

## **International Professional Safety Practice: A Comparison with U.S. Practice**

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### **Introduction**

In 2002, the European Network of Safety & Health Practitioner Organizations (ENSHPO) embarked on collection of data about the tasks that safety professionals perform in practice. Professor Andrew R. Hale of the Safety Science Group at Delft University of Technology in the Netherlands led the development of a survey instrument and the compilation of results. To date, safety organizations in 13 European countries have participated in the study. Those with sufficient data for analysis included Austria, Finland, Germany, Italy, the Netherlands, Norway, Poland, Portugal, Switzerland, and the United Kingdom. In addition, organizations from Australia and Singapore have also participated. All of these study results to date have been compiled by ENSHPO and can be found on their website: [www.enshpo.org](http://www.enshpo.org).

The information provided in this paper includes results from the United States for the same survey instrument. This study offers the first North American data. The data in this report resulted from information collected by the Board of Certified Safety Professional (BCSP) and provided by individuals holding the Certified Safety Professional® (CSP®) certification.

### **Method**

The Board of Certified Safety Professionals used the survey instrument developed by ENSHPO with minor language adjustments. The survey used in the United Kingdom provided the basis for the BCSP survey. The BCSP survey operated electronically over the Internet using Snap Survey software on a web site established by BCSP for the survey. The survey operated for about two

weeks in January 2008. BCSP sent valid email invitations to 5,147 individuals holding the CSP seeking their participation. There were 1,057 valid responses to the survey while it was in place, a response rate of 21%. BCSP did not issue reminders to increase participation.

The survey instrument had five sections. The first asked about the organization in which a respondent worked. Another section sought information on 82 tasks of safety practice. A third section addressed 31 hazards that may be part of professional safety practice. Another section investigated contacts with others and covered 18 internal contacts and 17 external contacts. The final section compiled demographic information on the respondents.

## **U.S. Results**

### **The Respondents**

On average, the respondents had worked as a safety professional for 22.9 years. They worked for their current employer on average for 11.5 years and held the CSP for 14.7 years. Their average age was 50.1 years. 92.4 % worked full time in their safety role.

87.6% of the respondents were male and 11.8% female. 48.7% of the respondents had a supervisory responsibility, while 45.6% did not. About half of those with a supervisor responsibility oversaw the work of 20 or fewer others, most of whom were professionals in the broad safety, health and environmental field.

46% lived in 9 of the 50 states: California, Florida, Illinois, New York, North Carolina, Ohio, Pennsylvania, Texas, and Virginia. Other than the 2.6% who lived outside the United States, the remainder lived in the other 41 states.

75.4% held a professional certification or license in addition to the CSP. 16.9% held the Certified Industrial Hygienist certification, 9.3% held a professional engineer license and 9% held the Associate in Risk Management designation. The average respondent held membership in 1.6 professional organizations. Membership in ASSE was most common (76.7%), while 30.1% held membership in an industrial hygiene organization (American Industrial Hygiene Association or the American Conference of Governmental Industrial Hygienists), 15.7% in the National Fire Protection Association and 14.8% in the National Safety Council.

The education level was quite high with less than 5% having less than a bachelor's degree as their highest education level. 50.1% held a bachelor's degree and 44.2% held a masters (41.4%) or doctorate (2.8%) degree. It is interesting to note that only 41% of respondents entered safety practice following completion of a safety or a closely related bachelor's or master's degree. Others entered safety practice because of a job assignment (25.2%) or because they learned about safety practice and pursued obtaining a job in the field (24.2%).

95.9% of respondents spent at least 50% or more of their time in safety, health, environmental and ergonomics matters, while 72.3% spent more than 90% of their time on subjects of the field. Most reported a broad range of responsibilities, as shown in Table 1.

Table 1. Percent of Respondents Reporting Various SH&E Job Responsibilities

Percent Area of Responsibility in Current Position

|      |  |
|------|--|
| 97.5 | Safety                                     |
| 85.1 | Health, industrial hygiene, health physics |
| 69.3 | Environmental                              |
| 68.9 | Ergonomics                                 |
| 68.4 | Fire Protection                            |
| 53.3 | Security                                   |
| 38.3 | Other                                      |

The job satisfaction with a career in safety was very high. 89.9% reported that they were satisfied (46.5%) or very satisfied (43.3%) with their career in safety. Only 3.7% reported being dissatisfied (2.8%) or very dissatisfied. (0.9%).

### The Respondent's Organizations

The survey sought to determine the type of organization respondents worked for. 55.1% worked for an organization that was internal to a company in industry or services. 16.2% worked in an insurance organization. 11.6% worked for a consulting or advisory organization providing services to other organizations. 10.9% worked for a government agency.

The distribution of the 55.1% working internally for an industry or service organization is listed in Table 2. It shows that safety professionals work in a wide range of industries.

Table 2. Distribution of Industry/Service Internal Organizations

Percent Industry/Service

|      |   |
|------|---|
| 16.3 | Other   |
| 13.6 | Chemicals                                       |
| 11.9 | Oil and coal                                    |
| 11.5 | Building and construction                       |
| 7.2  | Electrical, electronics and optical instruments |
| 4.8  | Metal manufacturing and products                |
| 4.1  | Defense   |
| 4.0  | Electricity, gas and water                      |
| 3.6  | Food, drink and tobacco                         |
| 3.1  | Paper and printing                              |
| 2.6  | Rubber and plastics                             |

- 2.6 Car & other transport vehicle manufacture
  - 2.2 Health and welfare
  - 2.1 Mining and quarrying
- (Industries with less than 2% are not listed here)

Of the 11.6% working for consulting and advisory companies, the following distribution provides additional details about where they worked: 41.5% worked for a consulting/architectural company, 39.8% worked for an occupational safety and health service company, 3.3% for an industry/national/regional advisory body, and 15.4% for other companies.

Of the 10.9% of individuals who worked for a government agencies, 59.1% worked at the federal level, 25.2% at the state level and 15.7% at the local government level.

Most respondents worked for large organizations. The number of people covered by their safety responsibilities were as follows: 30.9% affected more than 5000 people through their practice, 27.6% impacted 1000 to 5000, 11.9% affected 500 to 1000, 19% affected 100 to 500, and 10.5% affected less than 100. Most (59.5%) had more than 5 other safety advisors in their organization. Most commonly the other specialists in their organization were engaged in industrial/occupational hygiene (57.4%), environmental (56.9%), occupational health nursing (43.8%), fire (40.1%), ergonomics (27%), occupational medicine (25.4%), or health physics (20%).

The work of 77.7% of the respondents related to more than one site or company. Their sites or companies were in the U.S. (67.9) or other countries (32.1%). The most common foreign locations involved North America, Europe, and the Pacific Rim countries.

