

**LAKE COUNTY
AIR QUALITY MANAGEMENT DISTRICT
2617 S. MAIN ST., LAKEPORT, CA 95453**



**AB 2588 AIR TOXICS “HOT SPOTS” PROGRAM
2024 ANNUAL REPORT**

BY DOUGLAS GEARHART, APCO, ELIZABETH KNIGHT, DAPCO
AND NATHAN KING, AQE
DECEMBER 16, 2025

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Preface

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) is a State of California public right-to-know law requiring local air quality management and air pollution control districts to collect information about the location, type, and quantity of toxic compounds emitted into the air from specified local businesses and industry. The AB 2588 Program Annual Report is published to provide the public with information regarding the AB 2588 Program of the Lake County Air Quality Management District (District). The enabling statutes (California Health & Safety Code (HSC) Sections 44300-44394) require the California Air Resources Board (CARB) and local air districts to implement the "Hot Spots" Program. This report describes the current reporting and evaluation status for facilities being tracked under this program. This annual report has been prepared pursuant to California HSC Section 44363. This report will be distributed to the required agencies prior to the public hearing on January 13, 2026 (see Appendix 1 for legal notice).

Introduction

The goals of the AB 2588 Program are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, and to notify nearby residents of significant risks.

The AB 2588 program requires certain facilities emitting airborne toxic compounds to submit toxic emissions inventory reports and updates. Facilities exceeding a prioritization score of 10 must complete Health Risk Assessments (HRAs) and develop and submit a risk reduction plan. Facilities exceeding a score of 20 must modify or remove their equipment to reduce its risk to below 10 or shut down. AB 2588 further requires the District to prepare an annual report summarizing progress on the implementation of the program.

HSC Section 44363 requires that the District Board conduct a public hearing concerning the subject report, which must include the following information:

- i. The risk prioritization score of facilities for the purpose of performing an HRA for air emissions of listed substances;
- ii. The ranking and identification of facilities according to the degree of cancer risk posed to surrounding receptors;
- iii. The identification of facilities that expose individuals or populations to any non-cancer health risks; and

- iv. The status of development of control measures to reduce emissions of toxic air contaminants, if any.

Air Toxics “Hot Spots” Program

The AB 2588 Program (HSC Sections 44300 et seq.) established a process to compile an inventory of air toxics emissions from specified facility categories in California and assess the potential risks to public health as a result of exposure to those emissions. AB 2588 also requires that the public be notified of facilities whose emissions pose significant health risks. AB 2588 specifies activities that the CARB, the Office of Environmental Health Hazard Assessment (OEHHA), and the districts must carry out to implement the Act. CARB is required to adopt a fee recovery regulation to assess fees on facilities subject to the requirements to ensure that costs to implement and administer the AB 2588 Program are recovered. (HSC Section 44380.)

This report addresses the statutory requirements of the AB 2588 Program. This report does not seek to address other toxics related issues or risks. For example, the District also addresses air toxics exposures during permitting of new and modified sources of air pollutants. The source permitting process may require issuance of a public notice if the proposed source releases hazardous air pollutants within 1,000 feet of a school. The District also implements State Airborne Toxic Control Measures (ATCMs) and federal National Emission Standards for Hazardous Air Pollutants (NESHAPs). ATCM and NESHAP requirements are usually implemented through source permitting or equipment registration. During this reporting year, the District has not developed additional control measures beyond those required by an ATCM or NESHAP.

Program Categories of District Facilities

The District began implementing the AB 2588 Program in 1992. Facilities are categorized based on their reporting status in the program. Unless the District is performing an industry-wide survey for a facility category, facilities subject to the AB 2588 Program are required to file an emissions inventory plan and report with the local air district. The District reviews and approves the plan and reports, and based on the reported emissions, performs a prioritization evaluation (resulting in the assigning of a prioritization score for the facility).

If the prioritization score indicates further evaluation is necessary, the facility is required to perform an HRA. If the results from the HRA indicate a potentially significant risk to the public, the facility is required to notify the public exposed to the emissions. A facility subject to the public notification requirement may then need to develop a risk reduction plan to lower the emissions below significant levels. At this time, there are 10 facilities with emergency backup power equipment identified in the District posing a significant risk to the public.

As an alternative to this process, the facility or the District can conduct an HRA as part of a permitting action, provided the results identify any significant risk to the public. After complying with the initial reporting requirements, based on the prioritization scores or HRA results, facilities may be required to submit updated reports every four years.

Table 1 below is a summary of the current facility categories as identified in the Facilities List in Appendix 2.

Table 1. Facility Count for 2024

Facility Category	High	Intermediate	Exempt	Total
Major	0	0	0	0
Exempt			0	0
Industry-Wide Surveys:				
-Asphalt Production	0	0	1	1
-Diesel Internal Combustion Engine	8*	45	61	114
-Multiple Categories	2	8	3	13
Not Yet Prioritized			2	2
Totals:	10*	53	67	130

* One high priority facility has an ongoing Risk Reduction Plan.

District staff annually review facility status as indicated on the list in Appendix 2 of this report. The above facility count may vary each year due to closures, additions of new facilities, and/or emergency backup power needs due to power outages.

This year, the District was required to conduct the Quadrennial Update, covering emission years 2020-2024. The Quadrennial Update includes high and intermediate priority facilities to evaluate toxic air emissions to determine if further evaluation is

needed. After re-prioritizing facilities based on emissions, the District found that no facilities needed further evaluation in the form of an HRA.

Health Risk Assessments

In the last four years, the District completed one (1) HRA during the permitting process. HRAs assess the health risks to the public resulting from toxic air emissions from new or modified facilities. The health risk was determined to be high, and the generator was augmented with a diesel particulate filter. This HRA also satisfies the AB 2588 Program requirement for evaluating toxic air emissions. Appendix 2 shows HRA values before the filter's introduction and prioritization scores after its addition. HRAs will be conducted as warranted during the coming year.

District staff use the California Air Pollution Control Officers Association's Prioritization Guidelines to evaluate source risk. Analysis of emission factors from the U.S. Environmental Protection Agency (EPA) or CARB is used to determine potential risk from a project for a specific site or location if factors are available. The results from AP-42 calculations are used when actual emissions data are unavailable.

Development of Control Measures

During this reporting period, the District has continued to work with affected sources to comply with the NESHAPs at area sources. By State law, NESHAPs that do not have a corresponding ATCM become ATCMs for the State. Area sources are smaller sources such as auto body shops, metal fabricators, paint manufacturers, and various other spray coating operations.

NESHAPs, Subpart ZZZZ is a federal Area Source regulation to reduce Hazardous Air Pollutants (HAPs) from stationary reciprocating internal combustion engines. This regulation affects both spark-ignited (gasoline, natural gas, and LPG) and compression ignition (diesel) engines. Most commercial, institutional, and residential emergency engines are exempt from this Subpart; however, larger industrial and agricultural engines are subject to control requirements to reduce HAPs from the incomplete combustion of fuel. Regulatory requirements (primarily maintenance provisions) of this federal regulation have been incorporated into facility permits. At this time, the District has identified ten (10) sources that require additional controls beyond what is currently permitted to comply with the regulations.

Update to OEHHA Risk Assessment Guidelines

The passage of the Children's Health Protection Act of 1999 (SB 25, Stats. 1999) required OEHHA to re-evaluate risk assessment methodologies to ensure infants and children are explicitly addressed in assessing risk. In the last decade, advances in science have shown that early-life exposures to air toxics contribute to an increased lifetime risk of developing cancer or other adverse health effects, compared to exposures that occur in adulthood. On March 6, 2015, OEHHA adopted revised guidelines to address this greater sensitivity and incorporated the most recent data on childhood and adult exposure to air toxics (See Appendix 3 for the Updated Health Values). At their July 23, 2015, meeting, CARB (working with CAPCOA) adopted Risk Management Guidance implementing the new guidelines.

At the December 2015 meeting, the District Board adopted amendments to the existing HRA evaluation criteria, incorporating the new OEHHA guidelines. At the December 2016 meeting, the District Board adopted revised Prioritization Guidelines based on the guidance from CAPCOA. The District will be reviewing and recommending updates to the other existing District AB2588 program guidance as necessary. Although emission levels and actual exposure have not changed, the new methodology calculations will show a 1.5 to 3 times increase in inhalation health risk due to the new awareness of increased sensitivity in infants and children.

Staff from districts across the State, through CAPCOA, have been working to update guidance and procedures to incorporate the new risk assessment methods. The Public Notification Guidelines have been under review and are being finalized.

Summary

The AB2588 Emission Inventory Criteria and Guidelines require districts to review and update toxic emissions inventory data at least every four (4) years (H&SC 44344). District staff recently reviewed and updated the toxic inventory for applicable sources for the 2024 emissions inventory reporting. The District will work with the ten (10) sources identified as high risk to meet requirements and reduce emissions as necessary.

