Figure 3-1. Silicosis: Number of deaths, crude and age-adjusted mortality rates, U.S. residents age 15 and over, 1968-1992

NOTE: See Appendix A for source description and Appendix B for methods and ICD-8 and ICD-9 codes.

Figure 3-2. Silicosis: Crude mortality rates by state, U.S. residents age 15 and over, 1991-1992

NOTE: See Appendix A for source description and Appendix B for methods and ICD-8 and ICD-9 codes.
Table 3-1. Silicosis: Number of deaths by sex, race, and age, U.S. residents age 15 and over, 1991-1992

<table>
<thead>
<tr>
<th></th>
<th>1991</th>
<th>Percent</th>
<th>1992</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total deaths</td>
<td>314</td>
<td>100.0</td>
<td>255</td>
<td>100.0</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>305</td>
<td>97.1</td>
<td>240</td>
<td>94.1</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>2.9</td>
<td>15</td>
<td>5.9</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>257</td>
<td>81.9</td>
<td>212</td>
<td>83.1</td>
</tr>
<tr>
<td>Black</td>
<td>56</td>
<td>17.8</td>
<td>39</td>
<td>15.3</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0.3</td>
<td>4</td>
<td>1.6</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>1</td>
<td>0.3</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>25-34</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>35-44</td>
<td>4</td>
<td>1.3</td>
<td>3</td>
<td>1.2</td>
</tr>
<tr>
<td>45-54</td>
<td>12</td>
<td>3.8</td>
<td>8</td>
<td>3.1</td>
</tr>
<tr>
<td>55-64</td>
<td>40</td>
<td>12.7</td>
<td>36</td>
<td>14.1</td>
</tr>
<tr>
<td>65-74</td>
<td>78</td>
<td>24.8</td>
<td>79</td>
<td>31.0</td>
</tr>
<tr>
<td>75-84</td>
<td>135</td>
<td>43.0</td>
<td>96</td>
<td>37.6</td>
</tr>
<tr>
<td>85 and over</td>
<td>43</td>
<td>13.7</td>
<td>32</td>
<td>12.5</td>
</tr>
<tr>
<td>Mean age</td>
<td>74.2</td>
<td>73.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range for age</td>
<td>22-97</td>
<td>30-96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Percentages may not total to 100% due to rounding. See Appendix A for source description and Appendix B for methods and ICD-8 and ICD-9 codes. Data for 1968-1990 can be found in the Work-Related Lung Disease Surveillance Report, 1994, see Appendix E.
SOURCE: National Center for Health Statistics multiple cause of death data.
### Table 3-2. Silicosis: Number of deaths by state, U.S. residents age 15 and over, 1968-1992

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>172</td>
<td>57</td>
<td>9</td>
<td>3</td>
<td>241</td>
</tr>
<tr>
<td>Alaska</td>
<td>7</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>13</td>
</tr>
<tr>
<td>Arizona</td>
<td>177</td>
<td>81</td>
<td>2</td>
<td>1</td>
<td>261</td>
</tr>
<tr>
<td>Arkansas</td>
<td>43</td>
<td>19</td>
<td>2</td>
<td>1</td>
<td>65</td>
</tr>
<tr>
<td>California</td>
<td>455</td>
<td>242</td>
<td>16</td>
<td>12</td>
<td>725</td>
</tr>
<tr>
<td>Colorado</td>
<td>251</td>
<td>129</td>
<td>15</td>
<td>9</td>
<td>404</td>
</tr>
<tr>
<td>Connecticut</td>
<td>100</td>
<td>54</td>
<td>2</td>
<td>3</td>
<td>159</td>
</tr>
<tr>
<td>Delaware</td>
<td>7</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>13</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>14</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>25</td>
</tr>
<tr>
<td>Florida</td>
<td>162</td>
<td>142</td>
<td>7</td>
<td>4</td>
<td>315</td>
</tr>
<tr>
<td>Georgia</td>
<td>82</td>
<td>69</td>
<td>3</td>
<td>3</td>
<td>157</td>
</tr>
<tr>
<td>Hawaii</td>
<td>6</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Idaho</td>
<td>83</td>
<td>27</td>
<td>-</td>
<td>2</td>
<td>112</td>
</tr>
<tr>
<td>Illinois</td>
<td>191</td>
<td>160</td>
<td>8</td>
<td>11</td>
<td>370</td>
</tr>
<tr>
<td>Indiana</td>
<td>143</td>
<td>85</td>
<td>4</td>
<td>4</td>
<td>236</td>
</tr>
<tr>
<td>Iowa</td>
<td>30</td>
<td>25</td>
<td>2</td>
<td>2</td>
<td>59</td>
</tr>
<tr>
<td>Kansas</td>
<td>70</td>
<td>20</td>
<td>1</td>
<td>1</td>
<td>92</td>
</tr>
<tr>
<td>Kentucky</td>
<td>209</td>
<td>76</td>
<td>2</td>
<td>6</td>
<td>293</td>
</tr>
<tr>
<td>Louisiana</td>
<td>34</td>
<td>45</td>
<td>5</td>
<td>2</td>
<td>86</td>
</tr>
<tr>
<td>Maine</td>
<td>24</td>
<td>15</td>
<td>2</td>
<td>-</td>
<td>41</td>
</tr>
<tr>
<td>Maryland</td>
<td>87</td>
<td>41</td>
<td>4</td>
<td>1</td>
<td>133</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>106</td>
<td>55</td>
<td>3</td>
<td>1</td>
<td>165</td>
</tr>
<tr>
<td>Michigan</td>
<td>378</td>
<td>193</td>
<td>9</td>
<td>14</td>
<td>594</td>
</tr>
<tr>
<td>Minnesota</td>
<td>97</td>
<td>90</td>
<td>3</td>
<td>9</td>
<td>199</td>
</tr>
<tr>
<td>Mississippi</td>
<td>14</td>
<td>16</td>
<td>1</td>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td>Missouri</td>
<td>112</td>
<td>68</td>
<td>7</td>
<td>4</td>
<td>191</td>
</tr>
<tr>
<td>Montana</td>
<td>120</td>
<td>49</td>
<td>-</td>
<td>3</td>
<td>172</td>
</tr>
<tr>
<td>Nebraska</td>
<td>9</td>
<td>-</td>
<td>3</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Nevada</td>
<td>61</td>
<td>29</td>
<td>-</td>
<td>-</td>
<td>90</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>17</td>
<td>12</td>
<td>2</td>
<td>-</td>
<td>32</td>
</tr>
<tr>
<td>New Jersey</td>
<td>262</td>
<td>134</td>
<td>11</td>
<td>5</td>
<td>412</td>
</tr>
<tr>
<td>New Mexico</td>
<td>57</td>
<td>40</td>
<td>4</td>
<td>5</td>
<td>106</td>
</tr>
<tr>
<td>New York</td>
<td>447</td>
<td>205</td>
<td>18</td>
<td>6</td>
<td>676</td>
</tr>
<tr>
<td>North Carolina</td>
<td>164</td>
<td>108</td>
<td>14</td>
<td>8</td>
<td>294</td>
</tr>
<tr>
<td>North Dakota</td>
<td>5</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>Ohio</td>
<td>1,036</td>
<td>456</td>
<td>35</td>
<td>24</td>
<td>1,551</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>51</td>
<td>20</td>
<td>4</td>
<td>5</td>
<td>80</td>
</tr>
<tr>
<td>Oregon</td>
<td>54</td>
<td>33</td>
<td>3</td>
<td>3</td>
<td>93</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>2,483</td>
<td>755</td>
<td>53</td>
<td>53</td>
<td>3,344</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>10</td>
<td>15</td>
<td>-</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>South Carolina</td>
<td>30</td>
<td>37</td>
<td>3</td>
<td>1</td>
<td>71</td>
</tr>
<tr>
<td>South Dakota</td>
<td>23</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>39</td>
</tr>
<tr>
<td>Tennessee</td>
<td>124</td>
<td>77</td>
<td>3</td>
<td>2</td>
<td>206</td>
</tr>
<tr>
<td>Texas</td>
<td>105</td>
<td>104</td>
<td>11</td>
<td>11</td>
<td>231</td>
</tr>
<tr>
<td>Utah</td>
<td>102</td>
<td>54</td>
<td>5</td>
<td>4</td>
<td>165</td>
</tr>
<tr>
<td>Vermont</td>
<td>88</td>
<td>38</td>
<td>1</td>
<td>4</td>
<td>131</td>
</tr>
<tr>
<td>Virginia</td>
<td>249</td>
<td>79</td>
<td>2</td>
<td>3</td>
<td>333</td>
</tr>
<tr>
<td>Washington</td>
<td>125</td>
<td>73</td>
<td>7</td>
<td>5</td>
<td>210</td>
</tr>
<tr>
<td>West Virginia</td>
<td>542</td>
<td>77</td>
<td>12</td>
<td>4</td>
<td>635</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>199</td>
<td>157</td>
<td>16</td>
<td>9</td>
<td>381</td>
</tr>
<tr>
<td>Wyoming</td>
<td>14</td>
<td>9</td>
<td>-</td>
<td>-</td>
<td>23</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>9,431</strong></td>
<td><strong>4,313</strong></td>
<td><strong>314</strong></td>
<td><strong>255</strong></td>
<td><strong>14,313</strong></td>
</tr>
</tbody>
</table>