### **The Tasks of Professional Safety Practice**

The survey included a list of 82 tasks related to professional safety practice. There were 8 groups as follows:

Table 3. Tasks Included in the Survey by Group

| Group | Number of Tasks | Description                                   |
|-------|-----------------|---|
| I     | 5               | Problem Identification and Analysis           |
| II    | 28              | Developing and Implementing of Solutions      |
| III   | 13              | Training, Information and Communications      |
| IV    | 8               | Inspection and Research                       |
| V     | 9               | Emergency Procedures and Settlement of Damage |
| VI    | 8               | Regulatory                                    |
| VII   | 6               | Knowledge Management                          |
| VIII  | 5               | Management and Financial                      |

Respondents were asked to check the frequency with which they completed each task or dealt with each hazard or contact using the following five point scale:

- Weekly or more
- Monthly/Quarterly
- Yearly or less
- Never done this task, but it is part of my job
- Not a part of my job

The frequency ratings were evaluated to determine the portion of respondents who participated in the tasks. To be consistent with other studies using this survey, the first three responses were summed to establish the percent of participation.

Table 4 shows the average participation across all tasks in the group and the number of tasks on the survey, the number of tasks in which 60% or more of respondents participate, the number of tasks in which there was between 30% and 60% participation, and the number of tasks in which there was less than 30% participation. The average participation rate simply provides a relative index for comparing participation among groups of tasks.

Table 4. Overall Performance of Tasks

| Group   | Avg<br>Percent | Participation,<br>On Survey | Number of Tasks |             |      |
|---------|----------------|-----------------------------|-----------------|-------------|------|
|         |                |                             | >60%            | >30% & >60% | <30% |
| I       | 87.2           | 5                           | 5               | 0           | 0    |
| II      | 77.2           | 28                          | 25              | 3           | 0    |
| III     | 81.3           | 13                          | 12              | 1           | 0    |
| IV      | 74.8           | 8                           | 6               | 1           | 1    |
| V       | 41.2           | 9                           | 4               | 0           | 5    |
| VI      | 27.4           | 8                           | 0               | 3           | 5    |
| VII     | 74.7           | 6                           | 4               | 1           | 1    |
| VIII    | 72.6           | 5                           | 5               | 0           | 0    |
| Overall | 65.1           | 82                          | 61              | 9           | 12   |

Overall, more than 60% of the safety professionals in this survey were engaged in 61 of the 82 tasks (74.4%). The average level of involvement was 71.7%. Fewer than 30% of the respondents were engaged in 12 of the 82 tasks (14.6%).

### **The Hazards Covered by Professional Safety Practice**

The study also evaluated the types of hazards and issues that practitioners engaged in. There were a total of 31 hazards or issues.

The respondents chose from among the five frequencies in the same manner as they responded to the types of tasks. The same analysis was performed to assess the degree of

participation among hazards. The first three ratings provided the basis for determining whether respondents dealt with each hazard/issue.

The average rate of involvement among all hazards was 86.4%. Of the 31 hazards/issues presented, more than 60% of respondents were involved in 23. Between 30% and 60% had involvement with 8. There were no hazards/issues for which fewer than 30% were engaged.

### **Internal and External Contacts for Practitioners**

This section of the survey sought to determine with whom safety professionals communicate and interact and the frequency of these contacts. The contact descriptions were divided into two groups: internal relations and external relations. Respondents selected the frequency of each type of relationship in the same manner as they evaluated tasks and hazards. Again, the sum of the first three categories formed the basis for interpreting results.

For internal relations, the average rate of participation was 80.2% for the 18 kinds of relations in this group. More than 60% of respondents participated in 15 of the relationships. One relationship involved less than 30% of respondents and two relationships fell in the 30% to 60% range.

For external relations, the average rate of participation was 68%. More than 60% of respondents participated in 10 of the 17 kinds of relations. Seven of the relations involved between 30% and 60% of respondents. None fell below 30%.

### **Knowledge Management**

An important set of tasks included in the survey sought information on how practitioners kept current in safety practice. Table 5 list the participation rate for each knowledge management task, based on the total frequency of the first three ratings.

Table 5. How U.S. Safety Professionals Managed Knowledge of Practice

| Overall Participation Rate | Task  |
|----------------------------|---|
| 98.7                       | Read professional safety literature   |
| 98.4                       | Attend courses or workshops about safety subjects                                       |
| 97.2                       | Exchange knowledge and practical experiences with colleagues at local or national level |
| 56.7                       | Exchange knowledge and practical experiences with colleagues at international level     |
| 29.8                       | Write on safety in professional or scientific literature                                |
| 67.6                       | Document the safety management system   |

## Comparison to International Practice

Hale and Guldenmund reported a comparison among 12 countries. Borys, et. al. reported on survey results for Australia, which were included in the 12 country comparison. The discussion below relies on these two reports and the information derived from the current study of U.S. safety professionals.

One means for comparing results from all countries is to compute the mean participation rate (for the total frequency of the first three categories) within each group of tasks, hazards or contacts. Table 6 provides this comparison. While this provides a global view, there are important differences in practice among countries for particular tasks, hazards and contacts.

Table 6. Comparison of Mean Frequencies (Percent) by Country

| Topic   | Australia | Australia | France | Germany | Italy | Netherlands | Netherlands | Poland | Portugal | Singapore | Spain | United Kingdom | United States |
|---|-----------|-----------|--------|---------|-------|-------------|-------------|--------|----------|-----------|-------|----------------|---------------|
|   | Australia | Australia | France | Germany | Italy | Netherlands | Netherlands | Poland | Portugal | Singapore | Spain | United Kingdom | United States |
| <b>TASK (by Group)</b>                        |           |           |        |         |       |             |             |        |          |           |       |                |               |
| Problem identification & analysis             | 75        | 79        | 58     | 72      | 77    | 73          | 65          | 63     | 79       | 72        | 77    | 80             | 87            |
| Develop & implement solutions                 | 71        | 72        | 59     | 72      | 63    | 68          | 52          | 59     | 68       | 76        | 71    | 79             | 77            |
| Training, information & communications        | 75        | 80        | 63     | 77      | 76    | 69          | 63          | 78     | 70       | 80        | 79    | 82             | 81            |
| Inspection and research                       | 63        | 69        | 55     | 75      | 57    | 68          | 54          | 69     | 58       | 75        | 69    | 74             | 75            |
| Emergency procedures and settlement of damage | 43        | 39        | 30     | 47      | 48    | 32          | 29          | 40     | 40       | 50        | 37    | 40             | 41            |
| Regulatory tasks                              | 10        | 23        | 22     | 15      | 13    | 13          | 15          | 17     | 31       | 21        | 18    | 25             | 24            |
| Knowledge management                          | 67        | 72        | 52     | 64      | 62    | 68          | 67          | 54     | 75       | 75        | 72    | 73             | 75            |
| Management & Financial                        | 47        | 55        | 44     | 52      | 50    | 55          | 52          | 55     | 54       | 57        | 60    | 63             | 69            |
| <b>HAZARDS</b>                                | 72        | 74        | 67     | 77      | 59    | 64          | 54          | 50     | 54       | 54        | 69    | 76             | 72            |
| <b>CONTACTS</b>                               |           |           |        |         |       |             |             |        |          |           |       |                |               |
| Internal                                      | 64        | 71        | 64     | 71      | 70    | 72          | 60          | 69     | 54       | 58        | 68    | 70             | 75            |
| External                                      | 43        | 61        | 53     | 54      | 58    | 51          | 58          | 41     | 46       | 55        | 52    | 63             | 61            |

In general, the information in Table 6 suggests that U.S. practice is most consistently similar to practice in the U.K. and Australia.