Appendix 1: Notice of Public Hearing

NOTICE OF PUBLIC HEARING

Legal Notice

The Lake County Air Quality Management District (LCAQMD) will hold a public hearing in the Lake County Board of Supervisors Chambers, 255 N. Forbes St., Lakeport, CA 95453, on January 13, 2026, at 9:45 AM to present the Air Toxics “Hot Spots” Information and Assessment Act of 1987 annual 2024. Pertinent documents are available for review at WWW.LCAQMD.NET or by calling the District at 707-263-7000. Comments may be submitted by mail to the District office at 2617 S. Main St., Lakeport, CA 95453, by fax (707) 263-0421, or in person.

Dated: December 16, 2025 Douglas Gearhart
AIR POLLUTION CONTROL OFFICER

Appendix 2: 2024 Facility Status List

Owner(s)	Facility Name	Prioritization Score			Health Risk Assessment			Source Type
		Carcinogen	Acute	Chronic	Carcinogen	Acute	Chronic	
Lake County Special Districts	Southeast Treatment Plant - Pump Station 1	45.15	3.65	41.65				Emergency ICE
Lake County Special Districts	Northwest Treatment Plant - Pump Station 1	10.88	2.51	32.16				Emergency ICE
Lake County Special Districts	Southeast Treatment Plant - Pump Station 3	11.65	2.36	28.24				Emergency ICE
Lake County Special Districts	Southeast Treatment Plant - Pump Station 2	6.83	2.30	26.36				Emergency ICE
Lake County Special Districts	Soda Bay Water Treatment Facility	1.29	2.55	23.83				Water Treatment and Emergency ICE
Lake County Special Districts	Northwest Treatment Plant - Pump Station 2	1.10	0.22	16.29				Emergency ICE
County of Lake, Facilities Maintenance	Lake County Courthouse	3.06	2.38	15.95				Emergency ICEs and Boiler
City of Lakeport	Wastewater Pump Station - C Street	2.14	1.02	11.43				Emergency ICE
Pacific Bell (dba AT&T)	Nice Facility	3.39	1.03	10.09				Emergency ICE
Pacific Bell (dba AT&T)	Clearlake Oaks Facility (2)	3.10	0.97	9.88				Emergency ICE
Pacific Bell (dba AT&T)	Clearlake Facility (2)	1.49	1.35	8.48				Emergency ICE
Pacific Bell (dba AT&T)	Kelseyville Facility	2.16	0.75	7.45				Emergency ICE
California Water Service	Lucerne Water Treatment Plant*	0.73	1.05	7.21	23.55	3.674	0.00533	Emergency ICE
Twin Pine Casino and Hotel	Twin Pine Casino and Hotel	6.92	0.39	5.17				Emergency ICEs
Clearlake Oaks Water Plant	Clearlake Oaks Water Plant	0.46	1.44	6.67				Emergency ICE
Pacific Gas & Electric Company	PG&E Clearlake Service Center	0.69	1.37	6.40				Emergency ICE

Appendix 2 Cont'd

Cobb Pacific, Inc.	Cobb Pacific	3.62	0.49	5.46				Retail Gas Station w/ Generator
Pacific Bell (dba AT&T)	Lakeport Facility (4)	1.57	0.50	5.37				Emergency ICE
Waste Connections US, Inc.	Quackenbush Mountain Resource Recovery & Compost Facility	5.32	0.14	0.86				Diesel Engines and Waste Processing Equipment
City of Clearlake	Clearlake Community Senior Center	0.88	1.04	5.24				Emergency ICE
Lake County Special Districts	North Lakeport Water Treatment Facility	0.35	0.40	5.13				Emergency ICE
City of Clearlake	City Hall	0.63	1.02	4.55				Emergency ICE
Pacific Bell (dba AT&T)	Middletown Facility	0.81	1.00	4.25				Emergency ICE
Habematolel Pomo of Upper Lake	Running Creek Casino	3.86	0.07	1.38				Emergency ICEs
Konocti County Water District	Lake Pump Station	0.12	0.94	3.48				Emergency ICE
City of Lakeport	Lakeport Blvd. Sewer Lift Station	0.19	0.61	3.12				Emergency ICE
Pacific Bell (dba AT&T)	Upper Lake Facility (2)	0.71	0.39	2.88				Emergency ICE
Hardester's Markets	Cobb Grocery Store	0.04	1.56	2.86				Emergency ICE
City of Lakeport	Wastewater Treatment Plant - Linda Lane	0.63	0.25	2.83				Emergency ICE
County of Lake, Sheriff's Department	Lake County Correctional Facility	0.37	0.54	2.76				Emergency ICE
Hidden Valley Lake Community Services District	Flood Protection	0.19	0.33	2.64				Emergency ICE
Hidden Valley Lake Community Services District	Lift Station #1	0.37	0.33	2.64				Emergency ICE
Pacific Bell (dba AT&T)	Cobb Facility	1.84	0.29	2.63				Emergency ICE
City of Lakeport	Lakeport City Hall - Park Street	1.04	0.05	2.63				Emergency ICE

Appendix 2 Cont'd

Hidden Valley Lake Association	Hidden Valley Lake Association - Golf Course	0.77	0.31	2.60				Emergency ICE
Konocti County Water District	Water Treatment Plant	0.83	0.45	2.46				Emergency ICE
Mohammed Abid Hussain	3 Brothers Travel Plaza	1.29	0.43	2.44				Retail Gas Station w/ Generator
Hardester's Markets	Middletown Grocery Store	0.01	1.42	2.44				Emergency ICEs
Scully Packing Company, LLC	Scotts Valley Packing House	0.01	0.32	2.19				Emergency ICEs
Verizon Wireless	Downtown Clearlake Cell Site	0.08	0.45	2.15				Emergency ICE
Verizon Wireless	Kelseyville Cell Site	0.26	0.45	2.13				Emergency ICE
Verizon Wireless	North Lakeport Cell Site	0.19	0.45	2.13				Emergency ICE
Verizon Wireless	Spring Valley Cell Site	0.10	0.45	2.13				Emergency ICE
Verizon Wireless	Middletown Cell Site	0.01	0.27	2.06				Emergency ICE
New Cingular Wireless PCS, LLC	AT&T Mobility Clearlake	0.21	0.42	1.96				Emergency ICE
Verizon Wireless	Lower Lake Cell Site	0.75	0.23	1.93				Emergency ICE
Lake County Special Districts	Gaddy Lane Wastewater Treatment Plant	0.95	0.25	1.91				Water Treatment and Emergency ICE
City of Lakeport	Wastewater Pump Station - Lakeshore Blvd.	0.41	0.24	1.86				Emergency ICE
Verizon Wireless	Lower Lake HS Cell Site	0.03	0.44	1.84				Emergency ICE
Verizon Wireless	Lucerne DT	0.07	0.44	1.84				Emergency ICE
Kelseyville Fire Protection District	Kelseyville Fire Station	0.42	0.05	1.69				Emergency ICE
H&S Energy Products, LLC	H&S Energy Products, LLC #3004	0.20	0.08	1.66				Retail Gas Station w/ Generator
Hidden Valley Lake Community Services District	Lift Station #4	0.08	0.20	1.57				Emergency ICE
Geysers Power Company, LLC	Cold Water Creek Guard Shack	1.50	0.01	0.08				Prime Use ICE

Appendix 2 Cont'd

Clear Lake Resort Services, LLC	Konocti Harbor Resort & Spa	0.32	0.15	1.39				Retail Gas Station w/ Generator
Scully Packing Company, LLC	Finley Packing House	0.00	0.22	1.38				Emergency ICE
Lake County Special Districts	Northwest Treatment Plant	0.52	0.13	1.38				Emergency ICE
Scully Packing Company, LLC	Mt. Konocti Cold Storage	0.00	0.37	1.35				Emergency ICE
Northern Pacific Petroleum, Inc.	Northern Pacific Petroleum	0.53	0.13	1.24				Retail Gas Station w/ Generator
ATC Sequoia LLC	American Tower - Middletown - 411043	1.22	0.16	1.00				Emergency ICE
Eastridge Pacific Senior Living, LLC	Orchard Park Senior Living	0.58	0.09	1.18				Emergency ICE
New Cingular Wireless PCS, LLC	AT&T Mobility Upper Lake 2	0.06	0.23	1.08				Emergency ICE
Kelseyville Lumber and Supply Company	Kelseyville Lumber	0.36	0.11	0.90				Emergency ICE
Berry, Joe Corporation	Foods Etc. Grocery Store	0.24	0.18	0.77				Emergency ICE
City of Lakeport	Surface Water Treatment Plant	0.09	0.06	0.72				Emergency ICE
City of Lakeport	Rose Avenue Sewer Lift Station	0.01	0.19	0.67				Emergency ICE
US Cellular	US Cellular - Clearlake - 568391	0.03	0.11	0.67				Emergency ICE
Shannon Ridge	Winery	0.02	0.20	0.67				Emergency ICE
Leventhal Realty Highway 29 LLC	Alchemy 29 - Building #7	0.48	0.06	0.64				Emergency ICE
Nor Cal Soil Builders, LLC	Agricultural Soil Blending	0.45	0.04	0.61				Diesel Engines
City of Lakeport	Wastewater Pump Station - Larrecou Lane	0.04	0.15	0.61				Emergency ICE
Lake County Special Districts	Southeast Treatment Plant	0.27	0.03	0.60				Emergency ICE
Verizon Wireless	Clearlake Oaks Cell Site	0.02	0.11	0.59				Emergency ICE

