CHEMICAL: Maleic Anhydride (#44)

TLV - TWA: 0.25 ppm (1 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>Nasal irritation (within 1 min)</td>
<td>1.5-2 ppm</td>
<td>Acute</td>
<td>D:R3P353</td>
<td></td>
</tr>
<tr>
<td>Eye irritation (within 15 min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tendency to eye irritation</td>
<td>0.25 ppm</td>
<td>Acute</td>
<td>D:R3P353</td>
<td>Another source</td>
</tr>
<tr>
<td>Acute asthma and chronic bronchitis and keratitis</td>
<td>?</td>
<td>Acute and chronic</td>
<td>D:R3P353</td>
<td>Prolonged exposure of workers Severity = 1</td>
</tr>
<tr>
<td>Conjunctival and respiratory irritation</td>
<td>0.25-0.38</td>
<td>Acute</td>
<td>D:R5P353</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions

Acute irritant and chronic toxicant
Starting point 0.25 ppm (TWA)
Adjustment factors
Acute irritant 10
Chronic toxicant 10 x 2 (chronic) x 4 (continuous exposure) = 80

Recommended AAL 0.025 ppm (1 hr)
0.003 ppm (24 hr)

Comments

Although no exposure level is given for the study reporting chronic bronchitis and keratitis in exposed workers, the concentration must have been less than 2.5 ppm because the latter is extremely irritating and intolerable for prolonged exposures.

AAL: 0.025 ppm (0.1 mg/m³), 1-hr averaging time, 1987
0.003 ppm (0.012 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