousers, skirts
9213 Hats, caps
9214 Shoes, boots, slippers, sandals
9215 Suits, coats, jackets
9219 Clothing, n.e.c.
922* Eye glasses, jewelry, and watches
9221 Eye glasses, sunglasses
9222 Jewelry
9223 Watches
923* Textile products
9230 Textile products, unspecified
9231 Fabric
9232 Yarn, thread
9239 Textile products, n.e.c.
924 Laundry
929 Apparel and textiles, n.e.c.
93* Atmospheric and environmental conditions
930 Atmospheric and environmental conditions, unspecified
931* Air pressure
9310 Air pressure, unspecified
9311 High pressure
9312 Low pressure
932 Avalanche, mud slide
933 Earthquake
934* Fire, flame, smoke
9340 Fire, flame, smoke, unspecified
9341 Fire, flame
9342 Smoke, fire gases
935 Flood
936* Temperature extremes--environmental
9360 Temperature extremes--environmental, unspecified
9361 Cold--environmental
9362 Heat--environmental
937* Weather and atmospheric conditions
9370 Weather and atmospheric conditions, unspecified
9371 Fog
9372 High winds, gusts
9373 Ice, sleet, snow
9374 Lightning
9375 Rain
9376 Smog
9377 Tornado, hurricane, typhoon
9379 Weather and atmospheric conditions, n.e.c.
939* Other environmental conditions
9391 Noise
9392 Sun
9399 Environmental conditions, n.e.c.
94* Paper, books, magazines
940 Paper, books, magazines, unspecified
941 Books, notebooks, magazines, catalogues
942 Paper, sheets
949 Paper, books, magazines, n.e.c.
95* Scrap, waste, debris
950 Scrap, waste, debris, unspecified
951* Chips, particles, splinters
9510 Chips, particles, splinters, unspecified
9511 Dirt particles
9512 Glass chips or fibers
9513 Metal chips, particles
9514 Wood chips, sawdust
9519 Chips, particles, splinters, n.e.c.
952 Sewage
953 Trash, garbage
959 Scrap, waste, debris, n.e.c.
96* Steam, vapors, liquids, n.e.c.
961 Steam, vapors--nonchemical
962* Liquids
9620 Liquids, unspecified
9621 Water
9629 Liquids, n.e.c.
98 Other sources, n.e.c.
9999 Nonclassifiable
* - Asterisks indicate division, major group, or group titles.

Appendix II

2000 Standard Occupational Classification (SOC) Structure

11-0000 Management Occupations

11-1000 Top Executives
11-1010 Chief Executives
11-1011 Chief Executives
11-1020 General and Operations Managers
11-1021 General and Operations Managers
11-1030 Legislators
11-1031 Legislators
11-2000 Advertising, Marketing, Promotions, Public Relations, and Sales Managers
11-2010 Advertising and Promotions Managers
11-2011 Advertising and Promotions Managers
11-2020 Marketing and Sales Managers
11-2021 Marketing Managers
11-2022 Sales Managers
11-2030 Public Relations Managers
11-2031 Public Relations Managers
11-3000 Operations Specialties Managers
11-3010 Administrative Services Managers
11-3011 Administrative Services Managers
11-3020 Computer and Information Systems Managers
11-3021 Computer and Information Systems Managers
11-3030 Financial Managers
11-3031 Financial Managers
11-3040 Human Resources Managers
11-3041 Compensation and Benefits Managers
11-3042 Training and Development Managers
11-3049 Human Resources Managers, All Other
11-3050 Industrial Production Managers
11-3051 Industrial Production Managers
11-3060 Purchasing Managers
11-3061 Purchasing Managers
11-3070 Transportation, Storage, and Distribution Managers
11-3071 Transportation, Storage, and Distribution Managers
11-9000 Other Management Occupations
11-9010 Agricultural Managers
11-9011 Farm, Ranch, and Other Agricultural Managers
11-9012 Farmers and Ranchers
11-9020 Construction Managers
11-9021 Construction Managers
11-9030 Education Administrators
11-9031 Education Administrators, Preschool and Child Care Center/Program
11-9032 Education Administrators, Elementary and Secondary School
11-9033 Education Administrators, Postsecondary
11-9039 Education Administrators, All Other
11-9040 Engineering Managers
11-9041 Engineering Managers
11-9050 Food Service Managers
11-9051 Food Service Managers
11-9060 Funeral Directors
11-9061 Funeral Directors
11-9070 Gaming Managers
11-9071 Gaming Managers
11-9080 Lodging Managers
11-9081 Lodging Managers
11-9110 Medical and Health Services Managers
11-9111 Medical and Health Services Managers
11-9120 Natural Sciences Managers
11-9121 Natural Sciences Managers
11-9130 Postmasters and Mail Superintendents
11-9131 Postmasters and Mail Superintendents
11-9140 Property, Real Estate, and Community Association Managers
11-9141 Property, Real Estate, and Community Association Managers
11-9150 Social and Community Service Managers
11-9151 Social and Community Service Managers
11-9190 Miscellaneous Managers
11-9199 Managers, All Other

13-0000 Business and Financial Operations Occupations
13-1000 Business Operations Specialists
13-1010 Agents and Business Managers of Artists, Performers, and Athletes
13-1011 Agents and Business Managers of Artists, Performers, and Athletes
13-1020 Buyers and Purchasing Agents
13-1021 Purchasing Agents and Buyers, Farm Products
13-1022 Wholesale and Retail Buyers, Except Farm Products
13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products
13-1030 Claims Adjusters, Appraisers, Examiners, and Investigators
13-1031 Claims Adjusters, Examiners, and Investigators
13-1032 Insurance Appraisers, Auto Damage
13-1040 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
13-1041 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation

13-1050 Cost Estimators

13-1051 Cost Estimators

13-1060 Emergency Management Specialists

13-1061 Emergency Management Specialists

13-1070 Human Resources, Training, and Labor Relations Specialists

13-1071 Employment, Recruitment, and Placement Specialists

13-1072 Compensation, Benefits, and Job Analysis Specialists

13-1073 Training and Development Specialists

13-1079 Human Resources, Training, and Labor Relations Specialists, All Other

13-1080 Logisticians

13-1081 Logisticians

13-1110 Management Analysts

13-1111 Management Analysts

13-1120 Meeting and Convention Planners

13-1121 Meeting and Convention Planners

11-9050 Food Service Managers

11-9051 Food Service Managers

11-9060 Funeral Directors

11-9061 Funeral Directors

11-9070 Gaming Managers

11-9071 Gaming Managers

11-9080 Lodging Managers

11-9081 Lodging Managers

11-9110 Medical and Health Services Managers

11-9111 Medical and Health Services Managers

11-9120 Natural Sciences Managers
11-9121 Natural Sciences Managers
11-9130 Postmasters and Mail Superintendents
11-9131 Postmasters and Mail Superintendents
11-9140 Property, Real Estate, and Community Association Managers
11-9141 Property, Real Estate, and Community Association Managers
11-9150 Social and Community Service Managers
11-9151 Social and Community Service Managers
11-9190 Miscellaneous Managers
11-9199 Managers, All Other

13-0000 Business and Financial Operations Occupations
13-1000 Business Operations Specialists
13-1010 Agents and Business Managers of Artists, Performers, and Athletes
13-1011 Agents and Business Managers of Artists, Performers, and Athletes
13-1020 Buyers and Purchasing Agents
13-1021 Purchasing Agents and Buyers, Farm Products
13-1022 Wholesale and Retail Buyers, Except Farm Products
13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products
13-1030 Claims Adjusters, Appraisers, Examiners, and Investigators
13-1031 Claims Adjusters, Examiners, and Investigators
13-1032 Insurance Appraisers, Auto Damage
13-1040 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
13-1041 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
13-1050 Cost Estimators
13-1051 Cost Estimators
13-1060 Emergency Management Specialists
13-1061 Emergency Management Specialists
13-1070 Human Resources, Training, and Labor Relations Specialists
13-1071 Employment, Recruitment, and Placement Specialists
13-1072 Compensation, Benefits, and Job Analysis Specialists
13-1073 Training and Development Specialists
13-1079 Human Resources, Training, and Labor Relations Specialists, All Other
13-1080 Logisticians
13-1081 Logisticians
13-1110 Management Analysts
13-1111 Management Analysts
13-1120 Meeting and Convention Planners
13-1121 Meeting and Convention Planners
13-1190 Miscellaneous Business Operations Specialists
13-1199 Business Operations Specialists, All Other
13-2000 Financial Specialists
13-2010 Accountants and Auditors
13-2011 Accountants and Auditors
13-2020 Appraisers and Assessors of Real Estate
13-2021 Appraisers and Assessors of Real Estate
13-2030 Budget Analysts
13-2031 Budget Analysts
13-2040 Credit Analysts
13-2041 Credit Analysts
13-2050 Financial Analysts and Advisors
13-2051 Financial Analysts
13-2052 Personal Financial Advisors
13-2053 Insurance Underwriters
13-2060 Financial Examiners
13-2061 Financial Examiners
13-2070 Loan Counselors and Officers
13-2071 Loan Counselors
13-2072 Loan Officers
13-2080 Tax Examiners, Collectors, Preparers, and Revenue Agents
13-2081 Tax Examiners, Collectors, and Revenue Agents
13-2082 Tax Preparers
13-2090 Miscellaneous Financial Specialists
13-2099 Financial Specialists, All Other

