

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  |          | Then PROTECT<br>persons Downwind during- |                             | First ISOLATE<br>in all Directions                                 |           | Then PROTECT<br>persons Downwind during- |                             |
|              |  | Meters  | (Feet)   | DAY<br>Kilometers (Miles)                | NIGHT<br>Kilometers (Miles) | Meters   | (Feet)    | DAY<br>Kilometers (Miles)                | NIGHT<br>Kilometers (Miles) |
| 1082<br>1082 | Trifluorochloroethylene<br>Trifluorochloroethylene,<br>inhibited | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.2 km<br>(0.1 mi)          | 30 m   | (100 ft)  | 0.3 km<br>(0.2 mi)                       | 0.8 km<br>(0.5 mi)          |
| 1092         | Acrolein, inhibited  | 60 m  | (200 ft) | 0.5 km<br>(0.3 mi)                       | 1.6 km<br>(1.0 mi)          | 400 m  | (1300 ft) | 3.9 km<br>(2.4 mi)                       | 7.9 km<br>(4.9 mi)          |
| 1098         | Allyl alcohol  | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.2 km<br>(0.1 mi)          | 30 m   | (100 ft)  | 0.3 km<br>(0.2 mi)                       | 0.6 km<br>(0.4 mi)          |
| 1135         | Ethylene chlorohydrin  | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.3 km<br>(0.2 mi)          | 60 m   | (200 ft)  | 0.6 km<br>(0.4 mi)                       | 1.3 km<br>(0.8 mi)          |
| 1143<br>1143 | Crotonaldehyde, inhibited<br>Crotonaldehyde, stabilized          | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.2 km<br>(0.1 mi)          | 30 m   | (100 ft)  | 0.3 km<br>(0.2 mi)                       | 0.8 km<br>(0.5 mi)          |
| 1162         | Dimethyldichlorosilane<br>(when spilled in water)                | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.3 km<br>(0.2 mi)          | 125 m  | (400 ft)  | 1.1 km<br>(0.7 mi)                       | 2.9 km<br>(1.8 mi)          |
| 1163<br>1163 | 1,1-Dimethylhydrazine<br>Dimethylhydrazine, unsymmetrical        | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.2 km<br>(0.1 mi)          | 60 m   | (200 ft)  | 0.5 km<br>(0.3 mi)                       | 1.1 km<br>(0.7 mi)          |
| 1182         | Ethyl chloroformate  | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.3 km<br>(0.2 mi)          | 60 m   | (200 ft)  | 0.6 km<br>(0.4 mi)                       | 1.4 km<br>(0.9 mi)          |
| 1185         | Ethyleneimine, inhibited   | 30 m  | (100 ft) | 0.3 km<br>(0.2 mi)                       | 0.8 km<br>(0.5 mi)          | 155 m  | (500 ft)  | 1.4 km<br>(0.9 mi)                       | 3.5 km<br>(2.2 mi)          |
| 1238         | Methyl chloroformate   | 30 m  | (100 ft) | 0.3 km<br>(0.2 mi)                       | 1.1 km<br>(0.7 mi)          | 155 m  | (500 ft)  | 1.6 km<br>(1.0 mi)                       | 3.4 km<br>(2.1 mi)          |
| 1239         | Methyl chloromethyl ether  | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.6 km<br>(0.4 mi)          | 125 m  | (400 ft)  | 1.1 km<br>(0.7 mi)                       | 2.7 km<br>(1.7 mi)          |
| 1242         | Methyldichlorosilane<br>(when spilled in water)                  | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.2 km<br>(0.1 mi)          | 60 m   | (200 ft)  | 0.5 km<br>(0.3 mi)                       | 1.6 km<br>(1.0 mi)          |
| 1244         | Methylhydrazine  | 30 m  | (100 ft) | 0.3 km<br>(0.2 mi)                       | 0.8 km<br>(0.5 mi)          | 125 m  | (400 ft)  | 1.1 km<br>(0.7 mi)                       | 2.7 km<br>(1.7 mi)          |
| 1250         | Methyltrichlorosilane<br>(when spilled in water)                 | 30 m  | (100 ft) | 0.2 km<br>(0.1 mi)                       | 0.3 km<br>(0.2 mi)          | 125 m  | (400 ft)  | 1.1 km<br>(0.7 mi)                       | 2.9 km<br>(1.8 mi)          |
| 1251<br>1251 | Methyl vinyl ketone<br>Methyl vinyl ketone, stabilized           | 155 m   | (500 ft) | 1.3 km<br>(0.8 mi)                       | 3.4 km<br>(2.1 mi)          | 915 m  | (3000 ft) | 8.7 km<br>(5.4 mi)                       | 11.0+ km<br>(7.0+ mi)       |

