



## 442 Threshold Limit Values (TLV) and Immediately Dangerous to Life and Health (IDLH) values

Matheson Tri-Gas assumes no responsibility for the accuracy of the information listed. As TLV and IDLH values may change, the current guidelines from the following sources should be consulted for up-to-date accuracy.

Sources: TLV-TWA and TLV-STEL data extracted from the 2005 Threshold Limit Values & Biological Exposure Indices, copyright 2005 by the American Conference of Governmental Industrial Hygienists (ACGIH). IDLH values extracted from the NIOSH Pocket Guide to Chemical Hazards, 2004 published by the National Institute for Occupational Safety and Health (NIOSH).

Note: All concentrations in parts per million (ppm) unless otherwise noted. "C" indicates Ceiling Limit.

| Substance             | TLV TWA | TLV STEL                | IDLH   |
|-----------------------|---------|-------------------------|--------|
| Acetaldehyde          | -       | 25C                     | 2,000  |
| Acetic Acid           | 10      | 15                      | 50     |
| Acetone               | 500     | 750                     | 2,500  |
| Acetonitrile          | 20      | -                       | 500    |
| Acrolein              | -       | 0.1C                    | 2      |
| Acrylonitrile         | 2       | -                       | 85     |
| Ammonia               | 25      | 35                      | 300    |
| Arsine                | 0.05    | -                       | 3      |
| Benzene               | 0.5     | 2.5                     | 500    |
| Boron Trifluoride     | -       | 1C                      | 25     |
| Bromine               | 0.1     | 0.2                     | 3      |
| 1,3 - Butadiene       | 2       | -                       | 2,000  |
| Butane                | 1,000   | -                       | -      |
| n-Butyl Acetate       | 150     | 200                     | 1,700  |
| n-Butyl Acrylate      | 2       | -                       | -      |
| n-Butyl Alcohol       | 20      | -                       | 1,400  |
| Butyl Mercaptan       | 0.5     | -                       | 500    |
| Carbon Dioxide        | 5,000   | 30,000                  | 40,000 |
| Carbon Disulfide      | 10      | -                       | 500    |
| Carbon Monoxide       | 25      | -                       | 1,200  |
| Carbon Tetrachloride  | 5       | 10                      | 200    |
| Chlorine              | 0.5     | 1                       | 10     |
| Chlorine Dioxide      | 0.1     | 0.3                     | 5      |
| Chlorobenzene         | 10      | -                       | 1,000  |
| Chloroform            | 10      | -                       | 50     |
| Chloropicrin          | 0.1     | -                       | 2      |
| Cresol                | 5       | -                       | 250    |
| Cyanogen              | 10      | -                       | -      |
| Cyanogen Chloride     | -       | 0.3C                    | -      |
| Cyclohexane           | 100     | -                       | 1,300  |
| Cyclohexanol          | 50      | -                       | 400    |
| Cyclohexanone         | 20      | 50                      | 700    |
| Diborane              | 0.1     | -                       | 15     |
| p-Dichlorobenzene     | 10      | -                       | 150    |
| 1,1, - Dichloroethane | 100     | -                       | 3,000  |
| Dimethylamine         | 5       | 15                      | 500    |
| Dioxane               | 20      | -                       | 500    |
| Ethanolamine          | 3       | 6                       | 30     |
| Ethyl Acetate         | 400     | -                       | 2,000  |
| Ethyl Acrylate        | 5       | 15                      | 300    |
| Ethyl Alcohol         | 1,000   | -                       | 3,300  |
| Ethylamine            | 5       | 15                      | 600    |
| Ethyl Benzene         | 100     | 125                     | 800    |
| Ethyl Chloride        | 100     | -                       | 3,800  |
| Ethylene Dichloride   | 10      | -                       | 50     |
| Ethylene Glycol       | -       | 100 mg/m <sup>3</sup> C | -      |
| Ethylene Oxide        | 1       | -                       | 800    |
| Ethyl Ether           | 400     | 500                     | 1,900  |
| Ethyl Mercaptan       | 0.5     | -                       | 500    |