**15-0000 Computer and Mathematical Occupations**

15-1000 Computer Specialists
15-1010 Computer and Information Scientists, Research
15-1011 Computer and Information Scientists, Research
15-1020 Computer Programmers
15-1021 Computer Programmers
15-1030 Computer Software Engineers
15-1031 Computer Software Engineers, Applications
15-1032 Computer Software Engineers, Systems Software
15-1040 Computer Support Specialists
15-1041 Computer Support Specialists
15-1050 Computer Systems Analysts
15-1051 Computer Systems Analysts
15-1060 Database Administrators
15-1061 Database Administrators
15-1070 Network and Computer Systems Administrators
15-1071 Network and Computer Systems Administrators
15-1080 Network Systems and Data Communications Analysts
15-1081 Network Systems and Data Communications Analysts
15-1090 Miscellaneous Computer Specialists
15-1099 Computer Specialists, All Other
15-2000 Mathematical Science Occupations
15-2010 Actuaries
15-2011 Actuaries
15-2020 Mathematicians
15-2021 Mathematicians
15-2030 Operations Research Analysts
15-2031 Operations Research Analysts
15-2040 Statisticians
15-2041 Statisticians
15-2090 Miscellaneous Mathematical Science Occupations
15-2091 Mathematical Technicians
15-2099 Mathematical Science Occupations, All Other

17-0000 Architecture and Engineering Occupations
17-1000 Architects, Surveyors, and Cartographers
17-1010 Architects, Except Naval
17-1011 Architects, Except Landscape and Naval
17-1012 Landscape Architects
17-1020 Surveyors, Cartographers, and Photogrammetrists
17-1021 Cartographers and Photogrammetrists
17-1022 Surveyors
17-2000 Engineers
17-2010 Aerospace Engineers
17-2011 Aerospace Engineers
17-2020 Agricultural Engineers
17-2021 Agricultural Engineers
17-2030 Biomedical Engineers
17-2031 Biomedical Engineers
17-2040 Chemical Engineers
17-2041 Chemical Engineers
17-2050 Civil Engineers
17-2051 Civil Engineers
17-2060 Computer Hardware Engineers
17-2061 Computer Hardware Engineers
17-2070 Electrical and Electronics Engineers
17-2071 Electrical Engineers
17-2072 Electronics Engineers, Except Computer
17-2080 Environmental Engineers
17-2081 Environmental Engineers
17-2110 Industrial Engineers, Including Health and Safety
17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
17-2112 Industrial Engineers
17-2120 Marine Engineers and Naval Architects
17-2121 Marine Engineers and Naval Architects
17-2130 Materials Engineers
17-2131 Materials Engineers
17-2140 Mechanical Engineers
17-2141 Mechanical Engineers
17-2150 Mining and Geological Engineers, Including Mining Safety Engineers
17-2151 Mining and Geological Engineers, Including Mining Safety Engineers
17-2160 Nuclear Engineers
17-2161 Nuclear Engineers
17-2170 Petroleum Engineers
17-2171 Petroleum Engineers
17-2190 Miscellaneous Engineers
17-2199 Engineers, All Other
17-3000 Drafters, Engineering, and Mapping Technicians
17-3010 Drafters
17-3011 Architectural and Civil Drafters
17-3012 Electrical and Electronics Drafters
17-3013 Mechanical Drafters
17-3019 Drafters, All Other
17-3020 Engineering Technicians, Except Drafters
17-3021 Aerospace Engineering and Operations Technicians
17-3022 Civil Engineering Technicians
17-3023 Electrical and Electronic Engineering Technicians
17-3024 Electro-Mechanical Technicians
17-3025 Environmental Engineering Technicians
17-3026 Industrial Engineering Technicians
17-3027 Mechanical Engineering Technicians
17-3029 Engineering Technicians, Except Drafters, All Other
17-3030 Surveying and Mapping Technicians
17-3031 Surveying and Mapping Technicians

19-0000 Life, Physical, and Social Science Occupations
19-1000 Life Scientists
19-1010 Agricultural and Food Scientists
19-1011 Animal Scientists
19-1012 Food Scientists and Technologists
19-1013 Soil and Plant Scientists
19-1020 Biological Scientists
19-1021 Biochemists and Biophysicists
19-1022 Microbiologists
19-1023 Zoologists and Wildlife Biologists
19-1029 Biological Scientists, All Other
19-1030 Conservation Scientists and Foresters
19-1031 Conservation Scientists
19-1032 Foresters
19-1040 Medical Scientists
19-1041 Epidemiologists
19-1042 Medical Scientists, Except Epidemiologists
19-1090 Miscellaneous Life Scientists
19-1099 Life Scientists, All Other
19-2000 Physical Scientists
19-2010 Astronomers and Physicists
19-2011 Astronomers
19-2012 Physicists
19-2020 Atmospheric and Space Scientists
19-2021 Atmospheric and Space Scientists
19-2030 Chemists and Materials Scientists
19-2031 Chemists
19-2032 Materials Scientists
19-2040 Environmental Scientists and Geoscientists
19-2041 Environmental Scientists and Specialists, Including Health
19-2042 Geoscientists, Except Hydrologists and Geographers
19-2043 Hydrologists
19-2090 Miscellaneous Physical Scientists
19-2099 Physical Scientists, All Other
19-3000 Social Scientists and Related Workers
19-3010 Economists
19-3011 Economists
19-3020 Market and Survey Researchers
19-3021 Market Research Analysts
19-3022 Survey Researchers
19-3030 Psychologists
19-3031 Clinical, Counseling, and School Psychologists
19-3032 Industrial-Organizational Psychologists
19-3039 Psychologists, All Other
19-3040 Sociologists
19-3041 Sociologists
19-3050 Urban and Regional Planners
19-3051 Urban and Regional Planners
19-3090 Miscellaneous Social Scientists and Related Workers
19-3091 Anthropologists and Archeologists
19-3092 Geographers
19-3093 Historians
19-3094 Political Scientists
19-3099 Social Scientists and Related Workers, All Other
19-4000 Life, Physical, and Social Science Technicians
19-4010 Agricultural and Food Science Technicians
19-4011 Agricultural and Food Science Technicians
19-4020 Biological Technicians
19-4021 Biological Technicians
19-4030 Chemical Technicians
19-4031 Chemical Technicians
19-4040 Geological and Petroleum Technicians
19-4041 Geological and Petroleum Technicians
19-4050 Nuclear Technicians
19-4051 Nuclear Technicians
19-4060 Social Science Research Assistants
19-4061 Social Science Research Assistants
19-4090 Miscellaneous Life, Physical, and Social Science Technicians
19-4091 Environmental Science and Protection Technicians, Including Health
19-4092 Forensic Science Technicians
19-4093 Forest and Conservation Technicians
19-4099 Life, Physical, and Social Science Technicians, All Other

21-0000 Community and Social Services Occupations
21-1000 Counselors, Social Workers, and Other Community and Social Service Specialists
21-1010 Counselors
21-1011 Substance Abuse and Behavioral Disorder Counselors
21-1012 Educational, Vocational, and School Counselors
21-1013 Marriage and Family Therapists
21-1014 Mental Health Counselors
21-1015 Rehabilitation Counselors
21-1019 Counselors, All Other
21-1020 Social Workers
21-1021 Child, Family, and School Social Workers
21-1022 Medical and Public Health Social Workers
21-1023 Mental Health and Substance Abuse Social Workers
21-1029 Social Workers, All Other
21-1090 Miscellaneous Community and Social Service Specialists
21-1091 Health Educators
21-1092 Probation Officers and Correctional Treatment Specialists
21-1093 Social and Human Service Assistants
21-1099 Community and Social Service Specialists, All Other
21-2000 Religious Workers
21-2010 Clergy
21-2011 Clergy
21-2020 Directors, Religious Activities and Education
21-2021 Directors, Religious Activities and Education
21-2090 Miscellaneous Religious Workers
21-2099 Religious Workers, All Other

23-0000 Legal Occupations

23-1000 Lawyers, Judges, and Related Workers
23-1010 Lawyers
23-1011 Lawyers
23-1020 Judges, Magistrates, and Other Judicial Workers
23-1021 Administrative Law Judges, Adjudicators, and Hearing Officers
23-1022 Arbitrators, Mediators, and Conciliators
23-1023 Judges, Magistrate Judges, and Magistrates
23-2000 Legal Support Workers
23-2010 Paralegals and Legal Assistants
23-2011 Paralegals and Legal Assistants
23-2090 Miscellaneous Legal Support Workers
23-2091 Court Reporters
23-2092 Law Clerks
23-2093 Title Examiners, Abstractors, and Searchers
23-2099 Legal Support Workers, All Other