Appendix 2 Cont'd

American Pavement Systems, Granite Construction Company, and National Blending Company, Inc.	Keithly Ranch Facility	0.27	0.42	0.56				Aggregate Processing and Asphalt Production
Pacific Gas & Electric Company	Lakeport	0.01	0.16	0.56				Emergency ICE
Verizon Wireless	Blue Lakes Cell Site	0.02	0.11	0.53				Emergency ICE
Verizon Wireless	Clearlake Park Cell Site	0.10	0.11	0.53				Emergency ICE
United Parcel Service, Inc.	Lakeport Distribution Center	0.03	0.05	0.53				Emergency ICE
Jackson Family Wines	Kendall-Jackson Winery	0.07	0.06	0.49				Diesel Pump
New Cingular Wireless PCS, LLC	AT&T Mobility Clearlake Oaks	0.01	0.10	0.48				Emergency ICE
US Cellular	US Cellular - Lakeport - 568401	0.06	0.05	0.48				Emergency ICE
Hidden Valley Lake Community Services District	Lift Station #5	0.01	0.06	0.47				Emergency ICE
Hidden Valley Lake Community Services District	Lift Station #2	0.10	0.05	0.41				Emergency ICE
Hidden Valley Lake Community Services District	Lift Station #6	0.00	0.05	0.41				Emergency ICE
Hidden Valley Lake Community Services District	Lift Station #7	0.00	0.05	0.41				Emergency ICE
T-Mobile West, LLC	Cobb - SF40833A	0.18	0.09	0.38				Emergency ICE
T-Mobile West, LLC	Nice - SF71874M	0.05	0.09	0.38				Emergency ICE
T-Mobile West, LLC	Upper Lake - SF40956C	0.04	0.09	0.38				Emergency ICE
Geysers Power Company, LLC	Calistoga Geothermal Power Plant	0.17	0.05	0.37				Geothermal Operations w/ Diesel Engines
Hidden Valley Lake Community Services District	Lift Station #3	0.00	0.03	0.34				Emergency ICE
Verizon Wireless	Clearlake Cell Site	0.02	0.04	0.31				Emergency ICE
County of Lake, Department of Social Services	Department of Social Services	0.04	0.03	0.28				Emergency ICE

Appendix 2 Cont'd

New Cingular Wireless PCS, LLC	AT&T Mobility Cobb Mountain	0.14	0.06	0.27				Emergency ICE
New Cingular Wireless PCS, LLC	AT&T Mobility Summit	0.04	0.06	0.27				Emergency ICE
Clearlake Redi Mix, Inc.	Lakeport Facility (2)	0.27	0.02	0.09				Concrete Batch Plant w/ Diesel Engines
Geysers Power Company, LLC	Unit 13 Geothermal Power Plant	0.02	0.03	0.26				Geothermal Operations and Emergency ICE
Wild Diamond Vineyards, LLC	Cold Storage	0.00	0.08	0.26				Emergency ICE
Hardester's Markets	Hidden Valley Lake Grocery Store	0.00	0.21	0.08				Emergency ICE
Wild Diamond Vineyards, LLC	Main Pump	0.03	0.02	0.17				Emergency ICE
City of Lakeport	Lakeport Police Department	0.01	0.04	0.16				Emergency ICE
Redwood Credit Union	Redwood Credit Union Lower Lake	0.01	0.04	0.16				Emergency ICE
City of Lakeport	Ground Water Storage Facility	0.03	0.02	0.14				Emergency ICE
US Cellular	US Cellular - Clearlake Oaks - 568440	0.00	0.02	0.13				Emergency ICE
US Cellular	US Cellular - Middletown - 568421	0.03	0.01	0.13				Emergency ICE
City of Lakeport	Wastewater Pump Station - Linda Lane	0.03	0.01	0.13				Emergency ICE
Callayomi County Water District	Big Canyon Rd. Production Well	0.01	0.02	0.11				Emergency ICE
Level 3 Communications, LLC	Clearlake Oaks CLOKVAIW	0.02	0.01	0.10				Emergency ICE
Verizon Wireless	Lucerne Cell Site	0.01	0.01	0.09				Emergency ICE
T-Mobile West, LLC	Clearlake - SF40837B	0.00	0.01	0.06				Emergency ICE
T-Mobile West, LLC	Middletown - SF40832A	0.00	0.01	0.06				Emergency ICE
Geysers Power Company, LLC	Unit 16 Geothermal Power Plant	0.00	0.01	0.06				Geothermal Operations w/ Diesel Engine

Appendix 2 Cont'd

Geysers Power Company, LLC	Unit 16 Pond	0.00	0.02	0.06				Emergency ICE
Geysers Power Company, LLC	Calistoga Condensate Pump Station	0.00	0.01	0.05				Emergency ICE
Wild Diamond Vineyards, LLC	Irrigation Pump	0.00	0.01	0.05				Emergency ICE
New Cingular Wireless PCS, LLC	AT&T Mobility Lower Lake	0.00	0.01	0.04				Emergency ICE
City of Lakeport	Green Ranch Wells	0.01	0.01	0.03				Emergency ICE
Verizon Wireless	Sugarloaf Peak Cell Site	0.00	0.01	0.03				Emergency ICE
Yolo County Flood Control & Water Conservation District	Indian Valley Reservoir	0.02	0.00	0.01				Emergency ICE
Three Bees, LLC	Three Bees	0.00	0.00	0.02				Emergency ICE
New Cingular Wireless PCS, LLC	AT&T Mobility CCL04489 - Lucerne	0.00	0.00	0.01				Emergency ICE
New Cingular Wireless PCS, LLC	AT&T Mobility Middletown DT	0.00	0.00	0.01				Emergency ICE
Federal Aviation Administration	Ukiah (Cow Mountain) RCAG	0.01	0.00	0.00				Emergency ICE
Geysers Power Company, LLC	Calistoga (Unit 19) Remote Terminal Unit	0.00	0.00	0.00				Emergency ICE
Clearlake Lava, Inc.	Cache Creek Vineyards and Winery	0.00	0.00	0.00				Emergency ICE
Geysers Power Company, LLC	Jackson Hole Maintenance Facility	0.00	0.00	0.00				Emergency ICE
Meadow Pointe Manufactured Housing Community, LLC	Meadow Pointe Residential Park**							Emergency ICE
Lake County Special Districts	Spring Valley Water Treatment Facility**							Emergency ICE

* HRA scores are before the installation of a diesel particulate filter.