| Substance                | TLV TWA | TLV STEL | IDLH  |
|--------------------------|---------|----------|-------|
| Fluorine                 | 1       | 2        | 25    |
| Formaldehyde             | -       | 0.3C     | 20    |
| Formic Acid              | 5       | 10       | 30    |
| Furfural                 | 2       | -        | 100   |
| Gasoline                 | 300     | 500      | -     |
| Germanium tetrahydride   | 0.2     | -        | -     |
| Glutaraldehyde           | -       | 0.05C    | -     |
| Heptane                  | 400     | 500      | 750   |
| n-Hexane                 | 50      | -        | 1,100 |
| Hydrazine                | 0.01    | -        | 50    |
| Hydrogen Bromide         | -       | 2C       | 30    |
| Hydrogen Chloride        | -       | 2C       | 50    |
| Hydrogen Cyanide         | -       | 4.7C     | 50    |
| Hydrogen Fluoride        | 0.5     | 2C       | 30    |
| Hydrogen Peroxide        | 1       | -        | 75    |
| Hydrogen Selenide        | 0.05    | -        | 1     |
| Hydrogen Sulfide         | 10      | 15       | 100   |
| Iodine                   | -       | 0.1C     | 2     |
| Isopropyl Alcohol        | 200     | 400      | 2,000 |
| Methyl Alcohol           | 200     | 250      | 6,000 |
| Methylamine              | 5       | 15       | 100   |
| Methyl Bromide           | 1       | -        | 250   |
| Methyl Chloride          | 50      | 100      | 2,000 |
| Methylene Chloride       | 50      | -        | 2,300 |
| Methyl Ethyl Ketone      | 200     | 300      | 3,000 |
| Methyl Mercaptan         | 0.5     | -        | 150   |
| Methyl Methacrylate      | 50      | 100      | 1,000 |
| Naphthalene              | 10      | 15       | 250   |
| Nitric Acid              | 2       | 4        | 25    |
| Nitric Oxide             | 25      | -        | 100   |
| Nitrobenzene             | 1       | -        | 200   |
| Nitrogen Dioxide         | 3       | 5        | 20    |
| Nitrogen Trifluoride     | 10      | -        | 1,000 |
| Nitrous Oxide            | 50      | -        | -     |
| Octane                   | 300     | -        | 1,000 |
| Ozone                    | 0.05    | -        | 5     |
| Pentane                  | 600     | -        | 1,500 |
| Perchloroethylene        | 25      | 100      | 150   |
| Phenol                   | 5       | -        | 250   |
| Phosgene                 | 0.1     | -        | 2     |
| Phosphine                | 0.3     | 1        | 50    |
| Pyridine                 | 1       | -        | 1,000 |
| Silane                   | 5       | -        | -     |
| Styrene                  | 20      | 40       | 700   |
| Sulfur Dioxide           | 2       | 5        | 100   |
| Sulfur Hexafluoride      | 1,000   | -        | -     |
| Toluene                  | 50      | -        | 500   |
| Toluene Diisocyanate     | 0.005   | 0.02     | 2.5   |
| 1,2,4 - Trichlorobenzene | -       | 5C       | -     |
| 1,1,2 - Trichloroethane  | 10      | -        | 100   |
| Trichloroethylene        | 50      | 100      | 1,000 |
| Triethylamine            | 1       | 3        | 200   |
| Trimethylamine           | 5       | 15       | -     |
| Trimethylbenzene         | 25      | -        | -     |
| Turpentine               | 20      | -        | 800   |
| Vinyl Acetate            | 10      | 15       | -     |
| Vinyl Bromide            | 0.5     | -        | -     |
| Vinyl Chloride           | 1       | -        | -     |
| Xylenes                  | 100     | 150      | 900   |