25-0000 Education, Training, and Library Occupations
25-1000 Postsecondary Teachers
25-1010 Business Teachers, Postsecondary
25-1011 Business Teachers, Postsecondary
25-1020 Math and Computer Teachers, Postsecondary
25-1021 Computer Science Teachers, Postsecondary
25-1022 Mathematical Science Teachers, Postsecondary
25-1030 Engineering and Architecture Teachers, Postsecondary
25-1031 Architecture Teachers, Postsecondary
25-1032 Engineering Teachers, Postsecondary
25-1040 Life Sciences Teachers, Postsecondary
25-1041 Agricultural Sciences Teachers, Postsecondary
25-1042 Biological Science Teachers, Postsecondary
25-1043 Forestry and Conservation Science Teachers, Postsecondary
25-1050 Physical Sciences Teachers, Postsecondary
25-1051 Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary
25-1052 Chemistry Teachers, Postsecondary
25-1053 Environmental Science Teachers, Postsecondary
25-1054 Physics Teachers, Postsecondary
25-1060 Social Sciences Teachers, Postsecondary
25-1061 Anthropology and Archeology Teachers, Postsecondary
25-1062 Area, Ethnic, and Cultural Studies Teachers, Postsecondary
25-1063 Economics Teachers, Postsecondary
25-1064 Geography Teachers, Postsecondary
25-1065 Political Science Teachers, Postsecondary
25-1066 Psychology Teachers, Postsecondary
25-1067 Sociology Teachers, Postsecondary
25-1069 Social Sciences Teachers, Postsecondary, All Other
25-1070 Health Teachers, Postsecondary
25-1071 Health Specialties Teachers, Postsecondary
25-1072 Nursing Instructors and Teachers, Postsecondary
25-1080 Education and Library Science Teachers, Postsecondary
25-1081 Education Teachers, Postsecondary
25-1082 Library Science Teachers, Postsecondary
25-1110 Law, Criminal Justice, and Social Work Teachers, Postsecondary
25-1111 Criminal Justice and Law Enforcement Teachers, Postsecondary
25-1112 Law Teachers, Postsecondary
25-1113 Social Work Teachers, Postsecondary
25-1120 Arts, Communications, and Humanities Teachers, Postsecondary
25-1121 Art, Drama, and Music Teachers, Postsecondary
25-1122 Communications Teachers, Postsecondary
25-1123 English Language and Literature Teachers, Postsecondary
25-1124 Foreign Language and Literature Teachers, Postsecondary
25-1125 History Teachers, Postsecondary
25-1126 Philosophy and Religion Teachers, Postsecondary
25-1190 Miscellaneous Postsecondary Teachers
25-1191 Graduate Teaching Assistants
25-1192 Home Economics Teachers, Postsecondary
25-1193 Recreation and Fitness Studies Teachers, Postsecondary
25-1194 Vocational Education Teachers, Postsecondary
25-1199 Postsecondary Teachers, All Other
25-2000 Primary, Secondary, and Special Education School Teachers
25-2010 Preschool and Kindergarten Teachers
25-2011 Preschool Teachers, Except Special Education
25-2012 Kindergarten Teachers, Except Special Education
25-2020 Elementary and Middle School Teachers
25-2021 Elementary School Teachers, Except Special Education
25-2022 Middle School Teachers, Except Special and Vocational Education
25-2023 Vocational Education Teachers, Middle School
25-2030 Secondary School Teachers
25-2031 Secondary School Teachers, Except Special and Vocational Education
25-2032 Vocational Education Teachers, Secondary School
25-2040 Special Education Teachers
25-2041 Special Education Teachers, Preschool, Kindergarten, and Elementary School
25-2042 Special Education Teachers, Middle School
25-2043 Special Education Teachers, Secondary School
25-3000 Other Teachers and Instructors
25-3010 Adult Literacy, Remedial Education, and GED Teachers and Instructors
25-3011 Adult Literacy, Remedial Education, and GED Teachers and Instructors
25-3020 Self-Enrichment Education Teachers
25-3021 Self-Enrichment Education Teachers
25-3090 Miscellaneous Teachers and Instructors
25-3099 Teachers and Instructors, All Other
25-4000 Librarians, Curators, and Archivists
25-4010 Archivists, Curators, and Museum Technicians
25-4011 Archivists
25-4012 Curators
25-4013 Museum Technicians and Conservators
25-4020 Librarians
25-4021 Librarians
25-4030 Library Technicians
25-4031 Library Technicians
25-9000 Other Education, Training, and Library Occupations
25-9010 Audio-Visual Collections Specialists
25-9011 Audio-Visual Collections Specialists
25-9020 Farm and Home Management Advisors
25-9021 Farm and Home Management Advisors
25-9030 Instructional Coordinators
25-9031 Instructional Coordinators
25-9040 Teacher Assistants
25-9041 Teacher Assistants
25-9090 Miscellaneous Education, Training, and Library Workers
25-9099 Education, Training, and Library Workers, All Other

27-0000 Arts, Design, Entertainment, Sports, and Media Occupations
27-1000 Art and Design Workers
27-1010 Artists and Related Workers
27-1011 Art Directors
27-1012 Craft Artists
27-1013 Fine Artists, Including Painters, Sculptors, and Illustrators
27-1014 Multi-Media Artists and Animators
27-1019 Artists and Related Workers, All Other
27-1020 Designers
27-1021 Commercial and Industrial Designers
27-1022 Fashion Designers
27-1023 Floral Designers
27-1024 Graphic Designers
27-1025 Interior Designers
27-1026 Merchandise Displayers and Window Trimmers
27-1027 Set and Exhibit Designers
27-1029 Designers, All Other
27-2000 Entertainers and Performers, Sports and Related Workers
27-2010 Actors, Producers, and Directors
27-2011 Actors
27-2012 Producers and Directors
27-2020 Athletes, Coaches, Umpires, and Related Workers
27-2021 Athletes and Sports Competitors
27-2022 Coaches and Scouts
27-2023 Umpires, Referees, and Other Sports Officials
27-2030 Dancers and Choreographers
27-2031 Dancers
27-2032 Choreographers
27-2040 Musicians, Singers, and Related Workers
27-2041 Music Directors and Composers
27-2042 Musicians and Singers
27-2090 Miscellaneous Entertainers and Performers, Sports and Related Workers
27-2099 Entertainers and Performers, Sports and Related Workers, All Other
27-3000 Media and Communication Workers
27-3010 Announcers
27-3011 Radio and Television Announcers
27-3012 Public Address System and Other Announcers
27-3020 News Analysts, Reporters and Correspondents
27-3021 Broadcast News Analysts
27-3022 Reporters and Correspondents
27-3030 Public Relations Specialists
27-3031 Public Relations Specialists
27-3040 Writers and Editors
27-3041 Editors
27-3042 Technical Writers
27-3043 Writers and Authors
27-3090 Miscellaneous Media and Communication Workers
27-3091 Interpreters and Translators
27-3099 Media and Communication Workers, All Other
27-4000 Media and Communication Equipment Workers
27-4010 Broadcast and Sound Engineering Technicians and Radio Operators
27-4011 Audio and Video Equipment Technicians
27-4012 Broadcast Technicians
27-4013 Radio Operators
27-4014 Sound Engineering Technicians
27-4020 Photographers
27-4021 Photographers
27-4030 Television, Video, and Motion Picture Camera Operators and Editors
27-4031 Camera Operators, Television, Video, and Motion Picture
27-4032 Film and Video Editors
27-4090 Miscellaneous Media and Communication Equipment Workers
27-4099 Media and Communication Equipment Workers, All Other
29-0000 Healthcare Practitioners and Technical Occupations

29-1000 Health Diagnosing and Treating Practitioners
  29-1010 Chiropractors
  29-1011 Chiropractors
  29-1020 Dentists
  29-1021 Dentists, General
  29-1022 Oral and Maxillofacial Surgeons
  29-1023 Orthodontists
  29-1024 Prosthodontists
  29-1029 Dentists, All Other Specialists
  29-1030 Dietitians and Nutritionists
  29-1031 Dietitians and Nutritionists
  29-1040 Optometrists
  29-1041 Optometrists
  29-1050 Pharmacists
  29-1051 Pharmacists
  29-1060 Physicians and Surgeons
  29-1061 Anesthesiologists
  29-1062 Family and General Practitioners
  29-1063 Internists, General
  29-1064 Obstetricians and Gynecologists
  29-1065 Pediatricians, General
  29-1066 Psychiatrists
  29-1067 Surgeons
  29-1069 Physicians and Surgeons, All Other
  29-1070 Physician Assistants
29-1071 Physician Assistants
29-1080 Podiatrists
29-1081 Podiatrists
29-1110 Registered Nurses
29-1111 Registered Nurses
29-1120 Therapists
29-1121 Audiologists
29-1122 Occupational Therapists
29-1123 Physical Therapists
29-1124 Radiation Therapists
29-1125 Recreational Therapists
29-1126 Respiratory Therapists
29-1127 Speech-Language Pathologists
29-1129 Therapists, All Other
29-1130 Veterinarians
29-1131 Veterinarians
29-1190 Miscellaneous Health Diagnosing and Treating Practitioners
29-1199 Health Diagnosing and Treating Practitioners, All Other
29-2000 Health Technologists and Technicians
29-2010 Clinical Laboratory Technologists and Technicians
29-2011 Medical and Clinical Laboratory Technologists
29-2012 Medical and Clinical Laboratory Technicians
29-2020 Dental Hygienists
29-2021 Dental Hygienists
29-2030 Diagnostic Related Technologists and Technicians
29-2031 Cardiovascular Technologists and Technicians
29-2032 Diagnostic Medical Sonographers
29-2033 Nuclear Medicine Technologists
29-2034 Radiologic Technologists and Technicians
29-2040 Emergency Medical Technicians and Paramedics
29-2041 Emergency Medical Technicians and Paramedics
29-2050 Health Diagnosing and Treating Practitioner Support Technicians
29-2051 Dietetic Technicians
29-2052 Pharmacy Technicians
29-2053 Psychiatric Technicians
29-2054 Respiratory Therapy Technicians
29-2055 Surgical Technologists
29-2056 Veterinary Technologists and Technicians
29-2060 Licensed Practical and Licensed Vocational Nurses
29-2061 Licensed Practical and Licensed Vocational Nurses
29-2070 Medical Records and Health Information Technicians
29-2071 Medical Records and Health Information Technicians
29-2080 Opticians, Dispensing
29-2081 Opticians, Dispensing
29-2090 Miscellaneous Health Technologists and Technicians
29-2091 Orthotists and Prosthetists
29-2099 Health Technologists and Technicians, All Other
29-9000 Other Healthcare Practitioners and Technical Occupations
29-9010 Occupational Health and Safety Specialists and Technicians
29-9011 Occupational Health and Safety Specialists
29-9012 Occupational Health and Safety Technicians
29-9090 Miscellaneous Health Practitioners and Technical Workers
29-9091 Athletic Trainers
29-9099 Healthcare Practitioners and Technical Workers, All Other
31-0000 Healthcare Support Occupations