** Source is being brought into compliance. Insufficient information for prioritization.

Appendix 3: OEHHHA/ARB Health Values

CONSOLIDATED TABLE OF OEHHH/ARB APPROVED RISK ASSESSMENT HEALTH VALUES ^a														
Substance	Chemical ^b Abstract Number	Noncancer Effects					Cancer Risk							
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Cancer Unit Risk (µg/m ³) ⁻¹	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]
ACETALDEHYDE	75-07-0	4.7E+02	12/08	3.0E+02	12/08	1.4E+02	12/08			2.7E-06	499 [5/93]			1
ACETAMIDE	60-35-5									2.0E-05	499			1
ACROLEIN	107-02-8	2.5E+00	12/08	7.0E-01	12/08	3.5E-01	12/08				499			1
ACRYLAMIDE	79-06-1									1.3E-03	499 [7/90]			1
ACRYLIC ACID	79-10-7	6.0E+03	4/99											1
ACRYLONITRILE	107-13-1					5.0E+00	12/01			2.9E-04	499 [1/91]			1
ALLYL CHLORIDE	107-05-1									6.0E-06	499			1
2-AMINOANTHRAQUINONE	117-79-3									9.4E-06	499			1
AMMONIA	7664-41-7	3.2E+03	4/99			2.0E+02	2/00							1
ANILINE	62-53-3									1.6E-06	499			1
Aniline hydrochloride	142-04-1									1.6E-06	499 [8/22]			1
ARSENIC AND COMPOUNDS (INORGANIC) ^{1,2,c} [including but not limited to: arsenic (inorganic oxides)]	7440-38-2 1016 [1015]	2.0E-01	12/08	1.5E-02	12/08	1.5E-02	12/08	3.5E-06	12/08	3.3E-03 TAC	790	1.5E+00	10/00	1
Arsenic acid	7778-39-4	2.0E-01	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	3.5E-06 [8/22]	12/08 [8/22]	3.5E-03 TAC	790 [8/22]	1.5E+00	10/00 [8/22]	0.5278
Arsenic pentoxide	1303-28-2	2.0E-01	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	3.5E-06 [8/22]	12/08 [8/22]	3.5E-03 TAC	790 [8/22]	1.5E+00	10/00 [8/22]	0.6519
Arsenic trioxide	1327-33-3	2.0E-01	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	3.5E-06 [8/22]	12/08 [8/22]	3.5E-03 TAC	790 [8/22]	1.5E+00	10/00 [8/22]	0.7574
ARSINE	7784-42-1	2.0E-01	12/08	1.5E-02	12/08	1.5E-02	12/08							1
Calcium arsenate	7778-44-1	2.0E-01	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	3.5E-06 [8/22]	12/08 [8/22]	3.5E-03 TAC	790 [8/22]	1.5E+00	10/00 [8/22]	0.3766
Gallium arsenide	1303-00-0	2.0E-01	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	1.5E-02 [8/22]	12/08 [8/22]	3.5E-06 [8/22]	12/08 [8/22]	3.5E-03 TAC	790 [8/22]	1.5E+00	10/00 [8/22]	0.518
ASBESTOS ^{1,2,c}	1332-21-4									1.9E-04 TAC ^f	386		333.33	
Actinolite	77536-66-4									1.9E-04 TAC ^f	386 [8/22]		333.33	
Amosite	12172-73-5									1.9E-04 TAC ^f	386 [8/22]		333.33	
Anthophyllite	77536-67-5									1.9E-04 TAC ^f	386 [8/22]		333.33	
Chrysotile	12001-29-5									1.9E-04 TAC ^f	386 [8/22]		333.33	
Crocidolite	12001-28-4									1.9E-04 TAC ^f	386 [8/22]		333.33	
Tremolite	77536-68-6									1.9E-04 TAC ^f	386 [8/22]		333.33	

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Appendix 3 Cont'd

CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES ^a														
Substance	Chemical ^b Abstract Number	Noncancer Effects					Cancer Risk					M ^p W A F		
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]		Oral Slope Factor (mg/kg-d) ⁻¹	
BENZENE ^{TAC}	71-43-2	2.7E+01	6/14	3.0E+00	6/14					2.9E-05 ^{TAC}	1.0E-01	1/85		1
BENZIDINE (AND ITS SALTS) values also apply to:	92-87-5									5.0E+02	1.4E-01	4/99 [1/91]		1
Benzidine based dyes	1020									5.0E+02	1.4E-01	4/99 [1/91]		1
C.I. Direct Blue 218 (PAH- Derivative-Related, POM)	28407-37-6									5.0E+02	1.4E-01	4/99 [8/22]		1
3,3'-Dimethylbenzidine dihydrochloride	612-82-8									5.0E+02	1.4E-01	4/99 [8/22]		1
Direct Black 38	1937-37-7									5.0E+02	1.4E-01	4/99 [1/91]		1
Direct Blue 6	2602-46-2									5.0E+02	1.4E-01	4/99 [1/91]		1
Direct Brown 95 (technical grade)	16071-86-6									5.0E+02	1.4E-01	4/99 [1/91]		1
BENZYL CHLORIDE	100-44-7	2.4E+02	4/99							1.7E-01	4.9E-05	4/99 [1/91]		1
BERYLLIUM AND COMPOUNDS	7440-41-7 [1021]									8.4E+00	2.4E-03	4/99 [7/90]		1
Beryllium sulfate	13510-49-1					7.0E-03	12/01 [8/22]	2.0E-03	12/01 [8/22]	8.4E+00	2.4E-03	4/99 [8/22]		0.0857
Beryllium sulfate (tetrahydrate)	7787-56-6					7.0E-03	12/01 [8/22]	2.0E-03	12/01 [8/22]	8.4E+00	2.4E-03	4/99 [8/22]		0.0508
Beryllium oxide	1304-56-9					7.0E-03	12/01 [8/22]	2.0E-03	12/01 [8/22]	8.4E+00	2.4E-03	4/99 [8/22]		0.36
BIS(2-CHLOROETHYL)ETHER (Dichloroethyl ether)	111-44-4									2.5E+00	7.1E-04	4/99		1
BIS(CHLOROMETHYL)ETHER	542-88-1									4.6E+01	1.3E-02	4/99 [1/91]		1
BROMINE AND COMPOUNDS	7728-95-6 [1040]													1
Bromate	15541-45-4									4.9E-01	1.4E-04	4/99 [8/22]		0.6247
POTASSIUM BROMATE	7758-01-2									4.9E-01	1.4E-04	4/99 [10/93]		1
1-BROMOPROPANE	106-94-5	3.3E+03	4/23	3.4E+00	4/23	1.7E+00	4/23			1.3E-2	3.7E-6	12/22		1
1,3-BUTADIENE ^{TAC}	106-98-0	6.6E+02	7/13	9.0E+00	7/13	2.0E+00	7/13			6.0E-01	1.7E-04 ^{TAC}	7/92		1
CADMIUM AND COMPOUNDS ^{TAC}	7440-43-9 [1045]					2.0E-02	1/01	5.0E-04	10/00	1.5E+01	4.2E-03	1/87		1
Cadmium chloride	10108-64-2					2.0E-02	1/01 [8/22]	5.0E-04	10/00 [8/22]	1.5E+01	4.2E-03 ^{TAC}	1/87 [8/22]		0.6132
Cadmium succinate	141-00-4					2.0E-02	1/01 [8/22]	5.0E-04	10/00 [8/22]	1.5E+01	4.2E-03 ^{TAC}	1/87 [8/22]		0.4921

Table last updated: January 7, 2022

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Appendix 3 Cont'd

CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES ^a															
Substance	Chemical ^b Abstract Number	Noncancer Effects						Cancer Risk							
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/Kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Unit Risk (µg/m ³) ⁻¹	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	M ^e W A F
CAPROLACTAM	105-60-2	5.0E+01	10/13	7.0E+00	10/13	2.2E+00	10/13								1
CARBON DISULFIDE	75-15-0	6.2E+03	4/99			8.0E+02	5/02								1
CARBON MONOXIDE	630-08-0	2.3E+04	4/99												1
CARBON TETRACHLORIDE ^{f,g} (Tetrachloromethane)	56-23-5	1.9E+03	4/99			4.0E+01	1/01			4.2E-05 TAC	987				1
CARBONYL SULFIDE	463-58-1	6.8E+02	2/17	1.0E+01	2/17	1.0E+01	2/17								1
CHLORINATED PARAFFINS ²	108171-26-									2.5E-05					1
CHLORINE	7782-50-5	2.1E+02	4/99			2.0E-01	2/00								1
CHLORINE DIOXIDE	10049-04-4					6.0E-01	1/01								1
4-CHLORO-O-PHENYLENEDIAMINE	95-83-0					1.0E+03	1/01			4.6E-06	4/99				1
CHLOROBENZENE	108-90-7					3.0E+02	4/00			5.3E-06 TAC	12/90				1
CHLOROFORM ^{f,g}	67-66-3	1.5E+02	4/99												1
Chlorophenols	1060														1
PENTACHLOROPHENOL	87-86-5									5.1E-06	4/99				1
2,4,6-TRICHLOROPHENOL	88-06-2									2.0E-05	7/0E-02 [1/91]				1
CHLOROPICRIN	76-06-2	2.9E+01	4/99			4.0E-01	12/01								1
P-CHLORO-σ-TOLUIDINE	95-69-2									7.7E-05	4/99				1
1-CHLORO-4- (TRIFLUOROMETHYL)BENZENE (PCBTf)	98-56-6									8.6E-06	8/20 [8/22]				1
CHROMIUM (III)	16065-83-1	4.8E-01	8/22	1.2E-01	8/22	6.0E-02	8/22								1
CHROMIUM 6+ ^{f,g} values also apply to ³	18540-29-9					2.0E-01	1/01	2.0E-02	1000	1.5E-01 TAC	186	5.0E-01	1/14	1	1
Barium chromate	10294-40-3					2.0E-01	1/01	2.0E-02	1000	1.5E-01 TAC	186	5.0E-01	1/14	0.2053	
t-Butyl chromate (VI)	1189-85-1					2.0E-01	1/01 [8/22]	2.0E-02	1000 [8/22]	1.5E-01 TAC	1/86 [8/22]	5.0E-01	1/14 [8/22]	0.2258	
Calcium chromate	13765-19-0					2.0E-01	1/01	2.0E-02	1000	1.5E-01 TAC	186	5.0E-01	1/14	0.3332	
Lead chromate	7758-97-6					2.0E-01	1/01	2.0E-02	1000	1.5E-01 TAC	186	5.0E-01	1/14	0.1609	
Sodium dichromate	10588-01-9					2.0E-01	1/01	2.0E-02	1000	1.5E-01 TAC	186	5.0E-01	1/14	0.397	
Strontium chromate	7789-06-2					2.0E-01	1/01	2.0E-02	1000	1.5E-01 TAC	186	5.0E-01	1/14	0.2554	
CHROMIUM TRIOXIDE (as chromic acid mist)	1333-82-0					2.0E-03	1/01	2.0E-02	1000	1.5E-01 TAC	186	5.0E-01	1/14	0.52	
COBALT	7440-48-4									7.7E-3	10/20 [8/22]			1	1
Cobalt compounds insoluble, including but not limited to:	1216									7.7E-3	2.7E+01			1	

