

TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

| ID No. | NAME OF MATERIAL  | SMALL SPILLS<br>(From a small package or small leak from a large package) |                 |  |                             | LARGE SPILLS<br>(From a large package or from many small packages) |                    |  |                             |
|--------|---|---|-----------------|--|-----------------------------|--|--------------------|--|-----------------------------|
|        |   | First ISOLATE<br>in all Directions<br>Meters (Feet)                       |                 | Then PROTECT<br>persons Downwind during- |                             | First ISOLATE<br>in all Directions<br>Meters (Feet)                |                    | Then PROTECT<br>persons Downwind during- |                             |
|        |   |   |                 | DAY<br>Kilometers (Miles)                | NIGHT<br>Kilometers (Miles) |  |                    | DAY<br>Kilometers (Miles)                | NIGHT<br>Kilometers (Miles) |
| 1939   | Phosphorus oxybromide<br>(when spilled in water)                              | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.3 km (0.2 mi)                          | 95 m (300 ft)               | 0.6 km (0.4 mi)  | 1.9 km (1.2 mi)    |  |                             |
| 1939   | Phosphorus oxybromide, solid<br>(when spilled in water)                       |   |                 |  |                             |  |                    |  |                             |
| 1953   | Compressed gas, flammable,<br>poisonous, n.o.s. (Inhalation<br>Hazard Zone A) | 185 m (600 ft)  | 1.8 km (1.1 mi) | 5.6 km (3.5 mi)                          | 915 m (3000 ft)             | 10.8 km (6.7 mi)   | 11.0+ km (7.0+ mi) |  |                             |
| 1953   | Compressed gas, flammable,<br>poisonous, n.o.s. (Inhalation<br>Hazard Zone B) | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.1 km (0.7 mi)                          | 305 m (1000 ft)             | 3.1 km (1.9 mi)  | 7.7 km (4.8 mi)    |  |                             |
| 1953   | Compressed gas, flammable,<br>poisonous, n.o.s. (Inhalation<br>Hazard Zone C) | 30 m (100 ft)   | 0.2 km (0.1 mi) | 1.0 km (0.6 mi)                          | 215 m (700 ft)              | 2.1 km (1.3 mi)  | 5.6 km (3.5 mi)    |  |                             |
| 1953   | Compressed gas, flammable,<br>poisonous, n.o.s. (Inhalation<br>Hazard Zone D) | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi)                          | 185 m (600 ft)              | 1.6 km (1.0 mi)  | 4.3 km (2.7 mi)    |  |                             |
| 1953   | Compressed gas, flammable,<br>toxic, n.o.s. (Inhalation<br>Hazard Zone A)     | 185 m (600 ft)  | 1.8 km (1.1 mi) | 5.6 km (3.5 mi)                          | 915 m (3000 ft)             | 10.8 km (6.7 mi)   | 11.0+ km (7.0+ mi) |  |                             |
| 1953   | Compressed gas, flammable,<br>toxic, n.o.s. (Inhalation<br>Hazard Zone B)     | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.1 km (0.7 mi)                          | 305 m (1000 ft)             | 3.1 km (1.9 mi)  | 7.7 km (4.8 mi)    |  |                             |
| 1953   | Compressed gas, flammable,<br>toxic, n.o.s. (Inhalation<br>Hazard Zone C)     | 30 m (100 ft)   | 0.2 km (0.1 mi) | 1.0 km (0.6 mi)                          | 215 m (700 ft)              | 2.1 km (1.3 mi)  | 5.6 km (3.5 mi)    |  |                             |
| 1953   | Compressed gas, flammable,<br>toxic, n.o.s. (Inhalation<br>Hazard Zone D)     | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi)                          | 185 m (600 ft)              | 1.6 km (1.0 mi)  | 4.3 km (2.7 mi)    |  |                             |