31-1000 Nursing, Psychiatric, and Home Health Aides
31-1010 Nursing, Psychiatric, and Home Health Aides
31-1011 Home Health Aides
31-1012 Nursing Aides, Orderlies, and Attendants
31-1013 Psychiatric Aides
31-2000 Occupational and Physical Therapist Assistants and Aides
31-2010 Occupational Therapist Assistants and Aides
31-2011 Occupational Therapist Assistants
31-2012 Occupational Therapist Aides
31-2020 Physical Therapist Assistants and Aides
31-2021 Physical Therapist Assistants
31-2022 Physical Therapist Aides
31-9000 Other Healthcare Support Occupations
31-9010 Massage Therapists
31-9011 Massage Therapists
31-9090 Miscellaneous Healthcare Support Occupations
31-9091 Dental Assistants
31-9092 Medical Assistants
31-9093 Medical Equipment Preparers
31-9094 Medical Transcriptionists
31-9095 Pharmacy Aides
31-9096 Veterinary Assistants and Laboratory Animal Caretakers
31-9099 Healthcare Support Workers, All Other
33-0000 Protective Service Occupations

33-1000 First-Line Supervisors/Managers, Protective Service Workers
33-1010 First-Line Supervisors/Managers, Law Enforcement Workers
33-1011 First-Line Supervisors/Managers of Correctional Officers
33-1012 First-Line Supervisors/Managers of Police and Detectives
33-1020 First-Line Supervisors/Managers, Fire Fighting and Prevention Workers
33-1021 First-Line Supervisors/Managers of Fire Fighting and Prevention Workers
33-1090 Miscellaneous First-Line Supervisors/Managers, Protective Service Workers
33-1099 First-Line Supervisors/Managers, Protective Service Workers, All Other
33-2000 Fire Fighting and Prevention Workers
33-2010 Fire Fighters
33-2011 Fire Fighters
33-2020 Fire Inspectors
33-2021 Fire Inspectors and Investigators
33-2022 Forest Fire Inspectors and Prevention Specialists
33-3000 Law Enforcement Workers
33-3010 Bailiffs, Correctional Officers, and Jailers
33-3011 Bailiffs
33-3012 Correctional Officers and Jailers
33-3020 Detectives and Criminal Investigators
33-3021 Detectives and Criminal Investigators
33-3030 Fish and Game Wardens
33-3031 Fish and Game Wardens
33-3040 Parking Enforcement Workers
33-3041 Parking Enforcement Workers
33-3050 Police Officers
33-3051 Police and Sheriff's Patrol Officers
33-3052 Transit and Railroad Police
33-9000 Other Protective Service Workers
33-9010 Animal Control Workers
33-9011 Animal Control Workers
33-9020 Private Detectives and Investigators
33-9021 Private Detectives and Investigators
33-9030 Security Guards and Gaming Surveillance Officers
33-9031 Gaming Surveillance Officers and Gaming Investigators
33-9032 Security Guards
33-9090 Miscellaneous Protective Service Workers
33-9091 Crossing Guards
33-9092 Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers
33-9099 Protective Service Workers, All Other

35-0000 Food Preparation and Serving Related Occupations
35-1000 Supervisors, Food Preparation and Serving Workers
35-1010 First-Line Supervisors/Managers, Food Preparation and Serving Workers
35-1011 Chefs and Head Cooks
35-1012 First-Line Supervisors/Managers of Food Preparation and Serving Workers
35-2000 Cooks and Food Preparation Workers
35-2010 Cooks
35-2011 Cooks, Fast Food
35-2012 Cooks, Institution and Cafeteria
35-2013 Cooks, Private Household
35-2014 Cooks, Restaurant
35-2015 Cooks, Short Order
35-2019 Cooks, All Other
35-2020 Food Preparation Workers
35-2021 Food Preparation Workers
35-3000 Food and Beverage Serving Workers
35-3010 Bartenders
35-3011 Bartenders
35-3020 Fast Food and Counter Workers
35-3021 Combined Food Preparation and Serving Workers, Including Fast Food
35-3022 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop
35-3030 Waiters and Waitresses
35-3031 Waiters and Waitresses
35-3040 Food Servers, Nonrestaurant
35-3041 Food Servers, Nonrestaurant
35-9000 Other Food Preparation and Serving Related Workers
35-9010 Dining Room and Cafeteria Attendants and Bartender Helpers
35-9011 Dining Room and Cafeteria Attendants and Bartender Helpers
35-9020 Dishwashers
35-9021 Dishwashers
35-9030 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop
35-9031 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop
35-9090 Miscellaneous Food Preparation and Serving Related Workers
35-9099 Food Preparation and Serving Related Workers, All Other

37-0000 Building and Grounds Cleaning and Maintenance Occupations
37-1000 Supervisors, Building and Grounds Cleaning and Maintenance Workers
37-1010 First-Line Supervisors/Managers, Building and Grounds Cleaning and Maintenance Workers
37-1011 First-Line Supervisors/Managers of Housekeeping and Janitorial Workers
37-1012 First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers
37-2000 Building Cleaning and Pest Control Workers
37-2010 Building Cleaning Workers
37-2011 Janitors and Cleaners, Except Maids and Housekeeping Cleaners
37-2012 Maids and Housekeeping Cleaners
37-2019 Building Cleaning Workers, All Other
37-2020 Pest Control Workers
37-2021 Pest Control Workers
37-3000 Grounds Maintenance Workers
37-3010 Grounds Maintenance Workers
37-3011 Landscaping and Groundskeeping Workers
37-3012 Pesticide Handlers, Sprayers, and Applicators, Vegetation
37-3013 Tree Trimmers and Pruners
37-3019 Grounds Maintenance Workers, All Other

39-0000 Personal Care and Service Occupations
39-1000 Supervisors, Personal Care and Service Workers
39-1010 First-Line Supervisors/Managers of Gaming Workers
39-1011 Gaming Supervisors
39-1012 Slot Key Persons
39-1020 First-Line Supervisors/Managers of Personal Service Workers
39-1021 First-Line Supervisors/Managers of Personal Service Workers
39-2000 Animal Care and Service Workers
39-2010 Animal Trainers
39-2011 Animal Trainers
39-2020 Nonfarm Animal Caretakers
39-2021 Nonfarm Animal Caretakers
39-3000 Entertainment Attendants and Related Workers
39-3010 Gaming Services Workers
39-3011 Gaming Dealers
39-3012 Gaming and Sports Book Writers and Runners
39-3019 Gaming Service Workers, All Other
39-3020 Motion Picture Projectionists
39-3021 Motion Picture Projectionists
39-3030 Ushers, Lobby Attendants, and Ticket Takers
39-3031 Ushers, Lobby Attendants, and Ticket Takers
39-3090 Miscellaneous Entertainment Attendants and Related Workers
39-3091 Amusement and Recreation Attendants
39-3092 Costume Attendants
39-3093 Locker Room, Coatroom, and Dressing Room Attendants
39-3099 Entertainment Attendants and Related Workers, All Other
39-4000 Funeral Service Workers
39-4010 Embalmers
39-4011 Embalmers
39-4020 Funeral Attendants
39-4021 Funeral Attendants
39-5000 Personal Appearance Workers
39-5010 Barbers and Cosmetologists
39-5011 Barbers
39-5012 Hairdressers, Hairstylists, and Cosmetologists
39-5090 Miscellaneous Personal Appearance Workers
39-5091 Makeup Artists, Theatrical and Performance
39-5092 Manicurists and Pedicurists
39-5093 Shampooers
39-5094 Skin Care Specialists
39-6000 Transportation, Tourism, and Lodging Attendants
39-6010 Baggage Porters, Bellhops, and Concierges
39-6011 Baggage Porters and Bellhops
39-6012 Concierges
39-6020 Tour and Travel Guides
39-6021 Tour Guides and Escorts
39-6022 Travel Guides
39-6030 Transportation Attendants
39-6031 Flight Attendants
39-6032 Transportation Attendants, Except Flight Attendants and Baggage Porters
39-9000 Other Personal Care and Service Workers
39-9010 Child Care Workers
39-9011 Child Care Workers
39-9020 Personal and Home Care Aides
39-9021 Personal and Home Care Aides
39-9030 Recreation and Fitness Workers
39-9031 Fitness Trainers and Aerobics Instructors
39-9032 Recreation Workers
39-9040 Residential Advisors
39-9041 Residential Advisors
39-9090 Miscellaneous Personal Care and Service Workers
39-9099 Personal Care and Service Workers, All Other