- indicates no deaths listed.

**NOTE:** See Appendix A for source description and Appendix B for methods and ICD-8 and ICD-9 codes.

**SOURCE:** National Center for Health Statistics multiple cause of death data.
Table 3-3. Silicosis: Mortality rates (per 1,000,000 population) by race and sex, U.S. residents age 15 and over, 1991-1992

<table>
<thead>
<tr>
<th>Year</th>
<th>Overall rate</th>
<th>White</th>
<th>Black</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crude mortality rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>1.59</td>
<td>3.08</td>
<td>0.09</td>
<td>5.28</td>
<td>0.08</td>
</tr>
<tr>
<td>1992</td>
<td>1.28</td>
<td>2.46</td>
<td>0.14</td>
<td>3.49</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td>Age-adjusted mortality rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>0.94</td>
<td>1.96</td>
<td>0.05</td>
<td>5.21</td>
<td>0.02</td>
</tr>
<tr>
<td>1992</td>
<td>0.77</td>
<td>1.62</td>
<td>0.09</td>
<td>3.15</td>
<td>0.12</td>
</tr>
</tbody>
</table>


Table 3-4. Silicosis: Years of potential life lost by race and sex, U.S. residents age 15 and over, 1991-1992

<table>
<thead>
<tr>
<th>Year</th>
<th>Overall</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Years of potential life lost to age 65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>560</td>
<td>415</td>
<td>50</td>
</tr>
<tr>
<td>1992</td>
<td>410</td>
<td>325</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Years of potential life lost to life expectancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>3,940</td>
<td>2,732</td>
<td>135</td>
</tr>
<tr>
<td>1992</td>
<td>3,262</td>
<td>2,288</td>
<td>187</td>
</tr>
</tbody>
</table>

NOTE: See Appendix A for source description and Appendix B for methods and ICD-8 and ICD-9 codes. Data for 1968-1990 can be found in the Work-Related Lung Disease Surveillance Report, 1994, see Appendix E.

