

**Table 4  
OEHHA/ARB APPROVED 8-HOUR REFERENCE EXPOSURE LEVELS AND TARGET ORGANS\***

Substance	Chemical Abstract Number ▼	8-Hour Inhalation REL (µg/m <sup>3</sup> )	Date Value Reviewed [Added] ♦	Target Organs													
				Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin	
ACETALDEHYDE	75-07-0	3.0E+02	12/08													X	
ACROLEIN	107-02-8	7.0E-01	12/08													X	
ARSENIC AND COMPOUNDS (INORGANIC) <sup>TAC</sup>	7440-38-2 1016	1.5E-02	12/08			X	X							X		X	X
ARSINE	7784-42-1	1.5E-02	12/08			X	X							X		X	X
1,3-BUTADIENE <sup>TAC</sup>	106-99-0	9.0E+00	7/13												X		
FORMALDEHYDE <sup>TAC</sup>	50-00-0	9.0E+00	12/08													X	
MANGANESE AND COMPOUNDS	7439-96-5 [1132]	1.7E-01	12/08											X			
MERCURY AND COMPOUNDS (INORGANIC)	7439-97-6 [1133]	6.0E-02	12/08				X						X	X			
<i>Mercuric chloride</i>	7487-94-7	6.0E-02	12/08				✓						✓	✓			
NICKEL AND COMPOUNDS <sup>TAC</sup>	7440-02-0 [1145]	6.0E-02	3/12									X				X	
<i>Nickel acetate</i>	373-02-4	6.0E-02	3/12									✓				✓	
<i>Nickel carbonate</i>	3333-67-3	6.0E-02	3/12									✓				✓	
<i>Nickel carbonyl</i>	13463-39-3	6.0E-02	3/12									✓				✓	
<i>Nickel hydroxide</i>	12054-48-7	6.0E-02	3/12									✓				✓	
<i>Nickelocene</i>	1271-28-9	6.0E-02	3/12									✓				✓	
<i>NICKEL OXIDE</i>	1313-99-1	6.0E-02	3/12									✓				✓	
<i>Nickel refinery dust from the pyrometallurgical process</i>	1146	6.0E-02	3/12									✓				✓	
<i>Nickel subsulfide</i>	12035-72-2	6.0E-02	3/12									✓				✓	

Purpose: The purpose of this reference table is to provide a quick list of all health values that have been approved by the Office of Environmental Health Hazard Assessment (OEHHA) and the Air Resources Board (ARB). The OEHHA has developed and adopted new risk assessment guidelines that update and replace the California Air Pollution Control Officers Association's (CAPCOA) *Air Toxics "Hot Spots" Program Revised 1992 Risk Assessment Guidelines, October 1993*. The OEHHA has adopted four technical support documents for these guidelines, which can be found on their website ([http://www.oehha.ca.gov/air/hot\\_spots/index.html](http://www.oehha.ca.gov/air/hot_spots/index.html)). This table lists the OEHHA adopted 8-hour RELs. OEHHA is still in the process of adopting new health values. Therefore, new health values will periodically be added to, or deleted from, this table. Users of this table are advised to monitor the OEHHA website ([www.oehha.ca.gov](http://www.oehha.ca.gov)) for any updates to the health values.

\* Substances written in *italics* and with a ✓ do not have explicit OEHHA approved health values, but are included in this table to clarify applicability of OEHHA adopted health effects values to individual or grouped substances listed in the *Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines*, Appendix A-1 list of "Substances For Which Emissions Must Be Quantified".

▼ Chemical Abstract Service Number (CAS): For chemical groupings and mixtures where a CAS number is not applicable, the 4-digit code used in the *Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) Report* is listed. The 4-digit codes enclosed in brackets [ ] are codes that have been phased out, but may still appear on previously reported Hot Spots emissions. For information on the origin and use of the 4-digit code, see the EICG report.

- ◆ Date Value Reviewed [Added]: This column lists the date that the health value was last reviewed by OEHHA and the Scientific Review Panel, and/or approved for use in the AB 2588 Air Toxics Hot Spots Program. If the health value is unchanged since it was first approved for use in the “Hot Spots” Program, then the date that the value was first approved for use by CAPCOA is listed within the brackets [ ].
  - On December 19, 2008, OEHHA adopted new 8-hour RELs for acetaldehyde, acrolein, arsenic, formaldehyde, manganese, and mercury. The most current health values can be found at: <http://www.oehha.ca.gov/air/allrels.html>. Note that the 8-hour RELs are not included in the HARP program. These health factors will be added after OEHHA approves the Guidelines Manual (Part V).
  - On March 23, 2012, OEHHA adopted revised acute, 8-hour and chronic RELs for nickel and nickel compounds. The values of the RELs are listed in the table at: [http://www.oehha.ca.gov/air/chronic\\_rels/032312CREL.html](http://www.oehha.ca.gov/air/chronic_rels/032312CREL.html).
  - On July 29, 2013, OEHHA adopted an acute and an 8-hour REL and a revised chronic REL for 1,3-butadiene. [Download the final document RELs for 1,3-butadiene.](#)

TAC Toxic Air Contaminant: The Air Resources Board has identified this substance as a Toxic Air Contaminant.