41-0000 Sales and Related Occupations
41-1000 Supervisors, Sales Workers
41-1010 First-Line Supervisors/Managers, Sales Workers
41-1011 First-Line Supervisors/Managers of Retail Sales Workers
41-1012 First-Line Supervisors/Managers of Non-Retail Sales Workers
41-2000 Retail Sales Workers
41-2010 Cashiers
41-2011 Cashiers
41-2012 Gaming Change Persons and Booth Cashiers
41-2020 Counter and Rental Clerks and Parts Salespersons
41-2021 Counter and Rental Clerks
41-2022 Parts Salespersons
41-2030 Retail Salespersons
41-2031 Retail Salespersons
41-3000 Sales Representatives, Services
41-3010 Advertising Sales Agents
41-3011 Advertising Sales Agents
41-3020 Insurance Sales Agents
41-3021 Insurance Sales Agents
41-3030 Securities, Commodities, and Financial Services Sales Agents
41-3031 Securities, Commodities, and Financial Services Sales Agents
41-3040 Travel Agents
41-3041 Travel Agents
41-3090 Miscellaneous Sales Representatives, Services
41-3099 Sales Representatives, Services, All Other
41-4000 Sales Representatives, Wholesale and Manufacturing
41-4010 Sales Representatives, Wholesale and Manufacturing
41-4011 Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
41-9000 Other Sales and Related Workers
41-9010 Models, Demonstrators, and Product Promoters
41-9011 Demonstrators and Product Promoters
41-9012 Models
41-9020 Real Estate Brokers and Sales Agents
41-9021 Real Estate Brokers
41-9022 Real Estate Sales Agents
41-9030 Sales Engineers
41-9031 Sales Engineers
41-9040 Telemarketers
41-9041 Telemarketers
41-9090 Miscellaneous Sales and Related Workers
41-9091 Door-To-Door Sales Workers, News and Street Vendors, and Related Workers
41-9099 Sales and Related Workers, All Other

43-0000 Office and Administrative Support Occupations
43-1000 Supervisors, Office and Administrative Support Workers
43-1010 First-Line Supervisors/Managers of Office and Administrative Support Workers
43-1011 First-Line Supervisors/Managers of Office and Administrative Support Workers
43-2000 Communications Equipment Operators
43-2010 Switchboard Operators, Including Answering Service
43-2011 Switchboard Operators, Including Answering Service
43-2020 Telephone Operators
43-2021 Telephone Operators
43-2090 Miscellaneous Communications Equipment Operators
43-2099 Communications Equipment Operators, All Other
43-3000 Financial Clerks
43-3010 Bill and Account Collectors
43-3011 Bill and Account Collectors
43-3020 Billing and Posting Clerks and Machine Operators
43-3021 Billing and Posting Clerks and Machine Operators
43-3030 Bookkeeping, Accounting, and Auditing Clerks
43-3031 Bookkeeping, Accounting, and Auditing Clerks
43-3040 Gaming Cage Workers
43-3041 Gaming Cage Workers
43-3050 Payroll and Timekeeping Clerks
43-3051 Payroll and Timekeeping Clerks
43-3060 Procurement Clerks
43-3061 Procurement Clerks
43-3070 Tellers
43-3071 Tellers
43-4000 Information and Record Clerks
43-4010 Brokerage Clerks
43-4011 Brokerage Clerks
43-4020 Correspondence Clerks
43-4021 Correspondence Clerks
43-4030 Court, Municipal, and License Clerks
43-4031 Court, Municipal, and License Clerks
43-4040 Credit Authorizers, Checkers, and Clerks
43-4041 Credit Authorizers, Checkers, and Clerks
43-4050 Customer Service Representatives
43-4051 Customer Service Representatives
43-4060 Eligibility Interviewers, Government Programs
43-4061 Eligibility Interviewers, Government Programs
43-4070 File Clerks
43-4071 File Clerks
43-4080 Hotel, Motel, and Resort Desk Clerks
43-4081 Hotel, Motel, and Resort Desk Clerks
43-4110 Interviewers, Except Eligibility and Loan
43-4111 Interviewers, Except Eligibility and Loan
43-4120 Library Assistants, Clerical
43-4121 Library Assistants, Clerical
43-4130 Loan Interviewers and Clerks
43-4131 Loan Interviewers and Clerks
43-4140 New Accounts Clerks
43-4141 New Accounts Clerks
43-4150 Order Clerks
43-4151 Order Clerks
43-4160 Human Resources Assistants, Except Payroll and Timekeeping
43-4161 Human Resources Assistants, Except Payroll and Timekeeping
43-4170 Receptionists and Information Clerks
43-4171 Receptionists and Information Clerks
43-4180 Reservation and Transportation Ticket Agents and Travel Clerks
43-4181 Reservation and Transportation Ticket Agents and Travel Clerks
43-4190 Miscellaneous Information and Record Clerks
43-4199 Information and Record Clerks, All Other
43-5000 Material Recording, Scheduling, Dispatching, and Distributing Workers
43-5010 Cargo and Freight Agents
43-5011 Cargo and Freight Agents
43-5020 Couriers and Messengers
43-5021 Couriers and Messengers
43-5030 Dispatchers
43-5031 Police, Fire, and Ambulance Dispatchers
43-5032 Dispatchers, Except Police, Fire, and Ambulance
43-5040 Meter Readers, Utilities
43-5041 Meter Readers, Utilities
43-5050 Postal Service Workers
43-5051 Postal Service Clerks
43-5052 Postal Service Mail Carriers
43-5053 Postal Service Mail Sorters, Processors, and Processing Machine Operators
43-5060 Production, Planning, and Expediting Clerks
43-5061 Production, Planning, and Expediting Clerks
43-5070 Shipping, Receiving, and Traffic Clerks
43-5071 Shipping, Receiving, and Traffic Clerks
43-5080 Stock Clerks and Order Fillers
43-5081 Stock Clerks and Order Fillers
43-5110 Weighers, Measurers, Checkers, and Samplers, Recordkeeping
43-5111 Weighers, Measurers, Checkers, and Samplers, Recordkeeping
43-6000 Secretaries and Administrative Assistants
43-6010 Secretaries and Administrative Assistants
43-6011 Executive Secretaries and Administrative Assistants
43-6012 Legal Secretaries
43-6013 Medical Secretaries
43-6014 Secretaries, Except Legal, Medical, and Executive
43-9000 Other Office and Administrative Support Workers
43-9010 Computer Operators
43-9011 Computer Operators
43-9020 Data Entry and Information Processing Workers
43-9021 Data Entry Keyers
43-9022 Word Processors and Typists
43-9030 Desktop Publishers
43-9031 Desktop Publishers
43-9040 Insurance Claims and Policy Processing Clerks
43-9041 Insurance Claims and Policy Processing Clerks
43-9050 Mail Clerks and Mail Machine Operators, Except Postal Service
43-9051 Mail Clerks and Mail Machine Operators, Except Postal Service
43-9060 Office Clerks, General
43-9061 Office Clerks, General
43-9070 Office Machine Operators, Except Computer
43-9071 Office Machine Operators, Except Computer
43-9080 Proofreaders and Copy Markers
43-9081 Proofreaders and Copy Markers
43-9110 Statistical Assistants
43-9111 Statistical Assistants
43-9190 Miscellaneous Office and Administrative Support Workers
43-9199 Office and Administrative Support Workers, All Other

45-0000 Farming, Fishing, and Forestry Occupations
45-1000 Supervisors, Farming, Fishing, and Forestry Workers
45-1010 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
45-1011 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
45-1012 Farm Labor Contractors
45-2000 Agricultural Workers
45-2010 Agricultural Inspectors
45-2011 Agricultural Inspectors
45-2020 Animal Breeders
45-2021 Animal Breeders
45-2040 Graders and Sorters, Agricultural Products
45-2041 Graders and Sorters, Agricultural Products
45-2090 Miscellaneous Agricultural Workers
45-2091 Agricultural Equipment Operators
45-2092 Farmworkers and Laborers, Crop, Nursery, and Greenhouse
45-2093 Farmworkers, Farm and Ranch Animals
45-2099 Agricultural Workers, All Other
45-3000 Fishing and Hunting Workers
45-3010 Fishers and Related Fishing Workers
45-3011 Fishers and Related Fishing Workers
45-3020 Hunters and Trappers
45-3021 Hunters and Trappers
45-4000 Forest, Conservation, and Logging Workers
45-4010 Forest and Conservation Workers
45-4011 Forest and Conservation Workers
45-4020 Logging Workers
45-4021 Fallers
45-4022 Logging Equipment Operators
45-4023 Log Graders and Scalers
45-4029 Logging Workers, All Other