<table>
<thead>
<tr>
<th>State</th>
<th>Total deaths</th>
<th>Rank</th>
<th>Crude mortality</th>
<th>Age-adjusted mortality</th>
<th>YPLL to life expectancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>25</td>
<td>18</td>
<td>1.58</td>
<td>0.96</td>
<td>368</td>
</tr>
<tr>
<td>Alaska</td>
<td>1</td>
<td>48</td>
<td>0.50</td>
<td>0.82</td>
<td>8</td>
</tr>
<tr>
<td>Arizona</td>
<td>15</td>
<td>28</td>
<td>1.06</td>
<td>0.65</td>
<td>190</td>
</tr>
<tr>
<td>Arkansas</td>
<td>5</td>
<td>40</td>
<td>0.55</td>
<td>0.42</td>
<td>102</td>
</tr>
<tr>
<td>California</td>
<td>78</td>
<td>3</td>
<td>0.67</td>
<td>0.40</td>
<td>802</td>
</tr>
<tr>
<td>Colorado</td>
<td>58</td>
<td>6</td>
<td>4.52</td>
<td>3.10</td>
<td>661</td>
</tr>
<tr>
<td>Connecticut</td>
<td>13</td>
<td>33</td>
<td>0.98</td>
<td>0.54</td>
<td>144</td>
</tr>
<tr>
<td>Delaware</td>
<td>4</td>
<td>42</td>
<td>1.51</td>
<td>1.04</td>
<td>53</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>2</td>
<td>47</td>
<td>0.79</td>
<td>0.47</td>
<td>22</td>
</tr>
<tr>
<td>Florida</td>
<td>50</td>
<td>8</td>
<td>0.95</td>
<td>0.53</td>
<td>755</td>
</tr>
<tr>
<td>Georgia</td>
<td>23</td>
<td>19</td>
<td>0.91</td>
<td>0.65</td>
<td>276</td>
</tr>
<tr>
<td>Hawaii</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Idaho</td>
<td>13</td>
<td>33</td>
<td>3.47</td>
<td>1.60</td>
<td>120</td>
</tr>
<tr>
<td>Illinois</td>
<td>50</td>
<td>8</td>
<td>1.12</td>
<td>0.74</td>
<td>689</td>
</tr>
<tr>
<td>Indiana</td>
<td>28</td>
<td>14</td>
<td>1.29</td>
<td>0.85</td>
<td>428</td>
</tr>
<tr>
<td>Iowa</td>
<td>9</td>
<td>37</td>
<td>0.83</td>
<td>0.46</td>
<td>116</td>
</tr>
<tr>
<td>Kansas</td>
<td>3</td>
<td>44</td>
<td>0.31</td>
<td>0.15</td>
<td>30</td>
</tr>
<tr>
<td>Kentucky</td>
<td>28</td>
<td>14</td>
<td>1.94</td>
<td>1.35</td>
<td>465</td>
</tr>
<tr>
<td>Louisiana</td>
<td>18</td>
<td>23</td>
<td>1.13</td>
<td>0.98</td>
<td>322</td>
</tr>
<tr>
<td>Maine</td>
<td>5</td>
<td>40</td>
<td>1.03</td>
<td>0.55</td>
<td>58</td>
</tr>
<tr>
<td>Maryland</td>
<td>10</td>
<td>35</td>
<td>0.53</td>
<td>0.36</td>
<td>123</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>17</td>
<td>25</td>
<td>0.70</td>
<td>0.35</td>
<td>182</td>
</tr>
<tr>
<td>Michigan</td>
<td>64</td>
<td>5</td>
<td>1.77</td>
<td>1.03</td>
<td>758</td>
</tr>
<tr>
<td>Minnesota</td>
<td>28</td>
<td>14</td>
<td>1.66</td>
<td>0.97</td>
<td>352</td>
</tr>
<tr>
<td>Mississippi</td>
<td>6</td>
<td>39</td>
<td>0.62</td>
<td>0.43</td>
<td>86</td>
</tr>
<tr>
<td>Missouri</td>
<td>26</td>
<td>17</td>
<td>1.30</td>
<td>0.74</td>
<td>350</td>
</tr>
<tr>
<td>Montana</td>
<td>14</td>
<td>29</td>
<td>4.58</td>
<td>2.15</td>
<td>140</td>
</tr>
<tr>
<td>Nebraska</td>
<td>4</td>
<td>42</td>
<td>0.66</td>
<td>0.31</td>
<td>43</td>
</tr>
<tr>
<td>Nevada</td>
<td>10</td>
<td>35</td>
<td>2.09</td>
<td>1.43</td>
<td>115</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>7</td>
<td>38</td>
<td>1.61</td>
<td>0.88</td>
<td>71</td>
</tr>
<tr>
<td>New Jersey</td>
<td>50</td>
<td>8</td>
<td>1.61</td>
<td>0.81</td>
<td>513</td>
</tr>
<tr>
<td>New Mexico</td>
<td>21</td>
<td>21</td>
<td>3.69</td>
<td>1.93</td>
<td>202</td>
</tr>
<tr>
<td>New York</td>
<td>67</td>
<td>4</td>
<td>0.93</td>
<td>0.56</td>
<td>863</td>
</tr>
<tr>
<td>North Carolina</td>
<td>43</td>
<td>12</td>
<td>1.62</td>
<td>1.02</td>
<td>562</td>
</tr>
<tr>
<td>North Dakota</td>
<td>1</td>
<td>48</td>
<td>0.41</td>
<td>0.41</td>
<td>38</td>
</tr>
<tr>
<td>Ohio</td>
<td>153</td>
<td>2</td>
<td>3.60</td>
<td>2.07</td>
<td>1,973</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>14</td>
<td>29</td>
<td>1.15</td>
<td>0.55</td>
<td>146</td>
</tr>
<tr>
<td>Oregon</td>
<td>16</td>
<td>26</td>
<td>1.43</td>
<td>0.57</td>
<td>138</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>259</td>
<td>1</td>
<td>5.43</td>
<td>2.71</td>
<td>3,117</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>3</td>
<td>44</td>
<td>0.74</td>
<td>0.44</td>
<td>41</td>
</tr>
<tr>
<td>South Carolina</td>
<td>14</td>
<td>29</td>
<td>1.03</td>
<td>0.84</td>
<td>257</td>
</tr>
<tr>
<td>South Dakota</td>
<td>3</td>
<td>44</td>
<td>1.14</td>
<td>0.61</td>
<td>36</td>
</tr>
<tr>
<td>Tennessee</td>
<td>19</td>
<td>22</td>
<td>0.98</td>
<td>0.69</td>
<td>306</td>
</tr>
<tr>
<td>Texas</td>
<td>45</td>
<td>11</td>
<td>0.70</td>
<td>0.59</td>
<td>749</td>
</tr>
<tr>
<td>Utah</td>
<td>18</td>
<td>23</td>
<td>3.03</td>
<td>1.97</td>
<td>194</td>
</tr>
<tr>
<td>Vermont</td>
<td>16</td>
<td>26</td>
<td>7.24</td>
<td>3.57</td>
<td>141</td>
</tr>
<tr>
<td>Virginia</td>
<td>14</td>
<td>29</td>
<td>0.57</td>
<td>0.37</td>
<td>168</td>
</tr>
<tr>
<td>Washington</td>
<td>22</td>
<td>20</td>
<td>1.16</td>
<td>0.66</td>
<td>268</td>
</tr>
<tr>
<td>West Virginia</td>
<td>29</td>
<td>13</td>
<td>4.06</td>
<td>2.41</td>
<td>405</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>58</td>
<td>6</td>
<td>3.05</td>
<td>1.88</td>
<td>784</td>
</tr>
<tr>
<td>Wyoming</td>
<td>1</td>
<td>48</td>
<td>0.59</td>
<td>0.31</td>
<td>8</td>
</tr>
</tbody>
</table>

* indicates no deaths listed.

NOTE: Ranks are based on unrounded values. See Appendix A for source description and Appendix B for methods and ICD-8 and ICD-9 codes.

