**Chemical:** Hydrogen Cyanide (#77)

**TLV - TWA:** 10 ppm (11 mg/m³)
**TVL - STEL:**

<table>
<thead>
<tr>
<th>Symptoms/Conditions</th>
<th>Level</th>
<th>Acute/Chronic</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incompatible with life</td>
<td>&gt;90 ppm</td>
<td>Acute</td>
<td>D:R1P314</td>
<td>30 min. exposure</td>
</tr>
<tr>
<td>Headache, weakness, taste and smell changes, irritation of throat, vomiting, effort dyspnea, lacrimation, abdominal colic, precordial pain, nervous instability</td>
<td>4-12 ppm</td>
<td>Chronic</td>
<td>D:R9P314</td>
<td>7 yr exposure of workers</td>
</tr>
<tr>
<td>Thyroid gland enlargement</td>
<td>?</td>
<td></td>
<td>D:R9P314</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusions**

Acute irritant, acute systemic and chronic toxicant
Starting point 10 ppm
Adjustment factors
Recommended AAL
- 1 ppm (1 hr)
- 0.12 ppm (24 hr)

**Comments**

Many investigators (D:R1P314) deny the existence of chronic hydrogen cyanide poisoning, though NIOSH in its criteria document cites a number of studies in favor of a chronic effect. This compound is rapidly metabolized and will not accumulate in the body even with repeated exposures.

**AAL:**
- 1 ppm (1.1 mg/m³), 1-hr averaging time, 1987
- 0.12 ppm (0.14 mg/m³), 24-hr averaging time, 1987

**D:** Documentation of Threshold Limit Values, 1986 (R: reference, P: page)
**R:** Registry of Toxic Effects of Chemical Substances