Table last updated: January 7, 2025

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Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES^a

CONSOLIDATED TABLE OF CHEMICALS APPROVED FOR RISK ASSESSMENT HEALTH VALUES															
Substance	Chemical ^b Abstract Number	Noncancer Effects						Cancer Risk							
		Acute Inhalation (µg/m³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Unit Risk (µg/m³) ⁻¹	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	M ^e W A F
COBALT CARBONATE	513-79-1									7.7E-3	2.7E+01	10/20 [8/22]		10/20 [8/22]	0.4955
COBALT CARBONYL	10210-68-1									7.7E-3	2.7E+01	10/20 [8/22]		10/20 [8/22]	0.3448
COBALT HYDROXIDE	21041-93-0									7.7E-3	2.7E+01	10/20 [8/22]		10/20 [8/22]	0.6341
COBALT OXALATE	814-89-1									7.7E-3	2.7E+01	10/20 [8/22]		10/20 [8/22]	0.3957
COBALT [II] OXIDE	1307-96-6									7.7E-3	2.7E+01	10/20 [8/22]		10/20 [8/22]	0.7865
COBALT [III] OXIDE	1308-06-1									7.7E-3	2.7E+01	10/20 [8/22]		10/20 [8/22]	0.7342
COBALT SULFIDE	1317-42-6									7.7E-3	2.7E+01	10/20 [8/22]		10/20 [8/22]	0.6481
Cobalt sulfate and other soluble cobalt compounds, including but not limited to:	1217									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	1
	71-48-7									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	0.3331
	7646-79-9									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	0.4539
	16842-03-8									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	0.3428
COBALT NITRATE (HEXAHYDRATE)	10141-05-6									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	0.3221
COBALT OCTOATE	136-52-7									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	0.1708
COBALT SULFATE	10124-43-3									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	0.3804
COBALT SULFATE (HEPTAHYDRATE)	10026-24-1									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	0.3804
COPPER AND COMPOUNDS [including but not limited to: copper fume (as copper)]	7440-50-8 [10671]	1.0E+02	4/99												1
	120-71-8									1.0E-02	3.5E+01	8/23 [8/22]		8/23 [8/22]	1
	1319-77-3									4.3E-05	1.5E-01	4/99			1
	108-39-4									6.0E+02	1.01				1
CRESOLS (mixtures of)	m-CRESOL									6.0E+02	1.01				1
	o-CRESOL									6.0E+02	1.01				1
	p-CRESOL									6.0E+02	1.01				1
CUPFERRON	135-20-6														1
Cyanide Compounds (inorganic)	5712-5									6.3E-05	2.2E-01	4/99			1
	1073	3.4E+02	4/99							9.0E+00	4.00				1
	592-01-8	3.4E+02	4/99							9.0E+00	4.00				1

Table last updated: January 7, 2025

Appendix 3 Cont'd

Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES^a

Substance	Chemical ^b Abstract Number	Noncancer Effects						Cancer Risk						M ⁹ W A F
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	
HYDROGEN CYANIDE (Hydrocyanic acid)	74-90-8 341972-31-4 19125-122-7	3.4E+02	4/99			9.0E+00	4/00							1
Potassium cyanide	151-50-8	3.4E+02	4/99 [8/22]			9.0E+00	4/00 [8/22]							1
Sodium cyanide	143-33-9	3.4E+02	4/99 [8/22]			9.0E+00	4/00 [8/22]							1
2,4-DIAMINOANISOLE	615-05-4									2.3E-02	4/99			1
2,4-DIAMINOTOLUENE	95-80-7									4.0E+00	4/99			1
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8									7.0E+00	4/99 [1/92]			1
p-DICHLOROBENZENE	106-46-7					8.0E+02	1/01			4.0E-02	4/99			1
3,3-DICHLOROBENZIDINE	91-94-1									1.1E-03	4/99 [1/91]			1
1,1-DICHLOROETHANE (Ethylene dichloride)	75-34-3									1.2E+00	4/99 [1/91]			1
1,1-DICHLOROETHYLENE ... (see Vinylidene Chloride)										5.7E-03	4/99			1
DI(2-ETHYLHEXYL)PHTHALATE (DEHP)	117-81-7									8.4E-03	4/99 [1/92]	8.4E-03	10/00	1
DIESEL EXHAUST ... (see Particulate Emissions from Diesel-Fueled Engines)														
DIETHANOLAMINE	111-42-2					3.0E+00	12/01							1
p-DIMETHYLAMINOAZOBENZENE	60-11-7									4.8E+00	4/99			1
N,N-DIMETHYL FORMAMIDE	68-12-2					8.0E+01	1/01							1
2,4-DINITROTOLUENE	121-14-2									3.1E-01	4/99			1
2,4-Dinitrotoluene, sulfurized	1326-41-6									3.7E-01	4/99 [8/22]			1
1,4-DIOXANE (1,4-Dioxylene dioxide)	123-91-1	3.0E+03	4/99			3.0E+03	4/00			2.7E-02	4/99 [1/91]			1
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)	106-89-8	1.3E+03	4/99			3.0E+00	1/01			8.0E-02	4/99 [1/92]			1
1,2-EPOXYBUTANE	106-88-7					2.0E+01	1/01							1
ETHYL BENZENE	100-41-4					2.0E+03	2/00			8.7E-3	11/07			1
ETHYL CHLORIDE (Chloroethane)	75-00-3					3.0E+04	4/00							1
ETHYLENE DIBROMIDE ^{1AC} (1,2-Dibromoethane)	106-93-4					8.0E-01	12/01			2.5E-01	7/85			1
ETHYLENE DICHLORIDE ^{1AC} (1,2-Dichloroethane)	107-06-2					4.0E+02	1/01			7.2E-02	9/85			1
ETHYLENE GLYCOL	107-21-1					4.0E+02	4/00							1
ETHYLENE GLYCOL BUTYL ETHER ... (see Glycol ethers)														1

Table last updated: January 7, 2025

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Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES^a

CONSOLIDATED TABLE OF CHEMICALS APPROVED FOR ADJUVANT TREATMENT															
Substance	Chemical ^b Abstract Number	Noncancer Effects					Cancer Risk								
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Unit Risk (µg/m ³) ⁻¹	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	M ^g W A F
ETHYLENE OXIDE ^{AC} (1,2-Epoxyethane)	75-21-8					3.0E+01	1/01			8.8E-05 TAC	3.1E-01	11/87			1
ETHYLENE THIOUREA Fluorides and compounds	96-45-7 1101	2.4E+02	4/99			1.3E+01	8/03	4.0E-02	8/03	1.3E-05	4.5E-02	4/99			1
HYDROGEN FLUORIDE (Hydrofluoric acid)	7664-39-3	2.4E+02	4/99			1.4E+01	8/03	4.0E-02	8/03						1
Modified hydrogen fluoride (MHF)	1141	2.4E+02	4/99 [8/22]			1.4E+01	8/03 [8/22]	4.0E-02	8/03 [8/22]						1
Selenium hexafluoride	7783-79-1	2.4E+02	4/99 [8/22]			1.4E+01	8/03 [8/22]	4.0E-02	8/03 [8/22]						0.5908
Sodium aluminum fluoride	15996-52-3					1.4E+01	8/03 [8/22]	4.0E-02	8/03 [8/22]						0.5429
Sodium fluoride	7681-49-4					1.4E+01	8/03 [8/22]	4.0E-02	8/03 [8/22]						0.4525
FORMALDEHYDE ^{AC}	50-00-0	5.5E+01	12/08	9.0E+00	12/08	9.0E+00	12/08			6.0E-06 TAC	2.1E-02	3/92			1
GLUTARALDEHYDE	111-30-8					8.0E-02	1/01								1
GLYCOL ETHERS	1115														1
ETHYLENE GLYCOL BUTYL ETHER - EGBE	111-76-2	4.7E+03	5/18	1.64E+02	5/18	8.2E+01	5/18								1
ETHYLENE GLYCOL ETHYL ETHER - EGEE	110-80-5	3.7E+02	4/99[1/92]			7.0E+01	2/00								1
ETHYLENE GLYCOL ETHYL ETHER ACETATE - EGEEA	111-15-9	1.4E+02	4/99			3.0E+02	2/00								1
ETHYLENE GLYCOL METHYL ETHER - EGME	109-86-4	9.3E+01	4/99			6.0E+01	2/00								1
ETHYLENE GLYCOL METHYL ETHER ACETATE - EGMEA	110-49-6					9.0E+01	2/00								1
HEXACHLOROBENZENE	118-74-1									5.1E-04	1.8E+00	4/99 [1/91]			1
HEXACHLOROCYCLOHEXANES (mixed or technical grade)	608-73-1									1.1E-03	4.0E+00	4/99 [1/91]	4.0E+00	10/00 [1/92]	1
alpha- HEXACHLOROCYCLOHEXANE	319-84-6									1.1E-03	4.0E+00	4/99 [1/91]	4.0E+00	10/00 [1/92]	1
beta- HEXACHLOROCYCLOHEXANE	319-85-7									1.1E-03	4.0E+00	4/99 [1/91]	4.0E+00	10/00 [1/92]	1
gamma- HEXACHLOROCYCLOHEXANE	58-89-9									3.1E-04	1.1E+00	4/99	1.1E+00	10/00	1