47-0000 Construction and Extraction Occupations
47-1000 Supervisors, Construction and Extraction Workers
47-1010 First-Line Supervisors/Managers of Construction Trades and Extraction Workers
47-1011 First-Line Supervisors/Managers of Construction Trades and Extraction Workers
47-2000 Construction Trades Workers
47-2010 Boilermakers
47-2011 Boilermakers
47-2020 Brickmasons, Blockmasons, and Stonemasons
47-2021 Brickmasons and Blockmasons
47-2022 Stonemasons
47-2030 Carpenters
47-2031 Carpenters
47-2040 Carpet, Floor, and Tile Installers and Finishers
47-2041 Carpet Installers
47-2042 Floor Layers, Except Carpet, Wood, and Hard Tiles
47-2043 Floor Sanders and Finishers
47-2044 Tile and Marble Setters
47-2050 Cement Masons, Concrete Finishers, and Terrazzo Workers
47-2051 Cement Masons and Concrete Finishers
47-2053 Terrazzo Workers and Finishers
47-2060 Construction Laborers
47-2061 Construction Laborers
47-2070 Construction Equipment Operators
47-2071 Paving, Surfacing, and Tamping Equipment Operators
47-2072 Pile-Driven Operators
47-2073 Operating Engineers and Other Construction Equipment Operators
47-2080 Drywall Installers, Ceiling Tile Installers, and Tapers
47-2081 Drywall and Ceiling Tile Installers
47-2082 Tapers
47-2110 Electricians
47-2111 Electricians
47-2120 Glaziers
47-2121 Glaziers
47-2130 Insulation Workers
47-2131 Insulation Workers, Floor, Ceiling, and Wall
47-2132 Insulation Workers, Mechanical
47-2140 Painters and Paperhangers
47-2141 Painters, Construction and Maintenance
47-2142 Paperhangers
47-2150 Pipelayers, Plumbers, Pipefitters, and Steamfitters
47-2151 Pipelayers
47-2152 Plumbers, Pipefitters, and Steamfitters
47-2160 Plasterers and Stucco Masons
47-2161 Plasterers and Stucco Masons
47-2170 Reinforcing Iron and Rebar Workers
47-2171 Reinforcing Iron and Rebar Workers
47-2180 Roofers
47-2181 Roofers
47-2210 Sheet Metal Workers
47-2211 Sheet Metal Workers
47-2220 Structural Iron and Steel Workers
47-2221 Structural Iron and Steel Workers
47-3000 Helpers, Construction Trades
47-3010 Helpers, Construction Trades
47-3011 Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters
47-3012 Helpers--Carpenters
47-3013 Helpers--Electricians
47-3014 Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons
47-3015 Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters
47-3016 Helpers--Roofers
47-3019 Helpers, Construction Trades, All Other
47-4000 Other Construction and Related Workers
47-4010 Construction and Building Inspectors
47-4011 Construction and Building Inspectors
47-4020 Elevator Installers and Repairers
47-4021 Elevator Installers and Repairers
47-4030 Fence Erectors
47-4031 Fence Erectors
47-4040 Hazardous Materials Removal Workers
47-4041 Hazardous Materials Removal Workers
47-4050 Highway Maintenance Workers
47-4051 Highway Maintenance Workers
47-4060 Rail-Track Laying and Maintenance Equipment Operators
47-4061 Rail-Track Laying and Maintenance Equipment Operators
47-4070 Septic Tank Servicers and Sewer Pipe Cleaners
47-4071 Septic Tank Servicers and Sewer Pipe Cleaners
47-4090 Miscellaneous Construction and Related Workers
47-4091 Segmental Pavers
47-4099 Construction and Related Workers, All Other
47-5000 Extraction Workers
47-5010 Derrick, Rotary Drill, and Service Unit Operators, Oil, Gas, and Mining
47-5011 Derrick Operators, Oil and Gas
47-5012 Rotary Drill Operators, Oil and Gas
47-5013 Service Unit Operators, Oil, Gas, and Mining
47-5020 Earth Drillers, Except Oil and Gas
47-5021 Earth Drillers, Except Oil and Gas
47-5030 Explosives Workers, Ordnance Handling Experts, and Blasters
47-5031 Explosives Workers, Ordnance Handling Experts, and Blasters
47-5040 Mining Machine Operators
47-5041 Continuous Mining Machine Operators
47-5042 Mine Cutting and Channeling Machine Operators
47-5049 Mining Machine Operators, All Other
47-5050 Rock Splitters, Quarry
47-5051 Rock Splitters, Quarry
47-5060 Roof Bolters, Mining
47-5061 Roof Bolters, Mining
47-5070 Roustabouts, Oil and Gas
47-5071 Roustabouts, Oil and Gas
47-5080 Helpers--Extraction Workers
47-5081 Helpers--Extraction Workers
47-5090 Miscellaneous Extraction Workers
47-5099 Extraction Workers, All Other

49-0000 Installation, Maintenance, and Repair Occupations
49-1000 Supervisors of Installation, Maintenance, and Repair Workers
49-1010 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
49-1011 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
49-2000 Electrical and Electronic Equipment Mechanics, Installers, and Repairers
49-2010 Computer, Automated Teller, and Office Machine Repairers
49-2011 Computer, Automated Teller, and Office Machine Repairers
49-2020 Radio and Telecommunications Equipment Installers and Repairers
49-2021 Radio Mechanics
49-2022 Telecommunications Equipment Installers and Repairers, Except Line Installers
49-2090 Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers
49-2091 Avionics Technicians
49-2092 Electric Motor, Power Tool, and Related Repairers
49-2093 Electrical and Electronics Installers and Repairers, Transportation Equipment
49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment
49-2095 Electrical and Electronics Repairers, Powerhouse, Substation, and Relay
49-2096 Electronic Equipment Installers and Repairers, Motor Vehicles
49-2097 Electronic Home Entertainment Equipment Installers and Repairers
49-2098 Security and Fire Alarm Systems Installers
49-3000 Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
49-3010 Aircraft Mechanics and Service Technicians
49-3011 Aircraft Mechanics and Service Technicians
49-3020 Automotive Technicians and Repairers
49-3021 Automotive Body and Related Repairers
49-3022 Automotive Glass Installers and Repairers
49-3023 Automotive Service Technicians and Mechanics
49-3030 Bus and Truck Mechanics and Diesel Engine Specialists
49-3031 Bus and Truck Mechanics and Diesel Engine Specialists
49-3040 Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics
49-3041 Farm Equipment Mechanics
49-3042 Mobile Heavy Equipment Mechanics, Except Engines
49-3043 Rail Car Repairers
49-3050 Small Engine Mechanics
49-3051 Motorboat Mechanics
49-3052 Motorcycle Mechanics
49-3053 Outdoor Power Equipment and Other Small Engine Mechanics
49-3090 Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
49-3091 Bicycle Repairers
49-3092 Recreational Vehicle Service Technicians
49-3093 Tire Repairers and Changers
49-9000 Other Installation, Maintenance, and Repair Occupations
49-9010 Control and Valve Installers and Repairers
49-9011 Mechanical Door Repairers
49-9012 Control and Valve Installers and Repairers, Except Mechanical Door
49-9020 Heating, Air Conditioning, and Refrigeration Mechanics and Installers
49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers
49-9030 Home Appliance Repairers
49-9031 Home Appliance Repairers
49-9040 Industrial Machinery Installation, Repair, and Maintenance Workers
49-9041 Industrial Machinery Mechanics
49-9042 Maintenance and Repair Workers, General
49-9043 Maintenance Workers, Machinery
49-9044 Millwrights
49-9045 Refractory Materials Repairers, Except Brickmasons
49-9050 Line Installers and Repairers
49-9051 Electrical Power-Line Installers and Repairers
49-9052 Telecommunications Line Installers and Repairers
49-9060 Precision Instrument and Equipment Repairers
49-9061 Camera and Photographic Equipment Repairers
49-9062 Medical Equipment Repairers
49-9063 Musical Instrument Repairers and Tuners
49-9064 Watch Repairers
49-9069 Precision Instrument and Equipment Repairers, All Other
49-9090 Miscellaneous Installation, Maintenance, and Repair Workers
49-9091 Coin, Vending, and Amusement Machine Servicers and Repairers
49-9092 Commercial Divers
49-9093 Fabric Menders, Except Garment
49-9094 Locksmiths and Safe Repairers
49-9095 Manufactured Building and Mobile Home Installers
49-9096 Riggers
49-9097 Signal and Track Switch Repairers
49-9098 Helpers--Installation, Maintenance, and Repair Workers
49-9099 Installation, Maintenance, and Repair Workers, All Other