Table 3-6. Silicosis: Most frequently recorded occupations on death certificate, U.S. residents age 15 and over, selected states, 1991-1992

<table>
<thead>
<tr>
<th>COC</th>
<th>Occupation</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>616</td>
<td>Mining machine operators</td>
<td>39</td>
<td>16.0</td>
</tr>
<tr>
<td>889</td>
<td>Laborers, except construction</td>
<td>29</td>
<td>11.9</td>
</tr>
<tr>
<td>019</td>
<td>Managers and administrators, n.e.c.</td>
<td>11</td>
<td>4.5</td>
</tr>
<tr>
<td>633</td>
<td>Supervisors, precision production occupations</td>
<td>11</td>
<td>4.5</td>
</tr>
<tr>
<td>453</td>
<td>Janitors and cleaners</td>
<td>8</td>
<td>3.3</td>
</tr>
<tr>
<td>719</td>
<td>Molding, casting machine operators</td>
<td>8</td>
<td>3.3</td>
</tr>
<tr>
<td>243</td>
<td>Supervisors and proprietors, sales occupations</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>844</td>
<td>Operating engineers</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>637</td>
<td>Machinists</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td>787</td>
<td>Hand molding, casting, and forming occupations</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>All other occupations</td>
<td>109</td>
<td>44.9</td>
</tr>
<tr>
<td></td>
<td>Occupation not reported</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>243</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**COC - 1980 Census Occupation Code**  
n.e.c. - not elsewhere classified

**NOTE:** See Appendix A for source description, Appendix B for methods and ICD-8 and ICD-9 codes, and Appendix C for list of 25 states reporting usual occupation and years reporting. Data for 1985-1990 can be found in the Work-Related Lung Disease Surveillance Report, 1994, see Appendix E.

**SOURCE:** National Center for Health Statistics multiple cause of death data.

Table 3-7. Silicosis: Most frequently recorded industries on death certificate, U.S. residents age 15 and over, selected states, 1991-1992

<table>
<thead>
<tr>
<th>CIC</th>
<th>Industry</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>041</td>
<td>Coal mining</td>
<td>23</td>
<td>9.5</td>
</tr>
<tr>
<td>060</td>
<td>Construction</td>
<td>23</td>
<td>9.5</td>
</tr>
<tr>
<td>040</td>
<td>Metal mining</td>
<td>21</td>
<td>8.6</td>
</tr>
<tr>
<td>270</td>
<td>Blast furnaces, steelworks, rolling and finishing mills</td>
<td>20</td>
<td>8.2</td>
</tr>
<tr>
<td>050</td>
<td>Nonmetallic mining and quarrying, except fuel</td>
<td>12</td>
<td>4.9</td>
</tr>
<tr>
<td>262</td>
<td>Miscellaneous nonmetallic mineral and stone products</td>
<td>12</td>
<td>4.9</td>
</tr>
<tr>
<td>392</td>
<td>Not specified manufacturing industries</td>
<td>12</td>
<td>4.9</td>
</tr>
<tr>
<td>271</td>
<td>Iron and steel foundries</td>
<td>9</td>
<td>3.7</td>
</tr>
<tr>
<td>331</td>
<td>Machinery, except electrical, n.e.c.</td>
<td>8</td>
<td>3.3</td>
</tr>
<tr>
<td>252</td>
<td>Structural clay products</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>All other industries</td>
<td>91</td>
<td>37.4</td>
</tr>
<tr>
<td></td>
<td>Industry not reported</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>243</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**CIC - 1980 Census Industry Code**  
n.e.c. - not elsewhere classified

**NOTE:** See Appendix A for source description, Appendix B for methods and ICD-8 and ICD-9 codes, and Appendix C for list of 25 states reporting usual industry and years reporting. Data for 1985-1990 can be found in the Work-Related Lung Disease Surveillance Report, 1994, see Appendix E.

**SOURCE:** National Center for Health Statistics multiple cause of death data.
### Table 3-8. Silicosis: Proportionate mortality ratio (PMR) by usual occupation, selected states and years, U.S. residents age 15 and over, 1985-1992

<table>
<thead>
<tr>
<th>COC</th>
<th>Occupation</th>
<th>Number of deaths</th>
<th>PMR</th>
<th>LCL</th>
<th>UCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>725</td>
<td>Miscellaneous metal and plastic machine operators</td>
<td>11</td>
<td>168.44</td>
<td>84.22</td>
<td>301.32</td>
</tr>
<tr>
<td>675</td>
<td>Hand molders and shapers, except jewelers</td>
<td>17</td>
<td>64.12</td>
<td>37.28</td>
<td>102.59</td>
</tr>
<tr>
<td>768</td>
<td>Crushing and grinding machine operators</td>
<td>20</td>
<td>50.97</td>
<td>31.08</td>
<td>78.78</td>
</tr>
<tr>
<td>787</td>
<td>Hand molding, casting, and forming occupations</td>
<td>10</td>
<td>35.70</td>
<td>17.16</td>
<td>65.62</td>
</tr>
<tr>
<td>719</td>
<td>Molding and casting machine operators</td>
<td>27</td>
<td>30.60</td>
<td>20.13</td>
<td>44.54</td>
</tr>
<tr>
<td>616</td>
<td>Mining machine operators</td>
<td>128</td>
<td>19.61</td>
<td>16.26</td>
<td>23.46</td>
</tr>
<tr>
<td>617</td>
<td>Mining occupations, n.e.c.</td>
<td>8</td>
<td>15.33</td>
<td>6.61</td>
<td>30.18</td>
</tr>
<tr>
<td>599</td>
<td>Construction trades, n.e.c.</td>
<td>12</td>
<td>14.77</td>
<td>7.61</td>
<td>25.78</td>
</tr>
<tr>
<td>709</td>
<td>Grinding, abrading, buffing, and polishing machine operators</td>
<td>9</td>
<td>8.47</td>
<td>3.89</td>
<td>16.07</td>
</tr>
<tr>
<td>516</td>
<td>Heavy equipment mechanics</td>
<td>9</td>
<td>7.72</td>
<td>3.54</td>
<td>14.65</td>
</tr>
<tr>
<td>859</td>
<td>Miscellaneous material moving equipment operators</td>
<td>5</td>
<td>6.92</td>
<td>2.24</td>
<td>16.17</td>
</tr>
<tr>
<td>544</td>
<td>Millwrights</td>
<td>9</td>
<td>6.56</td>
<td>3.01</td>
<td>12.45</td>
</tr>
<tr>
<td>849</td>
<td>Crane and tower operators</td>
<td>8</td>
<td>6.02</td>
<td>2.59</td>
<td>11.85</td>
</tr>
<tr>
<td>563</td>
<td>Brickmasons and stonemasons</td>
<td>11</td>
<td>4.71</td>
<td>2.35</td>
<td>8.43</td>
</tr>
<tr>
<td>579</td>
<td>Painters, construction and maintenance</td>
<td>19</td>
<td>4.50</td>
<td>2.71</td>
<td>7.03</td>
</tr>
<tr>
<td>766</td>
<td>Furnace, kiln, oven operators, except food</td>
<td>6</td>
<td>4.10</td>
<td>1.50</td>
<td>8.93</td>
</tr>
<tr>
<td>889</td>
<td>Laborers, except construction</td>
<td>113</td>
<td>3.79</td>
<td>3.08</td>
<td>4.61</td>
</tr>
<tr>
<td>844</td>
<td>Operating engineers</td>
<td>12</td>
<td>3.56</td>
<td>1.84</td>
<td>6.21</td>
</tr>
<tr>
<td>783</td>
<td>Welders and cutters</td>
<td>13</td>
<td>3.01</td>
<td>1.60</td>
<td>5.15</td>
</tr>
<tr>
<td>779</td>
<td>Machine operators, not specified</td>
<td>23</td>
<td>2.86</td>
<td>1.81</td>
<td>4.29</td>
</tr>
<tr>
<td>549</td>
<td>Not specified mechanics and repairers</td>
<td>6</td>
<td>2.84</td>
<td>1.04</td>
<td>6.19</td>
</tr>
<tr>
<td>633</td>
<td>Supervisors, production occupations</td>
<td>29</td>
<td>2.73</td>
<td>1.83</td>
<td>3.92</td>
</tr>
<tr>
<td>869</td>
<td>Construction laborers</td>
<td>21</td>
<td>2.14</td>
<td>1.32</td>
<td>3.27</td>
</tr>
<tr>
<td>637</td>
<td>Machinists</td>
<td>17</td>
<td>1.79</td>
<td>1.04</td>
<td>2.86</td>
</tr>
<tr>
<td>453</td>
<td>Janitors and cleaners</td>
<td>28</td>
<td>1.78</td>
<td>1.19</td>
<td>2.57</td>
</tr>
</tbody>
</table>