Table last updated: January 7, 2025

Appendix 3 Cont'd

Table 1
CONSOLIDATED TABLE OF OEHH/ARB APPROVED RISK ASSESSMENT HEALTH VALUES^a

Substance	Chemical ^b Abstract Number	Noncancer Effects						Cancer Risk				
		Acute Initiation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Initiation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Initiation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Inhalation ^d Unit Risk (µg/m ³) ⁻¹	M ^e W A F
1,6-HEXAMETHYLENE DIISOCYANATE (monomer) ^{f,h}	822-06-0	0.3	9/19	0.06	9/19	0.03	9/19					1
n-HEXANE	110-54-3					7.0E+03	4/00					1
HYDRAZINE	302-01-2					2.0E+01	1/01		4/99 [7/90]	1.7E+01	4.9E+03	1
HYDROCHLORIC ACID (Hydrogen chloride)	7647-01-0	2.1E+03	4/99			9.0E+00	2/00					1
HYDROGEN BROMIDE ... (see Bromine & Compounds)												
HYDROGEN CYANIDE ... (see Cyanide & Compounds)												
HYDROGEN FLUORIDE ... (see Fluorides & Compounds)												
HYDROGEN SELENIDE ... (see Selenium & Compounds)												
HYDROGEN SULFIDE ... (see Sulfur & Compounds)												
ISOPHORONE	7783-08-4 78-59-1	4.2E+01	4/99[7/90]			1.0E+01 2.0E+03	4/00 12/01					1 1
ISOPRENE	78-79-5					7.0E+03	2/00		[01/25]	1.9E-02	5.4E-06	1
ISOPROPYL ALCOHOL (Isopropanol)	67-63-0	3.2E+03	4/99									1
LEAD AND COMPOUNDS ^{f,g,h} (Inorganic) ... (see Lead & Compounds) Lead acetate	7439-92-1 1128 [1130] 301-04-2											1
Lead phosphate	7446-27-7											
Lead subacetate	1335-32-6											
LINDANE ... (see gamma-Hexachlorocyclohexane)	108-31-6					7.0E+01	12/01					1
MALIC ANHYDRIDE	7439-96-5 [1132]			1.7E-01	12/08	9.0E-02	12/08					1
MANGANESE AND COMPOUNDS Manganese cyclopentadienyl triisobutyl	12079-65-1			1.7E-01	12/08 [8/22]	9.0E-02	12/08 [8/22]					0.2694
2-Mercycyclopentadienyl triisobutyl	12108-13-3			1.7E-01	12/08 [8/22]	9.0E-02	12/08 [8/22]					0.2521
MERCURY AND COMPOUNDS (INORGANIC)	7439-97-6 [1133]	6.0E-01	12/08	6.0E-02	12/08	3.0E-02	12/08	1.6E-04	12/08			1
Mercuric chloride	7487-94-7	6.0E-01	12/08	6.0E-02	12/08	3.0E-02	12/08	1.6E-04	12/08			1
METHANOL	67-56-1	2.8E+04	4/99			4.0E+03	4/00					1
METHYL BROMIDE (Bromomethane)	74-83-9	3.9E+03				5.0E+00	2/00					1

Table last updated: January 7, 2025

Appendix 3 Cont'd

CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES ^a														
Substance	Chemical ^b Abstract Number	Noncancer Effects						Cancer Risk						M ^p W A F
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation ^m (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Inhalation ^d Unit Risk (µg/m ³) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	
METHYL tertiary-BUTYL ETHER	1634-04-4					8.0E+03	2/00			1.8E-03	2.6E-07	11/99		1
METHYL CHLOROFORM (1,1,1-Trichloroethane)	71-55-6	6.8E+04	4/99			1.0E+03	2/00							1
METHYL ETHYL KETONE (2-Butanone)	78-93-3	1.3E+04	4/99											1
METHYL ISOCYANATE (MICA)	624-83-9					1.0E+00	12/01							1
4,4'-METHYLENE BIS (2-CHLOROANILINE)	101-14-4										4.3E-04	4/99		1
METHYLENE CHLORIDE ^{1AC} (Dichloromethane)	75-09-2	1.4E+04	4/99			4.0E+02	2/00				1.0E-06 TAC	7/89		1
4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)	101-77-9					2.0E+01	12/01				4.6E-04	4/99	1.6E+00	10/00
METHYLENE DIHENYL DIISOCYANATE	101-68-8	1.2E+01	3/16	1.8E-01	3/16	8.0E-02	3/16							1
MICHLERS KETONE (4,4'-Bis(dimethylamino)benzophenone)	90-94-8										2.5E-04	4/99		1
N-NITROSODI-n-BUTYLAMINE	924-16-3										3.1E-03	4/99		1
N-NITROSODI-n-PROPYLAMINE	621-64-7										2.0E-03	4/99		1
N-NITROSODIETHYLAMINE	55-18-5										1.0E-02	4/99		1
N-NITROSODIMETHYLAMINE	62-75-9										3.8E+01	4/99		1
N-NITROSODIPHENYLAMINE	86-30-6										1.6E+01	4/99		1
N-NITROSO-N-METHYLETHYLAMINE	10595-95-6										9.0E-03	4/99		1
N-NITROSOMORPHOLINE	59-89-2										6.3E-03	4/99		1
N-NITROSOPIPERIDINE	100-75-4										2.2E+01	4/99		1
N-NITROSOPYRROLIDINE	930-55-2										1.9E-03	4/99		1
NAPHTHALENE ... (see Polycyclic aromatic hydrocarbons) NICKEL AND COMPOUNDS ^{1AC} values also apply to:	7440-02-0 [1146]	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12				6.7E+00	4/99		1
Nickel acetate	373-02-4	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	9.1E-01	2.6E-04 TAC	8/91		0.3321
Nickel carbonate	3333-67-3	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	9.1E-01	2.6E-04 TAC	8/91		0.4945
Nickel carbonyl	13463-39-3	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	9.1E-01	2.6E-04 TAC	8/91		0.3488
Nickel chloride	7718-54-9	2.0E-01	3/12 [8/22]	6.0E-02	3/12 [8/22]	1.4E-02	3/12 [8/22]	1.1E-02	3/12 [8/22]	9.1E-01	2.6E-04 TAC	8/91 [8/22]		0.4539