Hale identified the tasks that are performed by at least 60% of safety professionals in all twelve countries. U.S. safety professionals were also engaged in all of these tasks at a 60% level or higher. The core tasks reported for all countries included (the portion shown in parentheses for each task is for U.S. respondents):

- Check compliance of policy & procedures with the law (89%)
- Workplace risk assessment (90%)
- Job safety analyses (91%)
- Develop company policy on machinery, processes, workplace safety (80%)
- Machinery, process or workplace safety (87%)  
(Specify safeguards, make procedures, give instruction, check compliance)
- Personal protective equipment (82%)  
(Prepare policy, develop procedures, monitor use)
- Inform/discuss with all levels in the company on risk (95%)  
(Safety committee, employees, supervisors, line managers, top management)
- Investigate accidents/incidents (92%)
- Make recommendations after accidents (93%)
- Carry out physical inspections (92%)
- Design safety training programs (87%)
- Carry out audits of workplace behavior (86%)

Among the hazards included in the survey, the most common hazards dealt with by more than 60% of respondents in all twelve countries include (U.S. percentages are shown in parentheses):

- Machinery (89%)
- Physical work (88%)
- Lifting (91%)
- Working posture (88%)
- Human error (93%)
- Noise (90%)
- Lighting (85%)

The contacts dealt with most commonly across countries by more than 60% of respondents are the following (U.S. rates are in parentheses):

- Contact with employees, line and top management (96%)
- Contact with maintenance department (85%)
- Contact with personnel department (88%)
- Contact with visitors (80%)
- Contact with government inspectors (76%)

At the other end of the spectrum are tasks performed by less than 30% of respondents. The tasks reported by Hale performed by fewer than 25% of respondents in all countries include the following (U.S. percentages are shown in parentheses):

- Keep statistics about sickness absence (24%)
- Head of company fire brigade (13%)
- Member of company fire brigade (11%)
- Give first aid courses (20%)
- Act as expert witness (29%)
- Advise at national level on laws, regulations (33%)
- Sit on standards committees for products, competence, safety management training (21%)
- Advise at a national level on safety campaigns (28%)

One can also look at knowledge management, related to keeping current in professional safety practice. With a few exceptions, safety professionals in other countries were engaged at similar rate in safety knowledge management as those practicing in the U.S. Nearly all practitioners read professional safety literature, attended courses or workshops, and exchanged experience through local and national organizations. In general, U.S. practitioners had a little more exchange of experience at the international level and were slightly more likely to write for safety literature.

## **Comparison with Other Studies of U.S. Practice**

There have been other studies of professional safety practice in the U.S. in addition to the survey reported here. Periodically, BCSP conducts major studies of what safety professionals do in practice in order to defend the contents of examinations leading to the Certified Safety Professional (CSP) certification. An important difference in these studies compared to the survey reported here is that the BCSP studies go beyond the tasks of practice. The BCSP studies identify the knowledge and skills required to be able to perform the tasks of practice. The knowledge becomes the main focus of the certification examinations. Reports of the studies of 2000 and recently completed studies in 2007 are available on the BCSP web site.

It is difficult to make a quantitative comparison between the BCSP job analysis studies for the examination leading to the CSP certification and the survey analysis results reported here. However, one can make some general comparisons.

The tasks compiled by Hale in his analysis of international professional safety practice are subsumed by the tasks described in the most recent job analysis reports commissioned by BCSP for the Safety Fundamentals and Comprehensive Practice examinations. Overall, the BCSP studies show that the knowledge and skills necessary for professional safety practice as a CSP incorporate the specific tasks identified by Hale.

The BCSP studies identified four top-level domains of practice for the Safety Fundamentals

examination and three for the Comprehensive Practice examination. The domains are listed below. The studies also identified tasks within each domain and the associated knowledge and skills necessary to perform the tasks.

### **Safety Fundamentals Examination**

- Recognizing Safety, Health, and Environmental Hazards (35.4%)
- Measuring, Evaluating, and Controlling Safety, Health and Environmental Hazards (30.9%)
- Safety, Health, and Environmental Training and Management (20.6%)
- Business Principles, Practices, and Metrics in Safety, Health, and Environmental Practice (13.1)

### **Comprehensive Practice Examination**

- Collecting Safety, Health, Environmental and Security Risk Information (28.6%)
- Assessing Safety, Health Environmental, and Security Risk (36.6%)
- Managing Safety, Health, Environmental, and Security Risk (34.8%)

The percentages listed with each domain indicate the proportions of the examinations devoted to each domain. These percentages are based on ratings on three scales by job analysis survey respondents: 1) the frequency of tasks and knowledge use in professional safety practice, 2) the importance of the tasks and knowledge in practice, and 3) the criticality in terms of the consequences of non-performance of tasks.

The formal technical reports found on the BCSP web site for these studies describe the methods, analysis and resulting tasks, knowledge and skills for professional safety practice.

## **Conclusions**

Like many other studies of professional safety practice, this study confirms that professional safety practice involves a wide range of tasks. It appears that U.S. practice may be somewhat broader than practice in some other countries.

This study shows that there are many similarities between professional safety practice in the U.S. and other countries. The recognition, evaluation and control of hazards and the management of safety for an employer have many similarities across borders. There are also some differences, such as those related to regulatory schemes, insurance incentives, and other factors affecting safety importance and performance for employers and employees.

Overall, this series of studies has established that professional safety practice in various countries has many common elements and may not be as diverse as one might think.

This study is one measure of what constitutes professional safety practice. Because practice is not static and continues to change, the study may not reflect fully some of the more recent

trends, such as

- A growing emphasis on safety through design.
- A growing role in the business basis for safety performance.
- A continuing convergence of safety, industrial/occupational hygiene, environmental, ergonomics, fire protection and other specialized areas into one broad function for most practitioners.

This survey does not address the knowledge required for professional safety practice. For Certified Safety Professionals, a more comprehensive study of U.S. professional safety practice is that conducted by BCSP to define the examination contents for the CSP examinations. It extends to the knowledge and skills needed to perform the tasks of practice.