|      |   |                |                 |                 |                 |                  |                    |
|------|---|----------------|-----------------|-----------------|-----------------|------------------|--------------------|
| 1953 | Compressed gas, poisonous, flammable, n.o.s.                            | 185 m (600 ft) | 1.8 km (1.1 mi) | 5.6 km (3.5 mi) | 915 m (3000 ft) | 10.8 km (6.7 mi) | 11.0+ km (7.0+ mi) |
| 1953 | Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A) |                |                 |                 |                 |                  |                    |
| 1953 | Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B) | 30 m (100 ft)  | 0.3 km (0.2 mi) | 1.1 km (0.7 mi) | 305 m (1000 ft) | 3.1 km (1.9 mi)  | 7.7 km (4.8 mi)    |
| 1953 | Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C) | 30 m (100 ft)  | 0.2 km (0.1 mi) | 1.0 km (0.6 mi) | 215 m (700 ft)  | 2.1 km (1.3 mi)  | 5.6 km (3.5 mi)    |
| 1953 | Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D) | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.6 km (0.4 mi) | 185 m (600 ft)  | 1.6 km (1.0 mi)  | 4.3 km (2.7 mi)    |
| 1953 | Compressed gas, toxic, flammable, n.o.s.                                | 185 m (600 ft) | 1.8 km (1.1 mi) | 5.6 km (3.5 mi) | 915 m (3000 ft) | 10.8 km (6.7 mi) | 11.0+ km (7.0+ mi) |
| 1953 | Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)     |                |                 |                 |                 |                  |                    |
| 1953 | Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)     | 30 m (100 ft)  | 0.3 km (0.2 mi) | 1.1 km (0.7 mi) | 305 m (1000 ft) | 3.1 km (1.9 mi)  | 7.7 km (4.8 mi)    |
| 1953 | Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)     | 30 m (100 ft)  | 0.2 km (0.1 mi) | 1.0 km (0.6 mi) | 215 m (700 ft)  | 2.1 km (1.3 mi)  | 5.6 km (3.5 mi)    |
| 1953 | Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)     | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.6 km (0.4 mi) | 185 m (600 ft)  | 1.6 km (1.0 mi)  | 4.3 km (2.7 mi)    |
| 1953 | Liquefied gas, flammable, poisonous, n.o.s.                             | 185 m (600 ft) | 1.8 km (1.1 mi) | 5.6 km (3.5 mi) | 915 m (3000 ft) | 10.8 km (6.7 mi) | 11.0+ km (7.0+ mi) |
| 1953 | Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone A)  |                |                 |                 |                 |                  |                    |

"+" means distance can be larger in certain atmospheric conditions

TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

| ID No.       | NAME OF MATERIAL  | SMALL SPILLS<br>(From a small package or small leak from a large package) |                 |  |                             | LARGE SPILLS<br>(From a large package or from many small packages) |                    |  |                             |
|--------------|---|---|-----------------|--|-----------------------------|--|--------------------|--|-----------------------------|
|              |   | First ISOLATE<br>in all Directions<br>Meters (Feet)                       |                 | Then PROTECT<br>persons Downwind during- |                             | First ISOLATE<br>in all Directions<br>Meters (Feet)                |                    | Then PROTECT<br>persons Downwind during- |                             |
|              |   |   |                 | DAY<br>Kilometers (Miles)                | NIGHT<br>Kilometers (Miles) |  |                    | DAY<br>Kilometers (Miles)                | NIGHT<br>Kilometers (Miles) |
| 1953         | Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone B)  | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.1 km (0.7 mi)                          | 305 m (1000 ft)             | 3.1 km (1.9 mi)  | 7.7 km (4.8 mi)    |  |                             |
| 1953         | Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone C)  | 30 m (100 ft)   | 0.2 km (0.1 mi) | 1.0 km (0.6 mi)                          | 215 m (700 ft)              | 2.1 km (1.3 mi)  | 5.6 km (3.5 mi)    |  |                             |
| 1953         | Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone D)  | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi)                          | 185 m (600 ft)              | 1.6 km (1.0 mi)  | 4.3 km (2.7 mi)    |  |                             |
| 1953<br>1953 | Liquefied gas, flammable, toxic, n.o.s.<br>Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone A) | 185 m (600 ft)  | 1.8 km (1.1 mi) | 5.6 km (3.5 mi)                          | 915 m (3000 ft)             | 10.8 km (6.7 mi)   | 11.0+ km (7.0+ mi) |  |                             |
| 1953         | Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone B)  | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.1 km (0.7 mi)                          | 305 m (1000 ft)             | 3.1 km (1.9 mi)  | 7.7 km (4.8 mi)    |  |                             |
| 1953         | Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone C)  | 30 m (100 ft)   | 0.2 km (0.1 mi) | 1.0 km (0.6 mi)                          | 215 m (700 ft)              | 2.1 km (1.3 mi)  | 5.6 km (3.5 mi)    |  |                             |
| 1953         | Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone D)  | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi)                          | 185 m (600 ft)              | 1.6 km (1.0 mi)  | 4.3 km (2.7 mi)    |  |                             |
| 1953         | Poisonous gas, flammable, n.o.s.  | 185 m (600 ft)  | 1.8 km (1.1 mi) | 5.6 km (3.5 mi)                          | 915 m (3000 ft)             | 10.8 km (6.7 mi)   | 11.0+ km (7.0+ mi) |  |                             |
| 1953         | Poisonous liquid, flammable, n.o.s.   | 155 m (500 ft)  | 1.3 km (0.8 mi) | 3.4 km (2.1 mi)                          | 915 m (3000 ft)             | 8.7 km (5.4 mi)  | 11.0+ km (7.0+ mi) |  |                             |
| 1955<br>1955 | Compressed gas, poisonous, n.o.s.<br>Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone A)             | 430 m (1400 ft)   | 4.2 km (2.6 mi) | 8.4 km (5.2 mi)                          | 915 m (3000 ft)             | 11.0+ km (7.0+ mi)   | 11.0+ km (7.0+ mi) |  |                             |
| 1955         | Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone B)  | 60 m (200 ft)   | 0.5 km (0.3 mi) | 1.6 km (1.0 mi)                          | 430 m (1400 ft)             | 4.0 km (2.5 mi)  | 9.8 km (6.1 mi)    |  |                             |