Table last updated: January 7, 2025

Table last updated: January 7, 2025

CONSOLIDATED TABLE OF ULTIMATE APPROVED NON-ASSESSMENT HEALTHY VALUES														
Substance	Chemical ^b Abstract Number	Noncancer Effects					Cancer Risk							
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Unit Risk (µg/m ³)	Inhalation ^d Cancer Potency Factor	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]
Nickel hydroxide	12054-48-7	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	2.6E-04 TAC	9.1E-01	8/91		0.6332
Nickel nitrate [Nickel (II) nitrate]	13138-45-9	2.0E-01	3/12 [8/22]	6.0E-02	3/12 [8/22]	1.4E-02	3/12 [8/22]	1.1E-02	3/12 [8/22]	2.6E-04 TAC	9.1E-01	8/91 [8/22]		0.3213
Nickelocene	1271-28-9	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	2.6E-04 TAC	9.1E-01	8/91		0.4937
Nickel oxide	1313-99-1	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	2.6E-04 TAC	9.1E-01	8/91		0.7859
Nickel refinery dust from the pyrometallurgical process	1146	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	2.6E-04 TAC	9.1E-01	8/91		1
Nickel subsulfide	12035-72-2	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	2.6E-04 TAC	9.1E-01	8/91		0.2443
Nickel sulfate	7786-81-4	2.0E-01	3/12 [8/22]	6.0E-02	3/12 [8/22]	1.4E-02	3/12 [8/22]	1.1E-02	3/12 [8/22]	2.6E-04 TAC	9.1E-01	8/91 [8/22]		0.3794
NITRIC ACID	7697-37-2	8.9E+01	4/99											1
NITROGEN DIOXIDE	10102-44-0	4.7E+02	4/99[192]							6.3E+06	2.2E+02	4/99		1
P-NITRODIPHENYLAMINE	156-10-5													1
OZONE	10028-15-6	1.8E+02	4/99[192]			5.0E+00 TAC	8/98			3.0E-04 TAC	1.1E+00	8/98		1
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES ^{a,c, i}	9901													
PENTACHLOROPHENOL ... (see Chlorophenols)														
PERCHLOROETHYLENE ^{a,c} (Tetrachloroethylene)	127-18-4	2.0E+04	4/99			3.5E+01 TAC	10/91			6.1E+06 TAC	2.1E+02	10/91		1
PHENOL	108-95-2	5.8E+03	4/99			2.0E+02	4/00							1
PHOSGENE	75-44-5	4.0E+00	4/99											1
PHOSPHINE	7803-51-2					8.0E-01	9/02							1
PHOSPHORIC ACID	7664-38-2					7.0E+00	2/00							1
PHthalic ANHYDRIDE	85-44-9					2.0E+01	1/01							1
PCB (POLYCHLORINATED BIPHENYLS) (unspecified mixture) ¹	1336-36-3									2.0E+05 [lowest risk] 1.1E+04 [low risk] 3.1E+04 [high risk]	7.0E+02 [lowest risk] 4.0E+01 [low risk] 2.0E+00 [high risk]		10/00	1
PCB (POLYCHLORINATED BIPHENYLS) (specified) ^{1,k}														
3,3',4,4'-TETRACHLOROBIPHENYL	32598-13-3					4.0E-01	8/03	1.0E-04	8/03	3.8E-03	1.3E+01	8/03	1.3E+01	1
3,4,4',5'-TETRACHLOROBIPHENYL (PCB 81)	70362-50-4					1.3E-01	1/11	3.3E-05	1/11	1.1E-02	3.8E+01	1/11	3.9E+01	1

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Appendix 3 Cont'd

Table 1 CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES ^a															
Substance	Chemical ^b Abstract Number	Noncancer Effects					Cancer Risk								
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Unit Risk (µg/m ³) ⁻¹	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	M ^e W A F
2,3,3',4,4', PENTACHLOROBIPHENYL (PCB 105)	32598-14-4					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3,4,4',5'- PENTACHLOROBIPHENYL (PCB 144)	74472-37-0					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3,4,4',5'- PENTACHLOROBIPHENYL (PCB 118)	31508-00-6					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3,4,4',5'- PENTACHLOROBIPHENYL (PCB 123)	65510-44-3					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
3,3',4,4',5'- PENTACHLOROBIPHENYL (PCB 126)	57465-28-8					4.0E-04	8/03	1.0E-07	8/03	3.8E+00	1.3E+04	8/03	1.3E+04	8/03	1
2,3,3',4,4',5'- HEXACHLOROBIPHENYL (PCB 156)	38380-08-4					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3,3',4,4',5'- HEXACHLOROBIPHENYL (PCB 157)	69782-90-7					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3,4,4',5,5'- HEXACHLOROBIPHENYL (PCB 167)	52863-72-6					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
3,3',4,4',5,5'- HEXACHLOROBIPHENYL (PCB 169)	32774-16-6					1.3E-03	1/11	3.3E-07	1/11	1.1E+00	3.9E+03	1/11	3.9E+03	1/11	1
2,3,3',4,4',5,5'- HEPTACHLOROBIPHENYL (PCB 189)	39635-31-9					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
POLYCHLORINATED DIBENZO- <i>P</i> -DIOXINS (PCDD) (Treated as 2,3,7,8-TCDD for HRA) ^{TAC, k}	1085 1086					4.0E-05	2/00	1.0E-08	10/00	3.8E+01 TAC	1.3E+05	8/86	1.3E+05 TAC	8/86	1
2,3,7,8-TETRACHLORODIBENZO- <i>P</i> -DIOXIN ^{TAC}	1746-01-6					4.0E-05	2/00	1.0E-08	10/00	3.8E+01 TAC	1.3E+05	8/86	1.3E+05 TAC	8/86	1
1,2,3,7,8-PENTACHLORODIBENZO- <i>P</i> -DIOXIN	40321-76-4					4.0E-05	8/03	1.0E-08	8/03	3.8E+01	1.3E+05	8/03	1.3E+05	8/03	1
1,2,3,4,7,8- HEXACHLORODIBENZO- <i>P</i> -DIOXIN	39227-28-6					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
1,2,3,6,7,8- HEXACHLORODIBENZO- <i>P</i> -DIOXIN	57653-85-7					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
1,2,3,7,8,9- HEXACHLORODIBENZO- <i>P</i> -DIOXIN	19408-74-3					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1

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Table last updated: January 7, 2022

Table last updated: January 7, 2025

Appendix 3 Cont'd

CONSOLIDATED TABLE OF OEHH/AARB APPROVED RISK ASSESSMENT HEALTH VALUES ^a														
Substance	Chemical ^b Abstract Number	Noncancer Effects					Cancer Risk							
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	M ⁹ W A F	
1,2,3,4,6,7,8- HEPTACHLORODIBENZO-P- DIOXIN	35822-46-9			4.0E-03	200	1.0E-06	1000	3.8E-01	499	1.3E+03	10/00	1.3E+03	10/00	1
1,2,3,4,6,7,8,9- OCTACHLORODIBENZO-P-DIOXIN	3268-87-9			1.3E-01	1/11	3.3E-05	1/11	1.1E-02	1/11	3.9E+01	1/11	3.9E+01	1/11	1
POLYCHLORINATED DIBENZOFURANS (PCDF) ^{10,c,k} [Treated as 2,3,7,8-TCDD for HRA]	1080			4.0E-05	200	1.0E-08	1000	3.8E+01 TAC	886	1.3E+05	886	1.3E+05 TAC	886	1
2,3,7,8- TETRACHLORODIBENZOFURAN	5120-73-19			4.0E-04	200	1.0E-07	1000	3.8E+00	499	1.3E+04	10/00	1.3E+04	10/00	1
1,2,3,7,8- PENTACHLORODIBENZOFURAN	57117-41-6			1.3E-03	1/11	3.3E-07	1/11	1.1E+00	1/11	3.9E+03	1/11	3.9E+03	1/11	1
2,3,4,7,8- PENTACHLORODIBENZOFURAN	57117-31-4			1.3E-04	1/11	3.3E-08	1/11	1.1E+01	1/11	3.9E+04	1/11	3.9E+04	1/11	1
1,2,3,4,7,8- HEXACHLORODIBENZOFURAN	70648-26-9			4.0E-04	200	1.0E-07	1000	3.8E+00	499	1.3E+04	10/00	1.3E+04	10/00	1
1,2,3,6,7,8- HEXACHLORODIBENZOFURAN	57117-44-9			4.0E-04	200	1.0E-07	1000	3.8E+00	499	1.3E+04	10/00	1.3E+04	10/00	1
1,2,3,7,8,9- HEXACHLORODIBENZOFURAN	72918-21-9			4.0E-04	200	1.0E-07	1000	3.8E+00	499	1.3E+04	10/00	1.3E+04	10/00	1
2,3,4,6,7,8- HEXACHLORODIBENZOFURAN	60851-34-5			4.0E-04	200	1.0E-07	1000	3.8E+00	499	1.3E+04	10/00	1.3E+04	10/00	1
1,2,3,4,6,7,8- HEPTACHLORODIBENZOFURAN	67562-39-4			4.0E-03	200	1.0E-06	1000	3.8E-01	499	1.3E+03	10/00	1.3E+03	10/00	1
1,2,3,4,7,8,9- HEPTACHLORODIBENZOFURAN	55673-89-7			4.0E-03	200	1.0E-06	1000	3.8E-01	499	1.3E+03	10/00	1.3E+03	10/00	1
1,2,3,4,6,7,8,9- OCTACHLORODIBENZOFURAN	39001-02-0			1.3E-01	1/11	3.3E-05	1/11	1.1E-02	1/11	3.9E+01	1/11	3.9E+01	1/11	1
POLYCYCLIC AROMATIC HYDROCARBON (PAH) ^j [Treated as B[a]P for HRA ¹]	1150 1151							1.1E-03	499 [494]	3.9E+00	10/00 [494]	1.2E+01	10/00 [494]	1
BENZO[<i>a</i>]ANTHRACENE ^l	56-55-3							1.1E-04	499 [494]	3.9E-01	10/00 [494]	1.2E+00	10/00 [494]	1
BENZO[<i>a</i>]PYRENE ^l	50-32-8							1.1E-03	499 [494]	3.9E+00	10/00 [494]	1.2E+01	10/00 [494]	1
BENZO[<i>b</i>]FLUORANTHENE ^l	205-99-2							1.1E-04	499 [494]	3.9E-01	10/00 [494]	1.2E+00	10/00 [494]	1
BENZO[<i>k</i>]FLUORANTHENE ^l	205-82-3							1.1E-04	499 [494]	3.9E-01	10/00 [494]	1.2E+00	10/00 [494]	1
BENZO[<i>k</i>]FLUORANTHENE ^l	207-08-9							1.1E-04	499 [494]	3.9E-01	10/00 [494]	1.2E+00	10/00 [494]	1
CHRYSENE ^l	218-01-9							1.1E-05	499 [494]	3.9E-02	10/00 [494]	1.2E-01	10/00 [494]	1