## Bibliography

The following references appear on the website of the European Network of Safety and Health Practitioner Organizations: [www.enshpo.org](http://www.enshpo.org), searching under “- Initiatives - Role and Tasks of OSH Practitioners” and then

“- Questionnaires and Instructions”

- UK Questionnaire
- Instructions for Setting Up Study

“- Survey Reports and Papers”

- Dresden 2004 Comparative Study (Hale, A.R and Guldenmund, F. G., Role and tasks of safety professionals: some results from an international survey.
- Dresden 2004 Survey Paper
- Australia 2006
- 2006 Appendix (Australia)

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**APPENDIX A. Percent of respondents by country selecting TASKS, HAZARDS and CONTACTS**

**(non-US data taken from ENSHPO Website – Survey reports and papers – 2006 Appendix)**

**TASKS OF PRACTICE**

|           | Tasks  |     |         |           |         |         |       |             |        |        |          |           |             |        |      |
|-----------|--|-----|---------|-----------|---------|---------|-------|-------------|--------|--------|----------|-----------|-------------|--------|------|
|           |  |     | Austria | Australia | Finland | Germany | Italy | Netherlands | Norway | Poland | Portugal | Singapore | Switzerland | Sweden | U.S. |
| <b>I</b>  | <b>Problem identification and analysis</b>   |     |         |           |         |         |       |             |        |        |          |           |             |        |      |
| B1        | Investigate & evaluate workplace or plant risks  | 100 | 96      | 92        | 98      | 97      | 91    | 88          | 92     | 90     | 96       | 94        | 98          | 97     |      |
| B2        | Perform job safety analyses  | 95  | 88      | 64        | 81      | 96      | 66    | 58          | 95     | 83     | 87       | 81        | 82          | 88     |      |
| B3        | Involved, as a member of a design team, in integrating safety in the design of plant, processes, buildings, etc. | 67  | 62      | 56        | 77      | 70      | 59    | 46          | 51     | 73     | 51       | 76        | 67          | 78     |      |
| B4        | Review a design, based on safety criteria, as someone external to the design team                                | 49  | 64      | 39        | 47      | 63      | 68    | 64          | 45     | 70     | 52       | 59        | 68          | 82     |      |
| B5        | Carry out risk analysis of projects, designs or activities   | 63  | 85      | 40        | 57      | 61      | 82    | 70          | 30     | 80     | 74       | 75        | 85          | 90     |      |
| <b>II</b> | <b>Developing and implementing of solutions</b>  |     |         |           |         |         |       |             |        |        |          |           |             |        |      |
| B6        | Develop company policy for sustainable processes or products   | 48  | 71      | 57        | 60      | 42      | 64    | 44          | 49     | 67     | 69       | 68        | 74          | 75     |      |
| B7        | Develop company environmental policy   | 34  | 35      | 52        | 46      | 44      | 46    | 40          | 31     | 33     | 63       | 51        | 44          | 41     |      |
| B8        | Prepare company policy related to safety of machines, processes or workplaces                                    | 68  | 80      | 68        | 72      | 64      | 75    | 54          | 61     | 70     | 74       | 72        | 91          | 80     |      |
| B9        | Specify safety measures for machines, processes or workplaces  | 90  | 86      | 75        | 92      | 83      | 83    | 68          | 81     | 83     | 82       | 89        | 92          | 87     |      |
| B10       | Develop/improve procedures for the safe use and maintenance of machines, processes or workplaces                 | 84  | 87      | 70        | 84      | 85      | 81    | 67          | 76     | 80     | 82       | 76        | 92          | 87     |      |
| B11       | Give instruction on the safe use and maintenance of machines, processes or workplaces                            | 90  | 80      | 77        | 91      | 86      | 83    | 60          | 75     | 87     | 80       | 78        | 83          | 84     |      |
| B12       | Check compliance with safety procedures for machines, processes or workplaces                                    | 88  | 89      | 67        | 89      | 83      | 80    | 68          | 93     | 83     | 89       | 80        | 94          | 91     |      |
| B13       | Prepare company policy relating to dangerous materials   | 68  | 76      | 60        | 77      | 53      | 79    | 46          | 49     | 60     | 72       | 59        | 80          | 72     |      |
| B14       | Specify safety measures for dangerous materials  | 84  | 82      | 43        | 90      | 67      | 77    | 48          | 54     | 63     | 82       | 73        | 80          | 81     |      |
| B15       | Design/improve the safety procedures for the use and the storage of dangerous materials                          | 83  | 74      | 56        | 84      | 67      | 73    | 50          | 55     | 70     | 82       | 65        | 78          | 79     |      |