**NOTE:** See Appendix A for source description, Appendix B for methods and ICD-8 and ICD-9 codes, and Appendix C for list of 25 states reporting usual occupation and years reporting.

**SOURCE:** National Center for Health Statistics multiple cause of death data.
### Table 3-9. Silicosis: Proportionate mortality ratio (PMR) by usual industry, selected states and years, U.S. residents age 15 and over, 1985-1992

<table>
<thead>
<tr>
<th>CIC</th>
<th>Industry</th>
<th>Number of deaths</th>
<th>PMR</th>
<th>LCL</th>
<th>UCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>040</td>
<td>Metal mining</td>
<td>75</td>
<td>69.51</td>
<td>54.30</td>
<td>87.88</td>
</tr>
<tr>
<td>262</td>
<td>Miscellaneous nonmetallic mineral and stone products</td>
<td>54</td>
<td>55.31</td>
<td>40.97</td>
<td>72.97</td>
</tr>
<tr>
<td>050</td>
<td>Nonmetallic mining and quarrying, except fuel</td>
<td>47</td>
<td>49.77</td>
<td>36.33</td>
<td>66.63</td>
</tr>
<tr>
<td>271</td>
<td>Iron and steel foundries</td>
<td>46</td>
<td>31.15</td>
<td>22.74</td>
<td>41.70</td>
</tr>
<tr>
<td>261</td>
<td>Pottery and related products</td>
<td>21</td>
<td>30.73</td>
<td>18.97</td>
<td>46.99</td>
</tr>
<tr>
<td>252</td>
<td>Structural clay products</td>
<td>20</td>
<td>27.82</td>
<td>16.96</td>
<td>43.00</td>
</tr>
<tr>
<td>041</td>
<td>Coal mining</td>
<td>63</td>
<td>9.26</td>
<td>7.07</td>
<td>11.92</td>
</tr>
<tr>
<td>270</td>
<td>Blast furnaces, steelworks, rolling and finishing mills</td>
<td>67</td>
<td>6.49</td>
<td>4.95</td>
<td>8.35</td>
</tr>
<tr>
<td>300</td>
<td>Miscellaneous fabricated metal products</td>
<td>15</td>
<td>5.87</td>
<td>3.28</td>
<td>9.69</td>
</tr>
<tr>
<td>682</td>
<td>Miscellaneous retail stores</td>
<td>10</td>
<td>4.63</td>
<td>2.23</td>
<td>8.51</td>
</tr>
<tr>
<td>331</td>
<td>Machinery, except electrical, n.e.c.</td>
<td>23</td>
<td>3.96</td>
<td>2.51</td>
<td>5.95</td>
</tr>
<tr>
<td>280</td>
<td>Other primary metal industries</td>
<td>6</td>
<td>3.63</td>
<td>1.33</td>
<td>7.91</td>
</tr>
<tr>
<td>192</td>
<td>Industrial and miscellaneous chemicals</td>
<td>11</td>
<td>2.72</td>
<td>1.36</td>
<td>4.87</td>
</tr>
<tr>
<td>392</td>
<td>Not specified manufacturing industries</td>
<td>37</td>
<td>2.67</td>
<td>1.85</td>
<td>3.71</td>
</tr>
<tr>
<td>060</td>
<td>Construction</td>
<td>97</td>
<td>1.82</td>
<td>1.47</td>
<td>2.24</td>
</tr>
</tbody>
</table>

CIC - 1980 Census Industry Code  
CIC - 1980 Census Industry Code  
n.e.c. - not elsewhere classified  
LCL - lower confidence limit  
UCL - upper confidence limit  

**NOTE:** See Appendix A for source description, Appendix B for methods and ICD-8 and ICD-9 codes, and Appendix C for list of 25 states reporting usual industry and years reporting.

**SOURCE:** National Center for Health Statistics multiple cause of death data.
Figure 3-4. Silicosis: Total number of deaths by county, U.S. residents age 15 and over, 1983-1992

SOURCE: National Center for Health Statistics multiple cause of death data.
Figure 3-5. Silicosis: Age-adjusted mortality rates by county, U.S. residents age 15 and over, 1983-1992

Figure 3-6. Silica: Number of MSHA and OSHA inspector samples and percent exceeding the permissible exposure limit (PEL), 1974-1994

NOTE: See Appendix A for source description, Appendix B for methods, and Appendix D for agents.

