In 1982 and 1983, the Drinking Water Program of the California Department of Health Services (DHS), now the Division of Drinking Water in the State Water Resources Control Board, provided advisory levels (then called “action levels” and now called “notification levels”) for a number of chemicals to the Central Valley Regional Water Quality Control Board. Many were pesticides that had not been detected in drinking water but which were nonetheless of concern because of their association with a particular site.

Some of those chemicals now have enforceable drinking water standards. The remaining chemicals are archived here, along with several others with advisory levels established in 1990-91. A number of them have been updated (see Table 1).

If a chemical is detected above its archived advisory level (AAL), the requirements and recommendations are the same as for chemicals detected above their notification levels and response levels (the latter for recommending removing a source from service—see Table 2).

More information on the derivation of the levels presented below is available at [http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/NotificationLevels.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/NotificationLevels.shtml).

**Table 1. Archived Advisory Levels**

Notes (which follow the Tables) include toxicological endpoint references, history, and other information, and are presented on the next page of this document. AAL updates due to more recent risk assessments are discussed in the Notes.

<table>
<thead>
<tr>
<th>Notes</th>
<th>Chemical</th>
<th>Archived Advisory Level (mg/L)</th>
<th>Year Established/Last Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aldicarb</td>
<td>0.007</td>
<td>1983/2000</td>
</tr>
<tr>
<td>2</td>
<td>Aldrin</td>
<td>0.000002</td>
<td>1982/2000</td>
</tr>
<tr>
<td>3</td>
<td>Baygon</td>
<td>0.03</td>
<td>1982/2000</td>
</tr>
<tr>
<td>4</td>
<td>a-Benzene Hexachloride</td>
<td>0.000015</td>
<td>1982/2000</td>
</tr>
<tr>
<td>5</td>
<td>b-Benzene Hexachloride</td>
<td>0.000025</td>
<td>1982/2000</td>
</tr>
<tr>
<td>6</td>
<td>Captan</td>
<td>0.015</td>
<td>1982/2000</td>
</tr>
<tr>
<td>7</td>
<td>Carbaryl</td>
<td>0.7</td>
<td>1986/2000</td>
</tr>
<tr>
<td>8</td>
<td>Chloropicrin</td>
<td>0.05</td>
<td>1986</td>
</tr>
<tr>
<td>9</td>
<td>Chlorpropham (CIPC)</td>
<td>1.2</td>
<td>1982/2000</td>
</tr>
</tbody>
</table>
Table 2. Recommendations for removing a drinking water source from service

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Toxicological Endpoint</th>
<th>Source Removal Level (multiples of Archived Action Level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>aldrin, a-BHC, b-BHC, captan, dieldrin, malathion, metam sodium</td>
<td>Cancer risk</td>
<td>100 times the AAL</td>
</tr>
<tr>
<td>All others</td>
<td>Noncancer effects</td>
<td>10 times the AAL</td>
</tr>
</tbody>
</table>

Notes on Chemicals with Archived Advisory Levels


2. Aldrin: ENDPOINT: Cancer. REFERENCE: Title 27 California Code of Regulations (27 CCR) §12705. HISTORY: DHS established a 1-µg/L AL in 1982. In 1983, DHS changed it to 0.05 µg/L, the limit of quantitation, and in 2000, to the current level.
3. **Baygon:** ENDPOINT: Noncancer—mild cholinergic symptoms and red blood cell cholinesterase inhibition in people. REFERENCE: IRIS, 1992. Baygon. The last revision for the oral RfD was July 1, 1992. HISTORY: DHS first established a 0.09-mg/L AL in 1982, and revised it the current level in 2000.

4. **a-Benzene Hexachloride:** ENDPOINT: Cancer. REFERENCE: 27 CCR §12705. HISTORY: AL for alpha-BHC was first established in 1982 as 0.7 µg/L, and revised to current level in 2000.

5. **b-Benzene Hexachloride:** ENDPOINT: Cancer. REFERENCE: 27 CCR §12705. HISTORY: AL for beta-BHC was first established in 1982 as 0.3 µg/L, and revised to current level in 2000.

6. **Captan:** ENDPOINT: Cancer. REFERENCE: 27 CCR §12705. HISTORY: AL for Captan was first established in 1982 as 350 µg/L, and revised to current level in 2000.

7. **Carbaryl:** ENDPOINT: Noncancer—kidney and liver toxicity in rats. REFERENCE: IRIS, 1998. The last revision for the oral RfD was January 31, 1987. HISTORY: AL for carbaryl was included on a June 1986 list of ALs as 60 µg/L, and revised to current level in 2000.

8. **Chloropicrin:** ENDPOINT: Noncancer. HISTORY: AL for chloropicrin was included on a March 1986 list of ALs at the current level. In 1985 DHS drinking water staff referred to a National Cancer Institute bioassay (NCI-CG-TR-65, 1978) in which rats exposed to chloropicrin experienced too much lethality to enable an evaluation of chloropicrin’s carcinogenicity. A taste and odor-based level of 37 µg/L was also established in 1986.


10. **1,3-Dichlorobenzene:** ENDPOINT: Noncancer—liver toxicity, organ and body weight changes in rats. AL uses 1,2-dichlorobenzene’s MCL (and public health goal) as a surrogate. HISTORY: AL was first established in 1983 as 130 µg/L (20 µg/L for taste and odor threshold), and revised to current level in 2000.

11. **Dieldrin:** ENDPOINT: Cancer. REFERENCE: 27 CCR §12705. HISTORY: AL was first established in 1983 as 0.05 µg/L, the limit of quantification, and revised to current level in 2000.

13. 2,4-Dimethylphenol: ENDPOINT: Noncancer—clinical signs and blood changes in mice. REFERENCE: IRIS, 1990-2002. 2,4-Dimethylphenol. The last revision for the oral RfD was November 1, 1990. HISTORY: AL was first established in 1983 as 400 µg/L for chlorinated systems (taste and odor threshold), and revised to current level in 2000.


17. Metam sodium: ENDPOINT: Cancer—angiosarcomas in mice exposed orally. REFERENCES: DPR, 2004. AL uses standard risk assessment methods and these assumptions: BW = 70 kg, DWC = 2 L/day, and Slope Factor (q₁) of 1.85x10⁻¹ (mg/kg-day)⁻¹. HISTORY: AL was first established as 0.02 mg/L in 1991 for noncancer endpoint (OEHHA, 1991) and, based on updated carcinogenicity data, revised to current level in 2010.

18. Methylisothiocyanate: ENDPOINT: Noncancer—decreased body weight, reduced water consumption in mice. REFERENCES: DPR, 2003. AL uses standard risk assessment methods and these assumptions: adult: BW = 70 kg, DWC = 2 L/day, and RSC = 0.2, NOAEL = 2.74 mg/kg/day. HISTORY: AL established as 0.05 mg/L in 1991 (OEHHA, 1991), Memorandum from A. Fan, OEHHA, to D. Spath, DHS, """"Cantara Incident: Interim Action Levels – N-Methyl dithiocarbamate (Metam Sodium); Methylisothiocyanate (MITC)"" July 19, 1991, and updated to current level in 2010, based on more recent chronic animal study data.

Archived Advisory Levels for Drinking Water

revision for the oral RfD was March 31, 1987 to 1991. HISTORY: AL was first established in 1982 as 30 µg/L, and revised to current level in 2000.


Additional References