|              |  |                 |                 |                 |                 |                    |                    |
|--------------|--|-----------------|-----------------|-----------------|-----------------|--------------------|--------------------|
| 1955         | Compressed gas, poisonous, n.o.s.<br>(Inhalation Hazard Zone C)                                    | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi) | 215 m (700 ft)  | 3.1 km (1.9 mi)    | 7.2 km (4.5 mi)    |
| 1955         | Compressed gas, poisonous, n.o.s.<br>(Inhalation Hazard Zone D)                                    | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi) | 185 m (600 ft)  | 1.6 km (1.0 mi)    | 4.3 km (2.7 mi)    |
| 1955<br>1955 | Compressed gas, toxic, n.o.s.<br>Compressed gas, toxic, n.o.s.<br>(Inhalation Hazard Zone A)       | 430 m (1400 ft) | 4.2 km (2.6 mi) | 8.4 km (5.2 mi) | 915 m (3000 ft) | 11.0+ km (7.0+ mi) | 11.0+ km (7.0+ mi) |
| 1955         | Compressed gas, toxic, n.o.s.<br>(Inhalation Hazard Zone B)  | 60 m (200 ft)   | 0.5 km (0.3 mi) | 1.6 km (1.0 mi) | 430 m (1400 ft) | 4.0 km (2.5 mi)    | 9.8 km (6.1 mi)    |
| 1955         | Compressed gas, toxic, n.o.s.<br>(Inhalation Hazard Zone C)  | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi) | 215 m (700 ft)  | 3.1 km (1.9 mi)    | 7.2 km (4.5 mi)    |
| 1955         | Compressed gas, toxic, n.o.s.<br>(Inhalation Hazard Zone D)  | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi) | 185 m (600 ft)  | 1.6 km (1.0 mi)    | 4.3 km (2.7 mi)    |
| 1955<br>1955 | Liquefied gas, poisonous, n.o.s.<br>Liquefied gas, poisonous, n.o.s.<br>(Inhalation Hazard Zone A) | 430 m (1400 ft) | 4.2 km (2.6 mi) | 8.4 km (5.2 mi) | 915 m (3000 ft) | 11.0+ km (7.0+ mi) | 11.0+ km (7.0+ mi) |
| 1955         | Liquefied gas, poisonous, n.o.s.<br>(Inhalation Hazard Zone B)                                     | 60 m (200 ft)   | 0.5 km (0.3 mi) | 1.6 km (1.0 mi) | 430 m (1400 ft) | 4.0 km (2.5 mi)    | 9.8 km (6.1 mi)    |
| 1955         | Liquefied gas, poisonous, n.o.s.<br>(Inhalation Hazard Zone C)                                     | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi) | 215 m (700 ft)  | 3.1 km (1.9 mi)    | 7.2 km (4.5 mi)    |
| 1955         | Liquefied gas, poisonous, n.o.s.<br>(Inhalation Hazard Zone D)                                     | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi) | 185 m (600 ft)  | 1.6 km (1.0 mi)    | 4.3 km (2.7 mi)    |
| 1955<br>1955 | Liquefied gas, toxic, n.o.s.<br>Liquefied gas, toxic, n.o.s.<br>(Inhalation Hazard Zone A)         | 430 m (1400 ft) | 4.2 km (2.6 mi) | 8.4 km (5.2 mi) | 915 m (3000 ft) | 11.0+ km (7.0+ mi) | 11.0+ km (7.0+ mi) |
| 1955         | Liquefied gas, toxic, n.o.s.<br>(Inhalation Hazard Zone B)   | 60 m (200 ft)   | 0.5 km (0.3 mi) | 1.6 km (1.0 mi) | 430 m (1400 ft) | 4.0 km (2.5 mi)    | 9.8 km (6.1 mi)    |
| 1955         | Liquefied gas, toxic, n.o.s.<br>(Inhalation Hazard Zone C)   | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi) | 215 m (700 ft)  | 3.1 km (1.9 mi)    | 7.2 km (4.5 mi)    |
| 1955         | Liquefied gas, toxic, n.o.s.<br>(Inhalation Hazard Zone D)   | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi) | 185 m (600 ft)  | 1.6 km (1.0 mi)    | 4.3 km (2.7 mi)    |