51-0000 Production Occupations
51-1000 Supervisors, Production Workers
51-1010 First-Line Supervisors/Managers of Production and Operating Workers
51-1011 First-Line Supervisors/Managers of Production and Operating Workers
51-2000 Assemblers and Fabricators
51-2010 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
51-2011 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
51-2020 Electrical, Electronics, and Electromechanical Assemblers
51-2021 Coil Winders, Tapers, and Finishers
51-2022 Electrical and Electronic Equipment Assemblers
51-2023 Electromechanical Equipment Assemblers
51-2030 Engine and Other Machine Assemblers
51-2031 Engine and Other Machine Assemblers
51-2040 Structural Metal Fabricators and Fitters
51-2041 Structural Metal Fabricators and Fitters
51-2090 Miscellaneous Assemblers and Fabricators
51-2091 Fiberglass Laminators and Fabricators
51-2092 Team Assemblers
51-2093 Timing Device Assemblers, Adjusters, and Calibrators
51-2099 Assemblers and Fabricators, All Other
51-3000 Food Processing Workers
51-3010 Bakers
51-3011 Bakers
51-3020 Butchers and Other Meat, Poultry, and Fish Processing Workers
51-3021 Butchers and Meat Cutters
51-3022 Meat, Poultry, and Fish Cutters and Trimmers
51-3023 Slaughterers and Meat Packers
51-3090 Miscellaneous Food Processing Workers
51-3091 Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders
51-3092 Food Batchmakers
51-3093 Food Cooking Machine Operators and Tenders
51-4000 Metal Workers and Plastic Workers
51-4010 Computer Control Programmers and Operators
51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic
51-4012 Numerical Tool and Process Control Programmers
51-4020 Forming Machine Setters, Operators, and Tenders, Metal and Plastic
51-4021 Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4022 Forging Machine Setters, Operators, and Tenders, Metal and Plastic
51-4023 Rolling Machine Setters, Operators, and Tenders, Metal and Plastic
51-4030 Machine Tool Cutting Setters, Operators, and Tenders, Metal and Plastic
51-4031 Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
51-4032 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4033 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4034 Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4035 Milling and Planning Machine Setters, Operators, and Tenders, Metal and Plastic
51-4040 Machinists
51-4041 Machinists
51-4050 Metal Furnace and Kiln Operators and Tenders
51-4051 Metal-Refining Furnace Operators and Tenders
51-4052 Pourers and Casters, Metal
51-4060 Model Makers and Patternmakers, Metal and Plastic
51-4061 Model Makers, Metal and Plastic
51-4062 Patternmakers, Metal and Plastic
51-4070 Molders and Molding Machine Setters, Operators, and Tenders, Metal and Plastic
51-4071 Foundry Mold and Coremakers
51-4072 Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic
51-4080 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4081 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4110 Tool and Die Makers
51-4111 Tool and Die Makers
51-4120 Welding, Soldering, and Brazing Workers
51-4121 Welders, Cutters, Solderers, and Brazers
51-4122 Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders
51-4190 Miscellaneous Metalworkers and Plastic Workers
51-4191 Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic
51-4192 Lay-Out Workers, Metal and Plastic
51-4193 Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic
51-4194 Tool Grinders, Filers, and Sharpeners
51-4199 Metal Workers and Plastic Workers, All Other
51-5000 Printing Workers
51-5010 Bookbinders and Bindery Workers
51-5011 Bindery Workers
51-5012 Bookbinders
51-5020 Printers
51-5021 Job Printers
51-5022 Prepress Technicians and Workers
51-5023 Printing Machine Operators
51-6000 Textile, Apparel, and Furnishings Workers
51-6010 Laundry and Dry-Cleaning Workers
51-6011 Laundry and Dry-Cleaning Workers
51-6020 Pressers, Textile, Garment, and Related Materials
51-6021 Pressers, Textile, Garment, and Related Materials
51-6030 Sewing Machine Operators
51-6031 Sewing Machine Operators
51-6040 Shoe and Leather Workers
51-6041 Shoe and Leather Workers and Repairers
51-6042 Shoe Machine Operators and Tenders
51-6050 Tailors, Dressmakers, and Sewers
51-6051 Sewers, Hand
51-6052 Tailors, Dressmakers, and Custom Sewers
51-6060 Textile Machine Setters, Operators, and Tenders
51-6061 Textile Bleaching and Dyeing Machine Operators and Tenders
51-6062 Textile Cutting Machine Setters, Operators, and Tenders
51-6063 Textile Knitting and Weaving Machine Setters, Operators, and Tenders
51-6064 Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders
51-6090 Miscellaneous Textile, Apparel, and Furnishings Workers
51-6091 Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers
51-6092 Fabric and Apparel Patternmakers
51-6093 Upholsterers
51-6099 Textile, Apparel, and Furnishings Workers, All Other
51-7000 Woodworkers
51-7010 Cabinetmakers and Bench Carpenters
51-7011 Cabinetmakers and Bench Carpenters
51-7020 Furniture Finishers
51-7021 Furniture Finishers
51-7030 Model Makers and Patternmakers, Wood
51-7031 Model Makers, Wood
51-7032 Patternmakers, Wood
51-7040 Woodworking Machine Setters, Operators, and Tenders
51-7041 Sawing Machine Setters, Operators, and Tenders, Wood
51-7042 Woodworking Machine Setters, Operators, and Tenders, Except Sawing
51-7090 Miscellaneous Woodworkers
51-7099 Woodworkers, All Other
51-8000 Plant and System Operators
51-8010 Power Plant Operators, Distributors, and Dispatchers
51-8011 Nuclear Power Reactor Operators
51-8012 Power Distributors and Dispatchers
51-8013 Power Plant Operators
51-8020 Stationary Engineers and Boiler Operators
51-8021 Stationary Engineers and Boiler Operators
51-8030 Water and Liquid Waste Treatment Plant and System Operators
51-8031 Water and Liquid Waste Treatment Plant and System Operators
51-8090 Miscellaneous Plant and System Operators
51-8091 Chemical Plant and System Operators
51-8092 Gas Plant Operators
51-8093 Petroleum Pump System Operators, Refinery Operators, and Gaugers
51-8099 Plant and System Operators, All Other
51-9000 Other Production Occupations
51-9010 Chemical Processing Machine Setters, Operators, and Tenders
51-9011 Chemical Equipment Operators and Tenders
51-9012 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders
51-9020 Crushing, Grinding, Polishing, Mixing, and Blending Workers
51-9021 Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders
51-9022 Grinding and Polishing Workers, Hand
51-9023 Mixing and Blending Machine Setters, Operators, and Tenders
51-9030 Cutting Workers
51-9031 Cutters and Trimmers, Hand
51-9032 Cutting and Slicing Machine Setters, Operators, and Tenders
51-9040 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders
51-9041 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders
51-9050 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders
51-9051 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders
51-9060 Inspectors, Testers, Sorters, Samplers, and Weighers
51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers
51-9070 Jewelers and Precious Stone and Metal Workers
51-9071 Jewelers and Precious Stone and Metal Workers
51-9080 Medical, Dental, and Ophthalmic Laboratory Technicians
51-9081 Dental Laboratory Technicians
51-9082 Medical Appliance Technicians
51-9083 Ophthalmic Laboratory Technicians
51-9110 Packaging and Filling Machine Operators and Tenders
51-9111 Packaging and Filling Machine Operators and Tenders
51-9120 Painting Workers
51-9121 Coating, Painting, and Spraying Machine Setters, Operators, and Tenders
51-9122 Painters, Transportation Equipment
51-9123 Painting, Coating, and Decorating Workers
51-9130 Photographic Process Workers and Processing Machine Operators
51-9131 Photographic Process Workers
51-9132 Photographic Processing Machine Operators
51-9140 Semiconductor Processors
51-9141 Semiconductor Processors
51-9190 Miscellaneous Production Workers
51-9191 Cementing and Gluing Machine Operators and Tenders
51-9192 Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders
51-9193 Cooling and Freezing Equipment Operators and Tenders
51-9194 Etchers and Engravers
51-9195 Molders, Shapers, and Casters, Except Metal and Plastic
51-9197 Tire Builders
51-9198 Helpers--Production Workers
51-9199 Production Workers, All Other

53-0000 Transportation and Material Moving Occupations
53-1000 Supervisors, Transportation and Material Moving Workers
53-1010 Aircraft Cargo Handling Supervisors
53-1011 Aircraft Cargo Handling Supervisors
53-1020 First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand
53-1021 First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand
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<td>Locomotive Engineers and Operators</td>
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53-4012 Locomotive Firers
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53-4021 Railroad Brake, Signal, and Switch Operators
53-4030 Railroad Conductors and Yardmasters
53-4031 Railroad Conductors and Yardmasters
53-4040 Subway and Streetcar Operators
53-4041 Subway and Streetcar Operators
53-4090 Miscellaneous Rail Transportation Workers
53-4099 Rail Transportation Workers, All Other
53-5000 Water Transportation Workers
53-5010 Sailors and Marine Oilers
53-5011 Sailors and Marine Oilers
53-5020 Ship and Boat Captains and Operators
53-5021 Captains, Mates, and Pilots of Water Vessels
53-5022 Motorboat Operators
53-5030 Ship Engineers
53-5031 Ship Engineers
53-6000 Other Transportation Workers
53-6010 Bridge and Lock Tenders
53-6011 Bridge and Lock Tenders
53-6020 Parking Lot Attendants
53-6021 Parking Lot Attendants
53-6030 Service Station Attendants
53-6031 Service Station Attendants
53-6040 Traffic Technicians
53-6041 Traffic Technicians
53-6050 Transportation Inspectors
53-6051 Transportation Inspectors
53-6090 Miscellaneous Transportation Workers
53-6099 Transportation Workers, All Other
53-7000 Material Moving Workers
53-7010 Conveyor Operators and Tenders
53-7011 Conveyor Operators and Tenders
53-7020 Crane and Tower Operators
53-7021 Crane and Tower Operators
53-7030 Dredge, Excavating, and Loading Machine Operators
53-7031 Dredge Operators
53-7032 Excavating and Loading Machine and Dragline Operators
53-7033 Loading Machine Operators, Underground Mining
53-7040 Hoist and Winch Operators
53-7041 Hoist and Winch Operators
53-7050 Industrial Truck and Tractor Operators
53-7051 Industrial Truck and Tractor Operators
53-7060 Laborers and Material Movers, Hand
53-7061 Cleaners of Vehicles and Equipment
53-7062 Laborers and Freight, Stock, and Material Movers, Hand
53-7063 Machine Feeders and Offbearers
53-7064 Packers and Packagers, Hand
53-7070 Pumping Station Operators
53-7071 Gas Compressor and Gas Pumping Station Operators
53-7072 Pump Operators, Except Wellhead Pumpers
53-7073 Wellhead Pumpers
53-7080 Refuse and Recyclable Material Collectors
53-7081 Refuse and Recyclable Material Collectors
53-7110 Shuttle Car Operators
53-7111 Shuttle Car Operators
53-7120 Tank Car, Truck, and Ship Loaders
53-7121 Tank Car, Truck, and Ship Loaders
53-7190 Miscellaneous Material Moving Workers
53-7199 Material Moving Workers, All Other