|            | Tasks  |         |           |         |         |       |             |        |        |          |           |             |    |      |  |
|------------|--|---------|-----------|---------|---------|-------|-------------|--------|--------|----------|-----------|-------------|----|------|--|
|            |  | Austria | Australia | Finland | Germany | Italy | Netherlands | Norway | Poland | Portugal | Singapore | Switzerland | UK | U.S. |  |
| B1<br>6    | Check compliance with safety procedures for dangerous materials                      | 79      | 83        | 64      | 84      | 68    | 75          | 57     | 57     | 70       | 87        | 71          | 84 | 86   |  |
| B1<br>7    | Preparation company policy for PPE   | 86      | 74        | 69      | 85      | 80    | 85          | 49     | 82     | 87       | 81        | 80          | 84 | 78   |  |
| B1<br>8    | Specify which PPE to purchase  | 87      | 69        | 57      | 91      | 85    | 70          | 41     | 93     | 87       | 78        | 77          | 73 | 75   |  |
| B1<br>9    | Design/improve procedures for the use and maintenance of PPE                         | 80      | 73        | 62      | 77      | 80    | 76          | 48     | 84     | 87       | 77        | 71          | 78 | 79   |  |
| B2<br>0    | Monitor the correct use of PPE   | 93      | 73        | 62      | 92      | 76    | 71          | 53     | 85     | 90       | 89        | 80          | 83 | 84   |  |
| B2<br>1    | Develop the company safety management system   | 64      | 83        | 62      | 69      | 72    | 75          | 58     | 40     | 70       | 77        | 75          | 93 | 77   |  |
| B2<br>2    | Design performance indicators for the safety management system                       | 47      | 76        | 41      | 46      | 38    | 59          | 37     | 35     | 73       | 73        | 62          | 85 | 79   |  |
| B2<br>3    | Monitor the functioning of the safety management system                              | 54      | 86        | 48      | 51      | 44    | 72          | 59     | 38     | 63       | 85        | 72          | 94 | 86   |  |
| B2<br>4    | Propose improvements to the safety management system or parts of it                  | 64      | 93        | 64      | 56      | 48    | 76          | 66     | 43     | 67       | 83        | 82          | 97 | 91   |  |
| B2<br>5    | Prepare company policy on safety culture   | 64      | 66        | 74      | 58      | 72    | 76          | 52     | 40     | 57       | 66        | 74          | 79 | 72   |  |
| B2<br>6    | Assess the safety culture  | 65      | 73        | 69      | 61      | 68    | 80          | 57     | 46     | 63       | 72        | 83          | 84 | 87   |  |
| B2<br>7    | Propose improvements to the safety culture   | 76      | 80        | 76      | 66      | 76    | 81          | 69     | 54     | 73       | 73        | 88          | 88 | 88   |  |
| B2<br>8    | Lead or advise on organisational change to achieve improvement in safety performance | 91      | 83        | 50      | 92      | 79    | 72          | 70     | 67     | 73       | 78        | 85          | 88 | 86   |  |
| B2<br>9    | Check whether company policy or procedures conforms to legal rules and regulations   | 83      | 92        | 81      | 83      | 87    | 91          | 77     | 66     | 77       | 90        | 80          | 97 | 90   |  |
| B3<br>0    | Prepare permits to work for dangerous work   | 57      | 32        | 26      | 55      | 24    | 17          | 22     | 39     | 50       | 63        | 38          | 41 | 47   |  |
| B3<br>1    | Check compliance with permits to work  | 54      | 52        | 35      | 60      | 27    | 40          | 27     | 59     | 53       | 80        | 43          | 67 | 67   |  |
| B3<br>2    | Member of the team for planning large scale maintenance or modifications             | 56      | 37        | 38      | 53      | 24    | 21          | 27     | 44     | 30       | 45        | 50          | 43 | 54   |  |
| B3<br>3    | Assessing the plan for large scale maintenance and modifications                     | 57      | 40        | 41      | 53      | 29    | 31          | 28     | 48     | 33       | 48        | 54          | 47 | 60   |  |
| <b>III</b> | <b>Training, information &amp; communication</b>                                     |         |           |         |         |       |             |        |        |          |           |             |    |      |  |
| B3<br>4    | Design a safety campaign   | 70      | 70        | 53      | 68      | 61    | 60          | 55     | 66     | 67       | 81        | 81          | 78 | 74   |  |

|           | Tasks   |         |           |         |         |       |             |        |        |          |           |             |    |      |  |
|-----------|---|---------|-----------|---------|---------|-------|-------------|--------|--------|----------|-----------|-------------|----|------|--|
|           |   | Austria | Australia | Finland | Germany | Italy | Netherlands | Norway | Poland | Portugal | Singapore | Switzerland | UK | U.S. |  |
| B3<br>5   | Implement a safety campaign   | 68      | 71        | 53      | 69      | 62    | 54          | 54     | 64     | 67       | 80        | 80          | 76 | 71   |  |
| B3<br>6   | Inform/discuss with safety representatives/committee about possible risks and safety measurements | 91      | 93        | 88      | 97      | 87    | 76          | 77     | 84     | 83       | 92        | 88          | 90 | 93   |  |
| B3<br>7   | Inform/discuss with employees about possible risks and safety measurements                        | 99      | 94        | 90      | 99      | 91    | 91          | 80     | 95     | 80       | 94        | 90          | 95 | 92   |  |
| B3<br>8   | Inform/discuss with first line supervisors about possible risks and safety measurements           | 97      | 95        | 84      | 96      | 91    | 80          | 82     | 95     | 87       | 91        | 89          | 96 | 94   |  |
| B3<br>9   | Inform/discuss with line managers about possible risks and safety measurements                    | 95      | 95        | 77      | 94      | 94    | 94          | 83     | 95     | 87       | 94        | 93          | 98 | 94   |  |
| B4<br>0   | Inform/discuss with top management about possible risks and safety measurements                   | 97      | 95        | 76      | 94      | 90    | 91          | 78     | 94     | 87       | 92        | 88          | 98 | 94   |  |
| B4<br>1   | Publish information about safety in a company newsletter or other internal communication medium   | 73      | 68        | 59      | 79      | 78    | 69          | 56     | 41     | 64       | 77        | 74          | 77 | 70   |  |
| B4<br>2   | Involved in the selection of new employees  | 18      | 56        | 28      | 32      | 20    | 24          | 37     | 29     | 27       | 45        | 33          | 45 | 67   |  |
| B4<br>3   | Prepare company policy relating to safety training  | 64      | 72        | 58      | 63      | 63    | 70          | 53     | 86     | 60       | 68        | 74          | 82 | 73   |  |
| B4<br>4   | Design safety training programmes, or workshops   | 62      | 84        | 61      | 61      | 87    | 79          | 54     | 84     | 73       | 79        | 82          | 91 | 87   |  |
| B4<br>5   | Give safety training programmes, courses or workshops   | 67      | 87        | 57      | 70      | 87    | 85          | 66     | 94     | 83       | 90        | 89          | 93 | 90   |  |
| B4<br>6   | Keep records of employees safety training   | 69      | 55        | 40      | 73      | 74    | 22          | 37     | 84     | 50       | 61        | 63          | 47 | 57   |  |
| <b>IV</b> | <b>Inspection and research</b>  |         |           |         |         |       |             |        |        |          |           |             |    |      |  |
| B4<br>7   | Investigate accidents or incidents  | 93      | 86        | 70      | 96      | 79    | 89          | 66     | 97     | 73       | 84        | 84          | 93 | 91   |  |
| B4<br>8   | Investigate environmental incidents   | 42      | 41        | 35      | 55      | 51    | 43          | 45     | 61     | 27       | 63        | 42          | 45 | 52   |  |
| B4<br>9   | Keep statistics about accidents and incidents   | 77      | 67        | 58      | 87      | 67    | 67          | 55     | 95     | 63       | 78        | 67          | 72 | 74   |  |
| B5<br>0   | Keep statistics about sickness absence  | 30      | 21        | 29      | 49      | 20    | 15          | 26     | 26     | 17       | 39        | 36          | 24 | 24   |  |
| B5<br>1   | Make recommendations for improvement arising out of investigations                                | 78      | 86        | 78      | 84      | 69    | 88          | 70     | 62     | 73       | 84        | 81          | 94 | 93   |  |
| B5<br>2   | Conduct workplace inspections of physical prevention measures                                     | 73      | 88        | 60      | 95      | 64    | 86          | 63     | 95     | 80       | 94        | 88          | 93 | 92   |  |
| B5<br>3   | Conduct workplace audits of safe behaviour  | 69      | 76        | 65      | 79      | 68    | 80          | 51     | 77     | 70       | 80        | 82          | 80 | 86   |  |