"+" means distance can be larger in certain atmospheric conditions

TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

| ID No. | NAME OF MATERIAL   | SMALL SPILLS<br>(From a small package or small leak from a large package) |                 |  |                             | LARGE SPILLS<br>(From a large package or from many small packages) |                 |  |                             |
|--------|--|---|-----------------|--|-----------------------------|--|-----------------|--|-----------------------------|
|        |  | First ISOLATE<br>in all Directions<br>Meters (Feet)                       |                 | Then PROTECT<br>persons Downwind during- |                             | First ISOLATE<br>in all Directions<br>Meters (Feet)                |                 | Then PROTECT<br>persons Downwind during- |                             |
|        |  |   |                 | DAY<br>Kilometers (Miles)                | NIGHT<br>Kilometers (Miles) |  |                 | DAY<br>Kilometers (Miles)                | NIGHT<br>Kilometers (Miles) |
| 1955   | Methyl bromide and nonflammable, nonliquefied compressed gas mixture | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.3 km (0.2 mi)                          | 95 m (300 ft)               | 0.5 km (0.3 mi)  | 1.4 km (0.9 mi) |  |                             |
| 1955   | Organic phosphate compound mixed with compressed gas                 | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi)                          | 400 m (1300 ft)             | 4.0 km (2.5 mi)  | 7.2 km (4.5 mi) |  |                             |
| 1955   | Organic phosphate mixed with compressed gas                          |   |                 |  |                             |  |                 |  |                             |
| 1955   | Organic phosphorus compound mixed with compressed gas                |   |                 |  |                             |  |                 |  |                             |
| 1967   | Insecticide gas, poisonous, n.o.s.                                   | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi)                          | 400 m (1300 ft)             | 4.0 km (2.5 mi)  | 7.2 km (4.5 mi) |  |                             |
| 1967   | Insecticide gas, toxic, n.o.s.                                       |   |                 |  |                             |  |                 |  |                             |
| 1967   | Parathion and compressed gas mixture                                 | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.3 km (0.2 mi)                          | 95 m (300 ft)               | 1.0 km (0.6 mi)  | 3.2 km (2.0 mi) |  |                             |
| 1975   | Dinitrogen tetroxide and Nitric oxide mixture                        | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi)                          | 155 m (500 ft)              | 1.3 km (0.8 mi)  | 3.5 km (2.2 mi) |  |                             |
| 1975   | Nitric oxide and Dinitrogen tetroxide mixture                        |   |                 |  |                             |  |                 |  |                             |
| 1975   | Nitric oxide and Nitrogen dioxide mixture                            |   |                 |  |                             |  |                 |  |                             |
| 1975   | Nitric oxide and Nitrogen tetroxide mixture                          |   |                 |  |                             |  |                 |  |                             |
| 1975   | Nitrogen dioxide and Nitric oxide mixture                            |   |                 |  |                             |  |                 |  |                             |
| 1975   | Nitrogen tetroxide and Nitric oxide mixture                          |   |                 |  |                             |  |                 |  |                             |
| 1994   | Iron pentacarbonyl   | 30 m (100 ft)   | 0.3 km (0.2 mi) | 0.6 km (0.4 mi)                          | 125 m (400 ft)              | 1.1 km (0.7 mi)  | 2.4 km (1.5 mi) |  |                             |
| 2004   | Magnesium diamide<br>(when spilled in water)                         | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.2 km (0.1 mi)                          | 60 m (200 ft)               | 0.5 km (0.3 mi)  | 1.3 km (0.8 mi) |  |                             |