Figure 3-7. Silica: Number of MSHA and OSHA inspector samples and average severity levels, 1974-1994

NOTE: See Appendix A for source description, Appendix B for methods, and Appendix D for agents.
## Table 3-10. Silica: Number of MSHA and OSHA inspector samples, percent exceeding the permissible exposure limit (PEL) and average severity level, by industry, 1993-1994

<table>
<thead>
<tr>
<th>CIC</th>
<th>Industries most frequently recorded on 1991-1992 death certificates with silicosis</th>
<th>Number of samples</th>
<th>% &gt; PEL</th>
<th>Average severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>041</td>
<td>Coal mining</td>
<td>12,770</td>
<td>19.1</td>
<td>0.71</td>
</tr>
<tr>
<td>060</td>
<td>Construction</td>
<td>58</td>
<td>25.9</td>
<td>2.85</td>
</tr>
<tr>
<td>040</td>
<td>Metal mining</td>
<td>1,857</td>
<td>10.4</td>
<td>0.43</td>
</tr>
<tr>
<td>050</td>
<td>Blast furnaces, steelworks, rolling and finishing mills</td>
<td>7</td>
<td>0.0</td>
<td>0.00</td>
</tr>
<tr>
<td>041</td>
<td>Nonmetallic mining</td>
<td>24,301</td>
<td>6.5</td>
<td>0.43</td>
</tr>
<tr>
<td>262</td>
<td>Miscellaneous nonmetallic mineral and stone products</td>
<td>75</td>
<td>10.7</td>
<td>0.44</td>
</tr>
<tr>
<td>392</td>
<td>Not specified manufacturing industries</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>271</td>
<td>Iron and steel foundries</td>
<td>254</td>
<td>19.7</td>
<td>0.85</td>
</tr>
<tr>
<td>331</td>
<td>Machinery, except electrical, n.e.c.</td>
<td>16</td>
<td>31.3</td>
<td>1.05</td>
</tr>
<tr>
<td>252</td>
<td>Structural clay products</td>
<td>28</td>
<td>21.4</td>
<td>0.87</td>
</tr>
<tr>
<td>262</td>
<td>All other industries</td>
<td>416</td>
<td>17.3</td>
<td>16.79</td>
</tr>
<tr>
<td>300</td>
<td>Miscellaneous fabricated metal products</td>
<td>36</td>
<td>5.6</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>39,818</td>
<td>10.9</td>
<td>0.70</td>
</tr>
</tbody>
</table>

CIC - 1980 Census Industry Code  n.e.c. - not elsewhere classified  - indicates incalculable field

NOTE: See Appendix A for source description, Appendix B for methods, Appendix C for list of 25 states reporting usual industry and years reporting, and Appendix D for agents.


## Table 3-11. Silica: Number of MSHA and OSHA inspector samples, percent exceeding the permissible exposure limit (PEL) and average severity level, by industry, 1993-1994

<table>
<thead>
<tr>
<th>CIC</th>
<th>Industries most frequently sampled in 1993-1994</th>
<th>Number of samples</th>
<th>% &gt; PEL</th>
<th>Average severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>050</td>
<td>Nonmetallic mining</td>
<td>24,301</td>
<td>6.5</td>
<td>0.43</td>
</tr>
<tr>
<td>041</td>
<td>Coal mining</td>
<td>12,770</td>
<td>19.1</td>
<td>0.71</td>
</tr>
<tr>
<td>040</td>
<td>Metal mining</td>
<td>1,857</td>
<td>10.4</td>
<td>0.43</td>
</tr>
<tr>
<td>271</td>
<td>Iron and steel foundries</td>
<td>254</td>
<td>19.7</td>
<td>0.85</td>
</tr>
<tr>
<td>262</td>
<td>Miscellaneous nonmetallic mineral and stone products</td>
<td>75</td>
<td>10.7</td>
<td>0.44</td>
</tr>
<tr>
<td>060</td>
<td>Construction</td>
<td>58</td>
<td>25.9</td>
<td>2.85</td>
</tr>
<tr>
<td>300</td>
<td>Miscellaneous fabricated metal products</td>
<td>52</td>
<td>46.2</td>
<td>17.96</td>
</tr>
<tr>
<td>261</td>
<td>Pottery and related products</td>
<td>46</td>
<td>17.4</td>
<td>0.86</td>
</tr>
<tr>
<td>251</td>
<td>Cement, concrete, gypsum, and plaster products</td>
<td>39</td>
<td>12.8</td>
<td>0.67</td>
</tr>
<tr>
<td>280</td>
<td>Other primary metals industries</td>
<td>30</td>
<td>6.7</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>All other industries</td>
<td>300</td>
<td>14.7</td>
<td>20.06</td>
</tr>
<tr>
<td></td>
<td>Industry not reported</td>
<td>36</td>
<td>5.6</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>39,818</td>
<td>10.9</td>
<td>0.70</td>
</tr>
</tbody>
</table>

CIC - 1980 Census Industry Code

NOTE: See Appendix A for source description, Appendix B for methods, and Appendix D for agents.

### Table 3-12 (page 1 of 2). Silica: Number of MSHA inspector samples, percent exceeding the permissible exposure limit (PEL) and average severity levels (Avg. Sev.), by state, 1974-1994

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total samples</td>
<td>Samples &gt; PEL</td>
<td>Total samples</td>
</tr>
<tr>
<td>Alabama</td>
<td>1,659</td>
<td>0.58</td>
<td>11.5</td>
</tr>
<tr>
<td>Alaska</td>
<td>79</td>
<td>0.67</td>
<td>12.7</td>
</tr>
<tr>
<td>Arizona</td>
<td>3,548</td>
<td>1.14</td>
<td>16.4</td>
</tr>
<tr>
<td>Arkansas</td>
<td>784</td>
<td>1.67</td>
<td>39.9</td>
</tr>
<tr>
<td>California</td>
<td>1,834</td>
<td>1.73</td>
<td>14.5</td>
</tr>
<tr>
<td>Colorado</td>
<td>3,069</td>
<td>0.87</td>
<td>19.8</td>
</tr>
<tr>
<td>Connecticut</td>
<td>330</td>
<td>1.25</td>
<td>25.2</td>
</tr>
<tr>
<td>Delaware</td>
<td>9</td>
<td>0.22</td>
<td>0.0</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Florida</td>
<td>640</td>
<td>0.37</td>
<td>5.2</td>
</tr>
<tr>
<td>Georgia</td>
<td>2,254</td>
<td>0.59</td>
<td>13.4</td>
</tr>
<tr>
<td>Hawaii</td>
<td>6</td>
<td>0.18</td>
<td>0.0</td>
</tr>
<tr>
<td>Idaho</td>
<td>1,653</td>
<td>1.29</td>
<td>19.2</td>
</tr>
<tr>
<td>Illinois</td>
<td>4,906</td>
<td>0.94</td>
<td>19.7</td>
</tr>
<tr>
<td>Indiana</td>
<td>2,479</td>
<td>0.40</td>
<td>6.9</td>
</tr>
<tr>
<td>Iowa</td>
<td>1,103</td>
<td>0.53</td>
<td>11.1</td>
</tr>
<tr>
<td>Kansas</td>
<td>1,497</td>
<td>0.55</td>
<td>14.2</td>
</tr>
<tr>
<td>Kentucky</td>
<td>3,545</td>
<td>1.03</td>
<td>26.0</td>
</tr>
<tr>
<td>Louisiana</td>
<td>247</td>
<td>0.99</td>
<td>17.8</td>
</tr>
<tr>
<td>Maine</td>
<td>424</td>
<td>0.61</td>
<td>16.0</td>
</tr>
<tr>
<td>Maryland</td>
<td>597</td>
<td>0.54</td>
<td>11.4</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>559</td>
<td>1.49</td>
<td>19.3</td>
</tr>
<tr>
<td>Michigan</td>
<td>1,742</td>
<td>0.66</td>
<td>15.3</td>
</tr>
<tr>
<td>Minnesota</td>
<td>3,898</td>
<td>0.54</td>
<td>9.6</td>
</tr>
<tr>
<td>Mississippi</td>
<td>400</td>
<td>0.57</td>
<td>8.3</td>
</tr>
<tr>
<td>Missouri</td>
<td>2,935</td>
<td>1.25</td>
<td>15.3</td>
</tr>
<tr>
<td>Montana</td>
<td>1,184</td>
<td>0.56</td>
<td>12.9</td>
</tr>
</tbody>
</table>