|           | Tasks   |         |           |         |         |       |             |        |        |          |           |             |    |      |  |
|-----------|---|---------|-----------|---------|---------|-------|-------------|--------|--------|----------|-----------|-------------|----|------|--|
|           |   | Austria | Australia | Finland | Germany | Italy | Netherlands | Norway | Poland | Portugal | Singapore | Switzerland | UK | U.S. |  |
| B5<br>4   | Conduct audits of the safety management system  | 45      | 87        | 48      | 57      | 38    | 75          | 53     | 40     | 60       | 82        | 73          | 92 | 88   |  |
| <b>V</b>  | <b>Emergency procedures and settlement of damage</b>  |         |           |         |         |       |             |        |        |          |           |             |    |      |  |
| B5<br>5   | Prepare company policy on emergency procedures, intervention and first aid                                | 82      | 72        | 61      | 84      | 79    | 70          | 49     | 73     | 63       | 73        | 73          | 81 | 69   |  |
| B5<br>6   | Prepare company policy on insurance and compensation  | 23      | 32        | 20      | 62      | 19    | 21          | 11     | 31     | 27       | 22        | 26          | 23 | 29   |  |
| B5<br>7   | Design/improve emergency procedures   | 84      | 72        | 60      | 82      | 87    | 66          | 57     | 65     | 70       | 84        | 76          | 82 | 76   |  |
| B5<br>8   | Organize practice of emergency procedures   | 74      | 50        | 40      | 67      | 74    | 54          | 47     | 39     | 50       | 80        | 56          | 55 | 63   |  |
| B5<br>9   | Manage a company fire fighting team   | 9       | 17        | 9       | 8       | 50    | 11          | 25     | 9      | 43       | 54        | 13          | 11 | 13   |  |
| B6<br>0   | Be a member of the company fire fighting team   | 8       | 14        | 6       | 7       | 32    | 9           | 27     | 16     | 17       | 50        | 16          | 8  | 11   |  |
| B6<br>1   | Give first aid courses  | 55      | 10        | 34      | 55      | 29    | 5           | 20     | 34     | 43       | 25        | 42          | 7  | 20   |  |
| B6<br>2   | Advise employer or employee about damage or injury claims   | 32      | 57        | 33      | 45      | 23    | 28          | 18     | 77     | 37       | 41        | 19          | 69 | 61   |  |
| B6<br>3   | Act as expert witness in legal cases or claims  | 16      | 28        | 10      | 13      | 36    | 21          | 10     | 19     | 13       | 17        | 15          | 25 | 29   |  |
| <b>VI</b> | <b>Regulatory tasks</b>   |         |           |         |         |       |             |        |        |          |           |             |    |      |  |
| B6<br>4   | Involved with making national/regional or industry wide safety laws and rules                             | 19      | 30        | 19      | 22      | 14    | 22          | 23     | 16     | 33       | 27        | 33          | 28 | 33   |  |
| B6<br>5   | Be a member of a standards committee for product safety   | 4       | 11        | 2       | 4       | 4     | 5           | 5      | 2      | 13       | 17        | 7           | 9  | 15   |  |
| B6<br>6   | Be a member of a standards committee for safety competence or skills                                      | 5       | 14        | 3       | 6       | 5     | 7           | 9      | 6      | 20       | 26        | 8           | 19 | 22   |  |
| B6<br>7   | Be a member of a standards committee for safety management systems  | 3       | 17        | 1       | 4       | 2     | 10          | 8      | 7      | 23       | 29        | 8           | 21 | 24   |  |
| B6<br>8   | Take part in designing guidance or standards for safety courses or training at national or industry level | 9       | 22        | 14      | 8       | 12    | 15          | 16     | 13     | 67       | 24        | 18          | 32 | 27   |  |
| B6<br>9   | Take part in the design and implementation of safety campaigns at national or industry level              | 8       | 22        | 18      | 8       | 8     | 10          | 15     | 6      | 53       | 22        | 22          | 26 | -    |  |
| B7<br>0   | Advise on insurance premiums for a workplace or company   | 6       | 22        | 13      | 21      | 5     | 3           | 6      | 17     | 13       | 8         | 12          | 11 | 24   |  |
| B7<br>1   | Advise on damage claims   | 8       | 24        | 14      | 23      | 6     | 16          | 8      | 13     | 33       | 10        | 9           | 32 | 33   |  |

|                  | Tasks   |         |           |         |         |       |             |        |        |          |           |             |     |      |  |
|------------------|---|---------|-----------|---------|---------|-------|-------------|--------|--------|----------|-----------|-------------|-----|------|--|
|                  |   | Austria | Australia | Finland | Germany | Italy | Netherlands | Norway | Poland | Portugal | Singapore | Switzerland | UK  | U.S. |  |
| B7<br>2          | Answer questions from the public about safety   | 25      | 41        | 19      | 36      | 58    | 25          | 42     | 70     | 23       | 22        | 42          | 47  | 41   |  |
| <b>VII</b>       | <b>Knowledge management</b>   |         |           |         |         |       |             |        |        |          |           |             |     |      |  |
| B7<br>3          | Read professional safety literature   | 99      | 100       | 96      | 100     | 100   | 100         | 96     | 100    | 93       | 94        | 100         | 100 | 99   |  |
| B7<br>4          | Attend courses or workshops about safety subjects                                       | 99      | 98        | 89      | 99      | 100   | 97          | 94     | 94     | 87       | 96        | 99          | 99  | 98   |  |
| B7<br>5          | Exchange knowledge and practical experiences with colleagues at local or national level | 96      | 96        | 62      | 97      | 94    | 97          | 92     | 84     | 93       | 94        | 97          | 98  | 97   |  |
| B7<br>6          | Exchange knowledge and practical experience with colleagues at international level      | 47      | 40        | 21      | 28      | 31    | 39          | 51     | 9      | 73       | 65        | 49          | 41  | 57   |  |
| B7<br>7          | Publish on safety in the professional or scientific literature                          | 12      | 25        | 11      | 15      | 15    | 20          | 25     | 5      | 47       | 30        | 28          | 23  | 30   |  |
| B7<br>8          | Document the safety management system   | 47      | 74        | 30      | 43      | 30    | 55          | 45     | 32     | 57       | 72        | 58          | 78  | 68   |  |
| <b>VII<br/>I</b> | <b>Management &amp; Financial</b>   |         |           |         |         |       |             |        |        |          |           |             |     |      |  |
| B7<br>9          | Manage other safety or working conditions professionals                                 | 31      | 47        | 28      | 42      | 48    | 37          | 46     | 31     | 40       | 41        | 46          | 58  | 63   |  |
| B8<br>0          | Prepare (parts of) an annual plan for safety  | 61      | 71        | 80      | 64      | 68    | 77          | 64     | 72     | 47       | 73        | 72          | 80  | 80   |  |
| B8<br>1          | Prepare (parts of) an annual report on safety   | 67      | 64        | 48      | 72      | 60    | 75          | 63     | 82     | 73       | 70        | 71          | 77  | 77   |  |
| B8<br>2          | Advise on/make the budget for safety  | 38      | 45        | 45      | 44      | 43    | 44          | 47     | 45     | 57       | 58        | 59          | 51  | 66   |  |
| B8<br>3          | Carry out cost-benefit analyses of safety measures or policies                          | 38      | 47        | 20      | 36      | 33    | 41          | 41     | 43     | 50       | 43        | 54          | 50  | 62   |  |