|              |   |                 |                 |                 |                 |                    |                    |
|--------------|---|-----------------|-----------------|-----------------|-----------------|--------------------|--------------------|
| 2011         | Magnesium phosphide<br>(when spilled in water)                      | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.8 km (0.5 mi) | 245 m (800 ft)  | 2.3 km (1.4 mi)    | 6.0 km (3.7 mi)    |
| 2012         | Potassium phosphide<br>(when spilled in water)                      | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.5 km (0.3 mi) | 155 m (500 ft)  | 1.3 km (0.8 mi)    | 4.0 km (2.5 mi)    |
| 2013         | Strontium phosphide<br>(when spilled in water)                      | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.5 km (0.3 mi) | 155 m (500 ft)  | 1.3 km (0.8 mi)    | 3.7 km (2.3 mi)    |
| 2032<br>2032 | Nitric acid, fuming<br>Nitric acid, red fuming                      | 95 m (300 ft)   | 0.3 km (0.2 mi) | 0.5 km (0.3 mi) | 400 m (1300 ft) | 1.3 km (0.8 mi)    | 3.5 km (2.2 mi)    |
| 2186         | Hydrogen chloride, refrigerated liquid                              | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi) | 185 m (600 ft)  | 1.6 km (1.0 mi)    | 4.3 km (2.7 mi)    |
| 2188         | Arsine  | 60 m (200 ft)   | 0.5 km (0.3 mi) | 2.1 km (1.3 mi) | 335 m (1100 ft) | 3.2 km (2.0 mi)    | 6.6 km (4.1 mi)    |
| 2188         | SA (when used as a weapon)  | 60 m (200 ft)   | 0.8 km (0.5 mi) | 2.4 km (1.5 mi) | 400 m (1300 ft) | 4.0 km (2.5 mi)    | 8.0 km (5.0 mi)    |
| 2189         | Dichlorosilane  | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.0 km (0.6 mi) | 245 m (800 ft)  | 2.4 km (1.5 mi)    | 6.3 km (3.9 mi)    |
| 2190<br>2190 | Oxygen difluoride<br>Oxygen difluoride, compressed                  | 430 m (1400 ft) | 4.2 km (2.6 mi) | 8.4 km (5.2 mi) | 915 m (3000 ft) | 11.0+ km (7.0+ mi) | 11.0+ km (7.0+ mi) |
| 2191<br>2191 | Sulfuryl fluoride<br>Sulphuryl fluoride                             | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.3 km (0.2 mi) | 95 m (300 ft)   | 0.8 km (0.5 mi)    | 2.3 km (1.4 mi)    |
| 2192         | Germane   | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.8 km (0.5 mi) | 275 m (900 ft)  | 2.7 km (1.7 mi)    | 6.6 km (4.1 mi)    |
| 2194         | Selenium hexafluoride   | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi) | 245 m (800 ft)  | 2.3 km (1.4 mi)    | 6.0 km (3.7 mi)    |
| 2195         | Tellurium hexafluoride  | 60 m (200 ft)   | 0.6 km (0.4 mi) | 2.3 km (1.4 mi) | 365 m (1200 ft) | 3.5 km (2.2 mi)    | 7.6 km (4.7 mi)    |
| 2196         | Tungsten hexafluoride   | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi) | 155 m (500 ft)  | 1.3 km (0.8 mi)    | 3.7 km (2.3 mi)    |
| 2197         | Hydrogen iodide, anhydrous  | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.5 km (0.3 mi) | 95 m (300 ft)   | 0.8 km (0.5 mi)    | 2.6 km (1.6 mi)    |
| 2198<br>2198 | Phosphorus pentafluoride<br>Phosphorus pentafluoride,<br>compressed | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.1 km (0.7 mi) | 125 m (400 ft)  | 1.1 km (0.7 mi)    | 3.5 km (2.2 mi)    |
| 2199         | Phosphine   | 95 m (300 ft)   | 0.3 km (0.2 mi) | 1.3 km (0.8 mi) | 490 m (1600 ft) | 1.8 km (1.1 mi)    | 5.5 km (3.4 mi)    |
| 2202         | Hydrogen selenide, anhydrous  | 185 m (600 ft)  | 1.8 km (1.1 mi) | 5.6 km (3.5 mi) | 915 m (3000 ft) | 10.8 km (6.7 mi)   | 11.0+ km (7.0+ mi) |
| 2204<br>2204 | Carbonyl sulfide<br>Carbonyl sulphide                               | 30 m (100 ft)   | 0.2 km (0.1 mi) | 0.6 km (0.4 mi) | 215 m (700 ft)  | 1.9 km (1.2 mi)    | 5.6 km (3.5 mi)    |