**55-0000 Military Specific Occupations**

55-1000 Military Officer Special and Tactical Operations Leaders/Managers
55-1010 Military Officer Special and Tactical Operations Leaders/Managers
55-1011 Air Crew Officers
55-1012 Aircraft Launch and Recovery Officers
55-1013 Armored Assault Vehicle Officers
55-1014 Artillery and Missile Officers
55-1015 Command and Control Center Officers
55-1016 Infantry Officers
55-1017 Special Forces Officers
55-1019 Military Officer Special and Tactical Operations Leaders/Managers, All Other
55-2000 First-Line Enlisted Military Supervisor/Managers
55-2010 First-Line Enlisted Military Supervisors/Managers
55-2011 First-Line Supervisors/Managers of Air Crew Members
55-2012 First-Line Supervisors/Managers of Weapons Specialists/Crew Members
55-2013 First-Line Supervisors/Managers of All Other Tactical Operations Specialists
55-3000 Military Enlisted Tactical Operations and Air/Weapons Specialists and Crew Members
55-3010 Military Enlisted Tactical Operations and Air/Weapons Specialists and Crew Members
55-3011 Air Crew Members
55-3012 Aircraft Launch and Recovery Specialists
55-3013 Armored Assault Vehicle Crew Members
55-3014 Artillery and Missile Crew Members
55-3015 Command and Control Center Specialists
55-3016 Infantry
55-3017 Radar and Sonar Technicians
55-3018 Special Forces
55-3019 Military Enlisted Tactical Operations and Air/Weapons Specialists and Crew Members, All Other

Appendix III

2000 Standard Occupational Classification (SOC) Structure Major Groups

11-0000 Management Occupations
13-0000 Business and Financial Operations Occupations
15-0000 Computer and Mathematical Occupations
17-0000 Architecture and Engineering Occupations
19-0000 Life, Physical, and Social Science Occupations
21-0000 Community and Social Services Occupations
23-0000 Legal Occupations
25-0000 Education, Training, and Library Occupations
27-0000 Arts, Design, Entertainment, Sports, and Media Occupations
29-0000 Healthcare Practitioners and Technical Occupations
31-0000 Healthcare Support Occupations
33-0000 Protective Service Occupations
35-0000 Food Preparation and Serving Related Occupations
37-0000 Building and Grounds Cleaning and Maintenance Occupations
39-0000 Personal Care and Service Occupations
41-0000 Sales and Related Occupations
43-0000 Office and Administrative Support Occupations
45-0000 Farming, Fishing, and Forestry Occupations
47-0000 Construction and Extraction Occupations
49-0000 Installation, Maintenance, and Repair Occupations
51-0000 Production Occupations
53-0000 Transportation and Material Moving Occupations

NOTE: This list includes only those major groups used in the current data tables.

Appendix IV

National Occupational Research Agenda (NORA) and
Census of Fatal Occupational Injury (CFOI) Industry Categories

<table>
<thead>
<tr>
<th>NORA Sector Group</th>
<th>NAICS Industry Codes</th>
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<tbody>
<tr>
<td>Agriculture, Forestry and Fishing</td>
<td>111110--115310</td>
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<td>Construction</td>
<td>236115--238990</td>
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<tr>
<td>Healthcare and Social Assistance</td>
<td>621111--624410</td>
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<tr>
<td>Manufacturing</td>
<td>311111--339999</td>
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<td>Mining</td>
<td>212111--212399 and 213113--213115</td>
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<tr>
<td>Oil and Gas Extraction</td>
<td>211111--211112 and 213111--213112</td>
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<tr>
<td>Public Safety</td>
<td>115310, 621910, 922120, 922140, and 922160</td>
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<td>Services</td>
<td>511110--562998, 611110--611710, 711110--713990, 721110--722410, 811111--814110, 9211110--928120</td>
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<tr>
<td>Transportation, Warehousing and Utilities</td>
<td>481111--493190 and 221111--221330</td>
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<tr>
<td>Wholesale and Retail Trade</td>
<td>423110--425120 and 441110--454390</td>
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<td>CFOI Industry Division</td>
<td>NAICS Industry Codes</td>
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<tr>
<td>Construction</td>
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<td>Education and health services</td>
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<td>Financial activities</td>
<td>52, 53</td>
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<td>Information</td>
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<td>Leisure and hospitality</td>
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<td>Manufacturing</td>
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<td>Natural resources and mining</td>
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<td>Other services, except public administration</td>
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<td>Professional and business services</td>
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<td>Public administration</td>
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<td>Trade, transportation, and utilities</td>
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<tr>
<td>Unclassified</td>
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Source: Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health (NIOSH); Department of Labor, Bureau of Labor Statistics (BLS)
## Appendix V

### Selected SOC Occupational and NAICS Industry Categories

<table>
<thead>
<tr>
<th>Occupation Code</th>
<th>2000 Standard Occupational Classification (SOC) Title</th>
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<tr>
<td>53-3032</td>
<td>Truck Drivers, Heavy and Tractor-Trailer</td>
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<tr>
<td>11-9012</td>
<td>Farmers and Ranchers</td>
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<tr>
<td>47-2061</td>
<td>Construction Laborers</td>
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<tr>
<td>33-3051</td>
<td>Police and Sheriff's Patrol Officers</td>
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<td>41-1011</td>
<td>First-Line Supervisors/Managers of Retail Sales Workers</td>
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<tr>
<td>53-7062</td>
<td>Laborers and Freight, Stock, and Material Movers, Hand</td>
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<td>47-1011</td>
<td>First-Line Supervisors/Managers of Construction Trades and Extraction Workers</td>
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<tr>
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<td>Carpenters</td>
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<tr>
<td>37-3011</td>
<td>Landscaping and Groundskeeping Workers</td>
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<td>47-2111</td>
<td>Electricians</td>
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<table>
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<th>Industry Code</th>
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<td>111</td>
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<td>561</td>
<td>Administrative and Support Services</td>
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<td>237</td>
<td>Heavy and Civil Engineering Construction</td>
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<td>Construction of Buildings</td>
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<td>Justice, Public Order, and Safety Activities</td>
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<td>112</td>
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Appendix VI
Inflation Adjustment Factors Based on Consumer Price Index (Medical Care Major Group)

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<th>Base Year</th>
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<th>2010</th>
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<td>0.9594678</td>
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<td>0.8833399</td>
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<td>1.0841664</td>
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Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index (Medical Care Major Group)
## Appendix VII
### Probability of Surviving an Additional Year by Age, Race, and Sex

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Source: Centers for Disease Control and Prevention, National Center for Health Statistics: Vital Statistics of the United States, National Vital Statistics Reports, Volume 57, Number 1, August 5, 2008
### Appendix VIII

**Adjustment to Earnings by Age and Sex of Decedent at Time of Death**

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## Appendix IX

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Source: U.S. Department of Commerce, Bureau of Economic Analysis, Implicit Price Deflators for Gross Domestic Product
### Appendix X

Adjustment Factors for Increases Associated with Career Growth by Age, Sex, and Race

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## Appendix X

### Adjustment Factors for Increases Associated with Career Growth by Age, Sex, and Race

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### Appendix XI

**Annual Household Production Values by Age and Sex**

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## Appendix XII

### Sensitivity of Cost Estimates to Selected Discount Rates

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<td>8,070,957</td>
<td>5,648,446</td>
<td>4,680,155</td>
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<td>2008</td>
<td>7,416,457</td>
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<td>3,073,656</td>
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<tr>
<td>2009</td>
<td>6,192,369</td>
<td>4,417,402</td>
<td>3,694,587</td>
<td>2,642,956</td>
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<tr>
<td>2010</td>
<td>6,490,631</td>
<td>4,626,045</td>
<td>3,867,905</td>
<td>2,766,660</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>63,063,098</strong></td>
<td><strong>44,269,208</strong></td>
<td><strong>36,720,223</strong></td>
<td><strong>25,894,145</strong></td>
</tr>
</tbody>
</table>

<sup>1</sup> Costs are expressed in 2010 U.S. dollars and presented in thousands.
<table>
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<th>Year</th>
<th>1,388</th>
<th>1,394</th>
<th>990</th>
<th>973</th>
<th>828</th>
<th>808</th>
<th>593</th>
<th>575</th>
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</thead>
<tbody>
<tr>
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<td>1,373</td>
<td>1,000</td>
<td>971</td>
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<td>811</td>
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<td>580</td>
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<tr>
<td>Total</td>
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<td>1,486</td>
<td>1,045</td>
<td>1,027</td>
<td>866</td>
<td>848</td>
<td>611</td>
<td>593</td>
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</tbody>
</table>

*Costs are expressed in 2010 U.S. dollars and presented in thousands.*