See footnotes at end of table.
Table 3-12 (page 2 of 2). Silica: Number of MSHA inspector samples, percent exceeding the permissible exposure limit (PEL) and average severity levels (Avg. Sev.), by state, 1974-1994

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Avg. Sev.</td>
<td>%</td>
</tr>
<tr>
<td>Nebraska</td>
<td>82</td>
<td>0.76</td>
<td>15.9</td>
</tr>
<tr>
<td>Nevada</td>
<td>984</td>
<td>2.53</td>
<td>24.7</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>214</td>
<td>1.04</td>
<td>23.8</td>
</tr>
<tr>
<td>New Jersey</td>
<td>930</td>
<td>0.86</td>
<td>23.9</td>
</tr>
<tr>
<td>New Mexico</td>
<td>1,023</td>
<td>0.62</td>
<td>9.1</td>
</tr>
<tr>
<td>New York</td>
<td>1,348</td>
<td>0.96</td>
<td>13.7</td>
</tr>
<tr>
<td>North Carolina</td>
<td>2,743</td>
<td>0.86</td>
<td>10.7</td>
</tr>
<tr>
<td>North Dakota</td>
<td>310</td>
<td>0.54</td>
<td>11.0</td>
</tr>
<tr>
<td>Ohio</td>
<td>3,549</td>
<td>0.77</td>
<td>14.8</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>1,410</td>
<td>0.72</td>
<td>15.4</td>
</tr>
<tr>
<td>Oregon</td>
<td>340</td>
<td>0.48</td>
<td>5.9</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>5,170</td>
<td>0.80</td>
<td>18.1</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>71</td>
<td>0.82</td>
<td>18.3</td>
</tr>
<tr>
<td>South Carolina</td>
<td>874</td>
<td>1.57</td>
<td>23.1</td>
</tr>
<tr>
<td>South Dakota</td>
<td>1,293</td>
<td>0.89</td>
<td>17.4</td>
</tr>
<tr>
<td>Tennessee</td>
<td>2,594</td>
<td>0.48</td>
<td>10.4</td>
</tr>
<tr>
<td>Texas</td>
<td>1,363</td>
<td>1.20</td>
<td>17.2</td>
</tr>
<tr>
<td>Utah</td>
<td>978</td>
<td>0.65</td>
<td>15.0</td>
</tr>
<tr>
<td>Vermont</td>
<td>494</td>
<td>0.61</td>
<td>18.6</td>
</tr>
<tr>
<td>Virginia</td>
<td>3,121</td>
<td>1.08</td>
<td>28.2</td>
</tr>
<tr>
<td>Washington</td>
<td>909</td>
<td>0.74</td>
<td>16.3</td>
</tr>
<tr>
<td>West Virginia</td>
<td>4,434</td>
<td>0.98</td>
<td>26.3</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>2,083</td>
<td>0.49</td>
<td>9.8</td>
</tr>
<tr>
<td>Wyoming</td>
<td>1,917</td>
<td>1.14</td>
<td>17.9</td>
</tr>
</tbody>
</table>

TOTAL 79,615 0.89 16.9 3.87 139,423 0.67 14.7 3.14 38,960 0.52 10.8 2.97

- indicates incalculable field.

NOTE: See Appendix A for source description, Appendix B for methods, and Appendix D for agents.

Figure 3-8. Silica: Number of MSHA inspector samples collected by state, 1993-1994

NOTE: See Appendix A for source description, Appendix B for methods, and Appendix D for agents.

Figure 3-9. Silica: Percent of MSHA inspector samples that exceeded the permissible exposure limit (PEL), by state, 1993-1994

NOTE: See Appendix A for source description, Appendix B for methods, and Appendix D for agents.
Figure 3-10. Silica: Average severity level by state for MSHA inspector samples, 1993-1994

NOTE: See Appendix A for source description, Appendix B for methods, and Appendix D for agents.

Figure 3-11. Silica: Average severity level by state for MSHA inspector samples that exceeded the permissible exposure limit (PEL), 1993-1994

NOTE: See Appendix A for source description, Appendix B for methods, and Appendix D for agents.
Figure 3-12. Silica: Number of MSHA inspector samples collected by county, 1993-1994

SOURCE: Mine Safety and Health Administration; respirable coal mine quartz data. Bureau of Mines; Mine Inspection Data Analysis System.
### Table 3-13 (page 1 of 2). Silica: Number of OSHA inspector samples, percent exceeding the permissible exposure limit (PEL) and average severity levels (Avg. Sev.), by state, 1979-1994