## HAZARDS

|     | Hazard   |         |           |         |         |       |             |        |        |          |           |             |      |    |  |  |
|-----|--|---------|-----------|---------|---------|-------|-------------|--------|--------|----------|-----------|-------------|------|----|--|--|
|     |  | Austria | Australia | Finland | Germany | Italy | Netherlands | Norway | Poland | Portugal | Singapore | Switzerland | U.S. |    |  |  |
| C1  | Lighting   | 94      | 79        | 74      | 94      | 77    | 78          | 52     | 89     | 76       | 70        | 78          | 89   | 85 |  |  |
| C2  | Cold or heat   | 92      | 78        | 82      | 91      | 80    | 78          | 56     | 69     | 60       | 48        | 80          | 90   | 86 |  |  |
| C3  | Noise  | 93      | 86        | 76      | 97      | 85    | 89          | 61     | 91     | 67       | 85        | 86          | 90   | 90 |  |  |
| C4  | Vibration  | 63      | 65        | 47      | 79      | 57    | 69          | 42     | 50     | 37       | 52        | 56          | 71   | 75 |  |  |
| C5  | Toxic and carcinogenic substances                            | 63      | 75        | 54      | 90      | 66    | 82          | 50     | 56     | 50       | 71        | 76          | 83   | 86 |  |  |
| C6  | Biological risks   | 32      | 66        | 35      | 86      | 50    | 61          | 23     | 19     | 23       | 37        | 44          | 67   | 75 |  |  |
| C7  | Other occupational disease                                   | 55      | 70        | 52      | 77      | 51    | 57          | 47     | 39     | 50       | 61        | 73          | 76   | 81 |  |  |
| C8  | Ionising radiation   | 29      | 40        | 19      | 78      | 33    | 47          | 20     | 22     | 30       | 39        | 42          | 42   | 56 |  |  |
| C9  | Non-ionising radiation                                       | 28      | 45        | 19      | 78      | 51    | 52          | 20     | 30     | 37       | 46        | 50          | 53   | 64 |  |  |
| C10 | Fire   | 83      | 77        | 61      | 87      | 92    | 86          | 76     | 45     | 80       | 81        | 77          | 91   | 87 |  |  |
| C11 | Explosion  | 63      | 60        | 28      | 83      | 56    | 77          | 58     | 33     | 67       | 70        | 69          | 62   | 79 |  |  |
| C12 | Electricity  | 89      | 83        | 60      | 90      | 85    | 86          | 60     | 76     | 77       | 79        | 80          | 92   | 89 |  |  |
| C13 | Machinery and installations                                  | 92      | 84        | 71      | 97      | 88    | 91          | 68     | 86     | 77       | 77        | 90          | 91   | 89 |  |  |
| C14 | Vehicles   | 82      | 83        | 61      | 89      | 73    | 75          | 56     | 75     | 50       | 66        | 75          | 90   | 84 |  |  |
| C15 | Human errors   | 94      | 89        | 79      | 96      | 79    | 91          | 78     | 74     | 70       | 83        | 90          | 94   | 93 |  |  |
| C16 | Subsidence and Collapses                                     | 40      | 37        | 22      | 39      | 32    | 38          | 30     | 83     | 30       | 43        | 41          | 41   | 61 |  |  |
| C17 | Falls  | 91      | 87        | 60      | 95      | 82    | 89          | 62     | 52     | 73       | 81        | 86          | 95   | 90 |  |  |
| C18 | Lifting  | 95      | 93        | 75      | 96      | 87    | 85          | 63     | 83     | 73       | 87        | 92          | 96   | 91 |  |  |
| C19 | Working posture  | 96      | 92        | 86      | 93      | 91    | 85          | 61     | 73     | 83       | 81        | 92          | 94   | 88 |  |  |
| C20 | Other physical workload                                      | 84      | 89        | 77      | 85      | 64    | 82          | 58     | 67     | 73       | 76        | 80          | 88   | 88 |  |  |
| C21 | VDUs   | 96      | 85        | 79      | 95      | 90    | 81          | 45     | 79     | 70       | 56        | 85          | 94   | 85 |  |  |
| C22 | Mental workload/Stress                                       | 76      | 82        | 86      | 76      | 58    | 58          | 61     | 44     | 57       | 41        | 72          | 80   | 69 |  |  |
| C23 | Bullying and harassment                                      | 44      | 68        | 66      | 57      | 14    | 41          | 43     | 2      | 7        | 21        | 44          | 48   | 45 |  |  |
| C24 | Violence against employees                                   | 24      | 59        | 35      | 64      | 11    | 37          | 25     | 9      | 7        | 21        | 33          | 58   | 50 |  |  |
| C25 | Alcohol or drugs   | 59      | 69        | 61      | 69      | 23    | 37          | 34     | 24     | 33       | 30        | 56          | 58   | 57 |  |  |
| C26 | Environmental pollution                                      | 48      | 49        | 31      | 72      | 64    | 56          | 51     | 39     | 33       | 75        | 59          | 51   | 57 |  |  |
| C27 | Sustainability of production or products                     | 42      | 26        | 37      | 62      | 25    | 39          | 17     | 45     | 23       | 23        | 40          | 29   | 37 |  |  |
| C28 | Product liability  | 25      | 25        | 32      | 52      | 17    | 50          | 21     | 19     | 27       | 22        | 38          | 25   | 35 |  |  |
| C29 | Road/transport safety  | 65      | 63        | 54      | 87      | 38    | 45          | 44     | 59     | 37       | 63        | 65          | 79   | 65 |  |  |
| C30 | Accidents to patients, passengers, students or other clients | 39      | 59        | 38      | 56      | 25    | 43          | 29     | 20     | 20       | 41        | 38          | 66   | 49 |  |  |