"+" means distance can be larger in certain atmospheric conditions

## TABLE OF WATER-REACTIVE MATERIALS WHICH PRODUCE TOXIC GASES

### Materials Which Produce Large Amounts of Toxic-by-Inhalation (TIH) Gas(es) When Spilled in Water

| ID No. | Guide No. | Name of Material  | TIH Gas(es) Produced             |
|--------|-----------|---|----------------------------------|
| 1834   | 137       | Sulfuryl chloride   | HCl SO <sub>3</sub>              |
| 1834   | 137       | Sulphuryl chloride  | HCl SO <sub>3</sub>              |
| 1836   | 137       | Thionyl chloride  | HCl SO <sub>2</sub>              |
| 1838   | 137       | Titanium tetrachloride  | HCl                              |
| 1898   | 156       | Acetyl iodide   | HI                               |
| 1923   | 135       | Calcium dithionite  | H <sub>2</sub> S SO <sub>2</sub> |
| 1923   | 135       | Calcium hydrosulfite  | H <sub>2</sub> S SO <sub>2</sub> |
| 1923   | 135       | Calcium hydrosulphite   | H <sub>2</sub> S SO <sub>2</sub> |
| 1939   | 137       | Phosphorus oxybromide   | HBr                              |
| 1939   | 137       | Phosphorus oxybromide, solid  | HBr                              |
| 2004   | 135       | Magnesium diamide   | NH <sub>3</sub>                  |
| 2011   | 139       | Magnesium phosphide   | PH <sub>3</sub>                  |
| 2012   | 139       | Potassium phosphide   | PH <sub>3</sub>                  |
| 2013   | 139       | Strontium phosphide   | PH <sub>3</sub>                  |
| 2442   | 156       | Trichloroacetyl chloride  | HCl                              |
| 2495   | 144       | Iodine pentafluoride  | HF                               |
| 2576   | 137       | Phosphorus oxybromide, molten   | HBr                              |
| 2691   | 137       | Phosphorus pentabromide   | HBr                              |
| 2692   | 157       | Boron tribromide  | HBr                              |
| 2806   | 138       | Lithium nitride   | NH <sub>3</sub>                  |
| 2977   | 166       | Radioactive material, Uranium hexafluoride, fissile                         | HF                               |
| 2977   | 166       | Uranium hexafluoride, fissile containing more than 1% Uranium-235           | HF                               |
| 2978   | 166       | Radioactive material, Uranium hexafluoride, non-fissile or fissile excepted | HF                               |

#### Chemical Symbols for TIH Gases:

|                 |                   |                  |                   |                 |                  |
|-----------------|-------------------|------------------|-------------------|-----------------|------------------|
| Br <sub>2</sub> | Bromine           | HF               | Hydrogen fluoride | PH <sub>3</sub> | Phosphine        |
| Cl <sub>2</sub> | Chlorine          | HI               | Hydrogen iodide   | SO <sub>2</sub> | Sulfur dioxide   |
| HBr             | Hydrogen bromide  | H <sub>2</sub> S | Hydrogen sulfide  | SO <sub>2</sub> | Sulphur dioxide  |
| HCl             | Hydrogen chloride | H <sub>2</sub> S | Hydrogen sulphide | SO <sub>3</sub> | Sulfur trioxide  |
| HCN             | Hydrogen cyanide  | NH <sub>3</sub>  | Ammonia           | SO <sub>3</sub> | Sulphur trioxide |