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total samples</td>
<td>Samples &gt; PEL</td>
<td>Total samples</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Avg. Sev.</td>
<td>%</td>
</tr>
<tr>
<td>Alabama</td>
<td>258</td>
<td>1.10</td>
<td>31.0</td>
</tr>
<tr>
<td>Alaska</td>
<td>1</td>
<td>34.59</td>
<td>100.0</td>
</tr>
<tr>
<td>Arizona</td>
<td>22</td>
<td>1.14</td>
<td>36.4</td>
</tr>
<tr>
<td>Arkansas</td>
<td>56</td>
<td>0.50</td>
<td>17.9</td>
</tr>
<tr>
<td>California</td>
<td>7</td>
<td>6.61</td>
<td>42.9</td>
</tr>
<tr>
<td>Colorado</td>
<td>233</td>
<td>1.58</td>
<td>18.0</td>
</tr>
<tr>
<td>Connecticut</td>
<td>348</td>
<td>0.70</td>
<td>16.7</td>
</tr>
<tr>
<td>Delaware</td>
<td>17</td>
<td>0.32</td>
<td>5.9</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Florida</td>
<td>60</td>
<td>2.05</td>
<td>30.0</td>
</tr>
<tr>
<td>Georgia</td>
<td>390</td>
<td>1.55</td>
<td>29.7</td>
</tr>
<tr>
<td>Hawaii</td>
<td>3</td>
<td>0.07</td>
<td>0.0</td>
</tr>
<tr>
<td>Idaho</td>
<td>23</td>
<td>3.99</td>
<td>43.5</td>
</tr>
<tr>
<td>Illinois</td>
<td>435</td>
<td>1.81</td>
<td>28.5</td>
</tr>
<tr>
<td>Indiana</td>
<td>106</td>
<td>1.15</td>
<td>41.5</td>
</tr>
<tr>
<td>Iowa</td>
<td>259</td>
<td>1.09</td>
<td>20.1</td>
</tr>
<tr>
<td>Kansas</td>
<td>47</td>
<td>1.34</td>
<td>25.5</td>
</tr>
<tr>
<td>Kentucky</td>
<td>78</td>
<td>3.38</td>
<td>39.7</td>
</tr>
<tr>
<td>Louisiana</td>
<td>59</td>
<td>1.68</td>
<td>39.0</td>
</tr>
<tr>
<td>Maine</td>
<td>9</td>
<td>0.62</td>
<td>33.3</td>
</tr>
<tr>
<td>Maryland</td>
<td>37</td>
<td>2.64</td>
<td>21.6</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>282</td>
<td>1.11</td>
<td>25.2</td>
</tr>
<tr>
<td>Michigan</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Minnesota</td>
<td>30</td>
<td>1.94</td>
<td>63.3</td>
</tr>
<tr>
<td>Mississippi</td>
<td>36</td>
<td>2.49</td>
<td>25.0</td>
</tr>
<tr>
<td>Missouri</td>
<td>144</td>
<td>1.39</td>
<td>30.6</td>
</tr>
<tr>
<td>Montana</td>
<td>53</td>
<td>1.52</td>
<td>20.8</td>
</tr>
</tbody>
</table>

See footnotes at end of table.
**Table 3-13** (page 2 of 2). Silica: Number of OSHA inspector samples, percent exceeding the permissible exposure limit (PEL) and average severity levels (Avg. Sev.), by state, 1979-1994

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total samples</td>
<td>Samples &gt; PEL</td>
<td>Total samples</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Avg. Sev.</td>
<td>%</td>
</tr>
<tr>
<td>Nebraska</td>
<td>29</td>
<td>1.14</td>
<td>24.1</td>
</tr>
<tr>
<td>Nevada</td>
<td>10</td>
<td>3.03</td>
<td>50.0</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>99</td>
<td>0.87</td>
<td>21.2</td>
</tr>
<tr>
<td>New Jersey</td>
<td>194</td>
<td>1.32</td>
<td>27.8</td>
</tr>
<tr>
<td>New Mexico</td>
<td>8</td>
<td>1.93</td>
<td>75.0</td>
</tr>
<tr>
<td>New York</td>
<td>639</td>
<td>1.61</td>
<td>28.8</td>
</tr>
<tr>
<td>North Carolina</td>
<td>132</td>
<td>61.28</td>
<td>12.9</td>
</tr>
<tr>
<td>North Dakota</td>
<td>38</td>
<td>1.27</td>
<td>18.4</td>
</tr>
<tr>
<td>Ohio</td>
<td>958</td>
<td>1.16</td>
<td>28.7</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>105</td>
<td>1.75</td>
<td>17.1</td>
</tr>
<tr>
<td>Oregon</td>
<td>86</td>
<td>0.61</td>
<td>11.6</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>1,052</td>
<td>1.33</td>
<td>26.4</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>163</td>
<td>1.02</td>
<td>24.5</td>
</tr>
<tr>
<td>South Carolina</td>
<td>16</td>
<td>0.33</td>
<td>12.5</td>
</tr>
<tr>
<td>South Dakota</td>
<td>21</td>
<td>0.27</td>
<td>9.5</td>
</tr>
<tr>
<td>Tennessee</td>
<td>21</td>
<td>0.93</td>
<td>19.0</td>
</tr>
<tr>
<td>Texas</td>
<td>477</td>
<td>3.06</td>
<td>23.1</td>
</tr>
<tr>
<td>Utah</td>
<td>4</td>
<td>1.13</td>
<td>25.0</td>
</tr>
<tr>
<td>Vermont</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Virginia</td>
<td>62</td>
<td>0.87</td>
<td>14.5</td>
</tr>
<tr>
<td>Washington</td>
<td>3</td>
<td>0.00</td>
<td>0.0</td>
</tr>
<tr>
<td>West Virginia</td>
<td>181</td>
<td>2.66</td>
<td>35.9</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>615</td>
<td>1.41</td>
<td>39.0</td>
</tr>
<tr>
<td>Wyoming</td>
<td>5</td>
<td>0.87</td>
<td>20.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>7,911</td>
<td>2.49</td>
<td>27.2</td>
</tr>
</tbody>
</table>

- indicates incalculable field.

**NOTE:** See Appendix A for source description, Appendix B for methods, and Appendix D for agents.

**SOURCE:** Occupational Safety and Health Administration: Integrated Management Information System.
Figure 3-13. Silica: Number of OSHA inspector samples collected by state, 1993-1994


Figure 3-14. Silica: Percent of OSHA inspector samples that exceeded the permissible exposure limit (PEL), by state, 1993-1994

Figure 3-15. Silica: Average severity level by state for OSHA inspector samples, 1993-1994

NOTE: See Appendix A for source descriptions, Appendix B for methods, and Appendix D for agents.
SOURCE: Occupational Safety and Health Administration: Integrated Management Information System.

Figure 3-16. Silica: Average severity level by state for OSHA inspector samples that exceeded the permissible exposure limit (PEL), 1993-1994

NOTE: See Appendix A for source descriptions, Appendix B for methods, and Appendix D for agents.
SOURCE: Occupational Safety and Health Administration: Integrated Management Information System.
Figure 3-17. Silica: Number of OSHA inspector samples collected by county, 1993-1994

Source: Occupational Safety and Health Administration: Integrated Management Information System.