|      |   |                |                 |                 |                 |                 |                  |
|------|---|----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| 1259 | Nickel carbonyl   | 60 m (200 ft)  | 0.6 km (0.4 mi) | 2.1 km (1.3 mi) | 215 m (700 ft)  | 2.1 km (1.3 mi) | 4.3 km (2.7 mi)  |
| 1295 | Trichlorosilane<br>(when spilled in water)  | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.3 km (0.2 mi) | 125 m (400 ft)  | 1.3 km (0.8 mi) | 3.2 km (2.0 mi)  |
| 1298 | Trimethylchlorosilane<br>(when spilled in water)  | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.2 km (0.1 mi) | 95 m (300 ft)   | 0.8 km (0.5 mi) | 2.3 km (1.4 mi)  |
| 1340 | Phosphorus pentasulfide, free from yellow or white Phosphorus<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) | 3.2 km (2.0 mi)  |
| 1340 | Phosphorus pentasulphide, free from yellow or white Phosphorus<br>(when spilled in water) |                |                 |                 |                 |                 |                  |
| 1360 | Calcium phosphide<br>(when spilled in water)  | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.8 km (0.5 mi) | 215 m (700 ft)  | 2.1 km (1.3 mi) | 5.3 km (3.3 mi)  |
| 1380 | Pentaborane   | 155 m (500 ft) | 1.3 km (0.8 mi) | 3.7 km (2.3 mi) | 765 m (2500 ft) | 6.6 km (4.1 mi) | 10.6 km (6.6 mi) |
| 1384 | Sodium dithionite<br>(when spilled in water)  | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.2 km (0.1 mi) | 30 m (100 ft)   | 0.3 km (0.2 mi) | 1.1 km (0.7 mi)  |
| 1384 | Sodium hydrosulfite<br>(when spilled in water)  |                |                 |                 |                 |                 |                  |
| 1384 | Sodium hydrosulphite<br>(when spilled in water)   |                |                 |                 |                 |                 |                  |
| 1397 | Aluminum 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)  | 2.4 km (1.5 mi) | 6.4 km (4.0 mi)  |
| 1412 | Lithium amide<br>(when spilled in water)  | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.2 km (0.1 mi) | 95 m (300 ft)   | 0.8 km (0.5 mi) | 1.9 km (1.2 mi)  |
| 1419 | Magnesium aluminum phosphide<br>(when spilled in water)                                   | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.8 km (0.5 mi) | 215 m (700 ft)  | 2.1 km (1.3 mi) | 5.5 km (3.4 mi)  |
| 1432 | Sodium 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)  | 1.4 km (0.9 mi) | 4.0 km (2.5 mi)  |
| 1433 | Stannic phosphides<br>(when spilled in water)   | 30 m (100 ft)  | 0.2 km (0.1 mi) | 0.8 km (0.5 mi) | 185 m (600 ft)  | 1.6 km (1.0 mi) | 4.7 km (2.9 mi)  |
| 1510 | Tetranitromethane   | 30 m (100 ft)  | 0.3 km (0.2 mi) | 0.5 km (0.3 mi) | 60 m (200 ft)   | 0.6 km (0.4 mi) | 1.3 km (0.8 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             |
|--------|-----------|---|----------------------------------|
| 1162   | 151       | Dimethyldichlorosilane  | HCl                              |
| 1242   | 139       | Methyldichlorosilane  | HCl                              |
| 1250   | 155       | Methyltrichlorosilane   | HCl                              |
| 1295   | 139       | Trichlorosilane   | HCl                              |
| 1298   | 155       | Trimethylchlorosilane   | HCl                              |
| 1340   | 139       | Phosphorus pentasulfide, free from yellow and white Phosphorus  | H <sub>2</sub> S                 |
| 1340   | 139       | Phosphorus pentasulphide, free from yellow and white Phosphorus | H <sub>2</sub> S                 |
| 1360   | 139       | Calcium phosphide   | PH <sub>3</sub>                  |
| 1384   | 135       | Sodium dithionite   | H <sub>2</sub> S SO <sub>2</sub> |
| 1384   | 135       | Sodium hydrosulfite   | H <sub>2</sub> S SO <sub>2</sub> |
| 1384   | 135       | Sodium hydrosulphite  | H <sub>2</sub> S SO <sub>2</sub> |
| 1397   | 139       | Aluminum phosphide  | PH <sub>3</sub>                  |
| 1412   | 139       | Lithium amide   | NH <sub>3</sub>                  |
| 1419   | 139       | Magnesium aluminum phosphide                                    | PH <sub>3</sub>                  |
| 1432   | 139       | Sodium phosphide  | PH <sub>3</sub>                  |
| 1433   | 139       | Stannic phosphides  | PH <sub>3</sub>                  |
| 1541   | 155       | Acetone cyanohydrin, stabilized                                 | HCN                              |
| 1680   | 157       | Potassium cyanide   | HCN                              |
| 1689   | 157       | Sodium cyanide  | HCN                              |
| 1714   | 139       | Zinc phosphide  | PH <sub>3</sub>                  |
| 1716   | 156       | Acetyl bromide  | HBr                              |
| 1717   | 132       | Acetyl chloride   | HCl                              |
| 1724   | 155       | Allyl trichlorosilane, stabilized                               | HCl                              |
| 1725   | 137       | Aluminum bromide, anhydrous                                     | HBr                              |

#### 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 |