



---

---

<b>TIER I HUMAN HEALTH NONCANCER CRITERIA</b>
---

## ANTIMONY

CAS RN: 7440-36-0  
Water Solubility:  
Log  $K_{ow}$ :  
Reference Dose: 0.00035 mg/kg/day  
Carcinogenicity Weight-of-  
Evidence Classification: None

### Standard

The human health noncancer antimony criterion for drinking water sources is 10  $\mu\text{g/L}$ . The human health noncancer criterion for nondrinking water sources is 2,000  $\mu\text{g/L}$ .

### Calculations

BAF for inorganics is equal to the BCF (BCF from Stephen 1993)

$$\text{BAF} = 0; \text{FCM} = 1.0$$

$$\text{Human health BAF}_{T3} = 0$$

$$\text{Human health BAF}_{T4} = 0$$

Acceptable Daily Exposure:

From the IRIS database:

$$\text{ADE} = \frac{\text{LOAEL}}{\text{UF}} = \frac{0.35 \text{ mg/kg-day}}{1000} = 0.00035 \text{ mg/kg/d}$$

Calculation of Criteria:

$$\begin{aligned} \text{Non Drinking Water HNC} &= [(0.00035)(70)(0.8)]/0.01 + [(0.0036)(0) + (0.0114)(0)] \\ &= \mathbf{2,000 \mu\text{g/L}} \end{aligned}$$

$$\begin{aligned} \text{Drinking Water HNC} &= [(0.00035)(70)(0.8)]/2 + [(0.0036)(0) + (0.0114)(0)] \\ &= \mathbf{10 \mu\text{g/L}} \end{aligned}$$

## References

1. USEPA 1991. Integrated Risk Information System (IRIS database) chemical file for antimony (7440-36-0).
2. Stephen, C.E. 1993. Derivation of Proposed Human Health and Wildlife Bioaccumulation Factors for the Great Lakes Initiative. Environmental Research Laboratory, Office of Research and Development, U.S. EPA, Duluth, MN.

## Acronyms

ADE	Acceptable Daily Exposure
BAF	Bioaccumulation Factor
CAS RN	Chemical Abstract Service Registry Number
FCM	Food Chain Multiplier
IRIS	Integrated Risk Information System
K <sub>ow</sub>	Octanol-Water Partition Coefficient
LOAEL	Lowest observed adverse

	effect level
NOAEL	No observed adverse effect level
P (superscript)	Predicted value
RPLC	Reverse-phase Liquid Chromatography
UF	Uncertainty factor

## Revision History

March 12, 1999 - Criteria first developed

March 24, 2000 – Criteria rechecked (no modifications). Fact sheet updated.

## Contact Information

David B. Kallander  
Water Quality Standards Section  
Indiana Department of Environmental Management  
100 North Senate Ave., P.O. Box 6015  
Indianapolis, IN 46206-6015  
(317) 233-2472  
Email: [dkalland@dem.state.in.us](mailto:dkalland@dem.state.in.us)