## CONTACTS

|     | Contact                                    |         |           |         |         |         |             |        |        |          |           |             |      |    |  |  |
|-----|--|---------|-----------|---------|---------|---------|-------------|--------|--------|----------|-----------|-------------|------|----|--|--|
|     |  |         |           |         |         |         |             |        |        |          |           |             |      |    |  |  |
|     |  | Austria | Australia | Finland | Germany | Ireland | Netherlands | Norway | Poland | Portugal | Singapore | Switzerland | U.S. |    |  |  |
| D1  | Occupational hygienist                     | 28      | 69        | 40      | 31      | 50      | 83          | 51     | 59     | 33       | 46        | 54          | 59   | 91 |  |  |
| D2  | Occupational physician                     | 99      | 65        | 89      | 98      | 91      | 85          | 67     | 92     | 77       | 48        | 60          | 69   | 81 |  |  |
| D3  | Ergonomist                                 | 41      | 73        | 59      | 32      | 26      | 64          | 52     | 16     | 20       | 29        | 50          | 46   | 75 |  |  |
| D4  | Work & organization psychologist           | 33      | 44        | 33      | 24      | 15      | 38          | 25     | 16     | 17       | 14        | 35          | 20   | 30 |  |  |
| D5  | Other medical specialists                  | 31      | 60        | 68      | 59      | 34      | 28          | 32     | 53     | 17       | 45        | 68          | 49   | 59 |  |  |
| D6  | Visitors                                   | 68      | 86        | 75      | 74      | 64      | 73          | 67     | 78     | 63       | 80        | 69          | 88   | 80 |  |  |
| D7  | Employees                                  | 97      | 98        | 95      | 99      | 98      | 97          | 88     | 98     | 83       | 97        | 93          | 98   | 96 |  |  |
| D8  | Line management                            | 84      | 98        | 94      | 90      | 98      | 99          | 93     | 95     | 87       | 95        | 90          | 99   | 96 |  |  |
| D9  | Top management                             | 98      | 98        | 88      | 97      | 92      | 96          | 90     | 95     | 87       | 93        | 90          | 99   | 96 |  |  |
| D10 | Works council or equivalent                | 95      | 59        | 64      | 93      | 77      | 86          | 77     | 88     | 50       | 46        | 75          | 78   | 64 |  |  |
| D11 | Quality department                         | 71      | 61        | 53      | 74      | 73      | 72          | 66     | 60     | 60       | 64        | 74          | 61   | 65 |  |  |
| D12 | Technical/maintenance service              | 95      | 87        | 77      | 93      | 94      | 90          | 80     | 87     | 83       | 85        | 85          | 88   | 85 |  |  |
| D13 | Personnel department                       | 89      | 88        | 77      | 91      | 84      | 86          | 73     | 97     | 77       | 83        | 87          | 91   | 88 |  |  |
| D14 | Financial division                         | 59      | 74        | 66      | 65      | 79      | 62          | 63     | 79     | 47       | 64        | 70          | 75   | 72 |  |  |
| D15 | Lawyer                                     | 57      | 66        | 39      | 56      | 69      | 52          | 40     | 78     | 37       | 32        | 47          | 68   | 78 |  |  |
| D16 | Designer                                   | 19      | 55        | 59      | 82      | 82      | 60          | 28     | 35     | 53       | 29        | 75          | 66   | 64 |  |  |
| D17 | Company planner                            | 27      | 45        | 22      | 42      | 59      | 48          | 27     | 38     | 47       | 33        | 41          | 51   | 59 |  |  |
| D18 | Environmental expert                       | 58      | 54        | 57      | 71      | 67      | 70          | 54     | 70     | 37       | 57        | 58          | 63   | 74 |  |  |
| D19 | Policy maker in Ministry                   | 15      | 26        | 26      | 47      | 29      | 34          | 75     | 14     | 33       | 40        | 75          | 21   | -  |  |  |
| D20 | Policy maker or planner in local authority | 32      | 26        | 34      | 55      | 79      | 37          | 72     | 18     | 30       | 36        | 54          | 36   | 63 |  |  |
| D21 | Government inspector (national, local)     | 96      | 84        | 81      | 95      | 89      | 61          | 88     | 93     | 60       | 73        | 84          | 82   | 76 |  |  |
| D22 | Working conditions service*                | 37      | -         | 57      | 23      | 46      | 87          | 72     | 50     | 53       | 73        | -           | -    | 75 |  |  |
| D23 | Standards body                             | 32      | 40        | 19      | 15      | 29      | 35          | 32     | 10     | 57       | 52        | 24          | 39   | 51 |  |  |
| D24 | Certification body                         | 39      | 51        | 32      | 40      | 50      | 66          | 45     | 23     | 53       | 63        | 47          | 45   | 60 |  |  |
| D25 | Industry federation                        | 32      | 48        | -       | 42      | 63      | 65          | 58     | 13     | 53       | 44        | 37          | 52   | 44 |  |  |
| D26 | Professional association                   | 46      | 83        | 60      | 63      | 65      | 76          | 55     | 28     | 47       | 72        | 47          | 90   | 88 |  |  |

|     | Contact                                    |         |           |         |         |         |             |        |        |          |           |             |      |    |  |  |  |
|-----|--|---------|-----------|---------|---------|---------|-------------|--------|--------|----------|-----------|-------------|------|----|--|--|--|
|     |  | Austria | Australia | Finland | Germany | Ireland | Netherlands | Norway | Poland | Portugal | Singapore | Switzerland | U.S. |    |  |  |  |
| D27 | Employers' federation                      | 28      | 45        | 45      | 24      | 55      | 26          | 39     | 6      | 47       | 28        | 24          | 43   | 32 |  |  |  |
| D28 | Trade-union official (local or national)   | 43      | 65        | 68      | 34      | 55      | 21          | 66     | 22     | 27       | 26        | 30          | 68   | 40 |  |  |  |
| D29 | Insurer                                    | 26      | 53        | 61      | 49      | 33      | 33          | 40     | 26     | 30       | 28        | 48          | 67   | 59 |  |  |  |
| D30 | Inspector (social) insurer*                | 13      | -         | 27      | 85      | 39      | 14          | 27     | 77     | 23       | 26        | 96          | 27   | 37 |  |  |  |
| D31 | Safety officers of other organizations     | 45      | 95        | 57      | 93      | 77      | 93          | 82     | 77     | 63       | 89        | 84          | 95   | 87 |  |  |  |
| D32 | Safety Committee or safety representative* | 45      | 95        | 95      | 97      | 88      | 86          | 87     | 80     | 67       | 94        | 58          | 92   | 88 |  |  |  |
| D33 | External safety consultant                 | 46      | 84        | 54      | 40      | 83      | 50          | 68     | 25     | 43       | 76        | 62          | 77   | 81 |  |  |  |
| D34 | Educational establishment                  | 62      | 72        | 62      | 72      | 35      | 42          | 70     | 52     | 47       | 44        | 64          | 74   | 64 |  |  |  |
| D35 | People living around the company           | 35      | 29        | 36      | 29      | 27      | 23          | 32     | 26     | 27       | 39        | 30          | 46   | 38 |  |  |  |
| D36 | Local fire service                         | 73      | 45        | 65      | 69      | 76      | 51          | 56     | 63     | 53       | 64        | 50          | 72   | 61 |  |  |  |