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Table last updated: January 7, 2025

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Appendix 3 Cont'd

Substance	Chemical ^b Abstract Number	Noncancer Effects						Cancer Risk					M ⁹ W A F	
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹		
DIBENZ(A,H)ACRIDINE ¹	226-36-8								4/99 [4/94]	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
DIBENZ(A,H)ANTHRACENE ¹	53-70-3								4/99 [4/94]	4.1E+00	4/99 [4/94]	4.1E+00	10/00 [4/94]	1
DIBENZ(A,J)ACRIDINE ¹	224-42-0								4/99 [4/94]	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
DIBENZO(A,E)PYRENE ¹	192-65-4								4/99 [4/94]	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
DIBENZO(A,H)PYRENE ¹	189-64-0								4/99 [4/94]	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
DIBENZO(A,I)PYRENE ¹	189-55-9								4/99 [4/94]	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
DIBENZO(A,L)PYRENE ¹	191-30-0								4/99 [4/94]	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
7H-DIBENZO(C,G)CARBAZOLE ¹	194-59-2								4/99 [4/94]	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
7,12-DIMETHYLBENZ(A)ANTHRACENE ¹	57-97-6								4/99 [4/94]	2.5E+02	4/99 [4/94]	2.5E+02	10/00 [4/94]	1
1,6-DINITROPYRENE ¹	42397-64-8								4/99 [4/94]	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
1,8-DINITROPYRENE ¹	42397-65-9								4/99 [4/94]	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
INDENO(1,2,3-C,D)PYRENE ¹	193-39-5								4/99 [4/94]	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
3-METHYLCHOLANTHRENE ¹	56-49-5								4/99 [4/94]	2.2E+01	4/99 [4/94]	2.2E+01	10/00 [4/94]	1
5-METHYLCHRYSENE ¹	3697-24-3								4/99 [4/94]	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
NAPHTHALENE	91-20-3					9.0E+00	4/00		8/04	1.2E-01	4/99 [4/94]	1.3E-01	10/00 [4/94]	1
5-NITROACENAPHTHENE ¹	602-87-9								4/99 [4/94]	3.9E+00	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
6-NITROCHRYSENE ¹	7496-02-8								4/99 [4/94]	3.9E-02	4/99 [4/94]	1.2E-01	10/00 [4/94]	1
2-NITROFLUORENE ¹	607-57-8								4/99 [4/94]	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
1-NITROPYRENE ¹	5522-43-0								4/99 [4/94]	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
4-NITROPYRENE ¹	57835-92-4								4/99 [4/94]	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
POLYMERIC (OLIGO) HEXAMETHYLENE- 1,6-DISULFONATE (HDI)	1221	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]							1
BIURET	106-19-0	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]							1

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Substance	Chemical ^b Abstract Number	Noncancer Effects						Cancer Risk						
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	M ^g W A F
DIISOCYANURATE	1226	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]							1
HD/ PREPOLYMER	1227	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]							1
ISOCYANURATE	1228	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]							1
URETIDONE (HD/ URETIDONE)	23501-81-7	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]							1
POTASSIUM BROMATE ... (see Bromine & Compounds)														1
1,3-PROPANE SULTONE	1120-71-4									6.9E-04	4/99			1
PROPYLENE (PROPENE)	115-07-1							3.0E+03	4/00					1
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2							7.0E+03	2/00					1
PROPYLENE OXIDE	75-56-9	3.1E+03	4/99					3.0E+01	2/00			1.3E-02	4/99 [7/90]	1
SELENIUM AND COMPOUNDS ^m	7782-49-2 [1170]							2.0E+01	12/01	5.0E-03	12/01			1
HYDROGEN SELENIDE	7783-07-5	5.0E+00	4/99											1
Selenium sulfide	7446-34-6							2.0E+01	12/01	5.0E-03	12/01			1
Selenium hexafluoride see Fluorides and Compounds														
SILICA (CRYSTALLINE, RESPIRABLE)	1175							3.0E+00	2/05					1
Silica, crystalline (respirable), in the form of cristobalite	14464-46-1							3.0E+00	2/05 [8/22]					1
Silica, crystalline (respirable), in the form of quartz	14808-60-7							3.0E+00	2/05 [8/22]					1
SODIUM HYDROXIDE	1310-73-2	8.0E+00	4/99											1
STYRENE	100-42-5	2.1E+04	4/99					9.0E+02	4/00					1
SULFATES	9960	1.2E+02	4/99											1
SULFUR DIOXIDE	7446-09-5	6.6E+02	4/99 [1/92]											1
SULFURIC ACID	7664-93-9	1.2E+02	4/99					1.0E+00	12/01					1
SULFUR TRIOXIDE	7446-77-9	1.2E+02	4/99					1.0E+00	12/01					1
OLEUM	8014-95-7	1.2E+02	4/99											1
TERTIARY-BUTYL-ACETATE (TBAC)	540-88-5											1.3E-06	8/18	1
1,1,2,2-TETRACHLOROETHANE	79-34-5											5.8E-05	2.0E-01	1
TETRACHLOROPHENOLS ... (see Chlorophenols)														
2,4,5-TRICHLOROPHENOL ... (see Chlorophenols)														
2,4,6-TRICHLOROPHENOL ... (see Chlorophenols)														
THIOACETAMIDE	62-55-5											1.7E-03	6.1E+00	1

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CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES ^a															
Substance	Chemical ^b Abstract Number	Noncancer Effects						Cancer Risk							
		Acute Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	8-Hour Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Inhalation (µg/m ³)	Date ^c Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date ^c Value Reviewed [Added]	Inhalation ^d Unit Risk (µg/m ³) ⁻¹	Inhalation ^d Cancer Potency Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	Oral Slope Factor (mg/kg-d) ⁻¹	Date ^c Value Reviewed [Added]	M ^a W A F
TOLUENE	108-88-3	5.0E+03	8/20	8.3E+02	8/20	4.2E+02	8/20			1.1E-05	3.9E-02	4/99			1
<i>Toluene disocyanates</i>	26471-62-5	2.0E+00	3/16	1.5E-02	3/16	8.0E-03	3/16			1.1E-05	3.9E-02	4/99			1
TOLUENE-2,4-DIISOCYANATE	584-84-9	2.0E+00	3/16	1.5E-02	3/16	8.0E-03	3/16			1.1E-05	3.9E-02	4/99			1
TOLUENE-2,6-DIISOCYANATE	91-08-7	2.0E+00	3/16	1.5E-02	3/16	8.0E-03	3/16			1.1E-05	3.9E-02	4/99			1
1,1,2-TRICHLOROETHANE (Vinyl trichloride)	79-00-5									1.6E-05	5.7E-02	4/99			1
TRICHLOROETHYLENE ^{TAC}	79-01-6									2.0E-06 TAC	7.0E-03	10/90			1
TRIETHYLAMINE	121-44-8	2.8E+03	4/99			6.0E+02	4/00								1
TRIMETHYLENES	25551-13-7	2.4E+03	10/23	8.0E+00	10/23	2.0E+02	9/02								1
1,2,3-TRIMETHYLBENZENE	526-73-8	2.4E+03	10/23	8.0E+00	10/23	4.0E+00	10/23								1
1,2,4-TRIMETHYLBENZENE	95-63-6	2.4E+03	10/23	8.0E+00	10/23	4.0E+00	10/23								1
1,3,5-TRIMETHYLBENZENE	108-67-8	2.4E+03	10/23	8.0E+00	10/23	4.0E+00	10/23								1
URETHANE (Ethyl carbamate)	51-79-6									2.9E-04	1.0E+00	4/99 [7/90]			1
<i>Vanadium Compounds</i>	N/A														1
<i>Vanadium (fume or dust)</i>	7440-62-2	3.0E+01	4/99												1
VANADIUM PENTOXIDE	1314-62-1	3.0E+01	4/99												1
VINYL ACETATE	108-05-4					2.0E+02	12/01								1
VINYL CHLORIDE ^{TAC} (Chloroethylene)	75-01-4	1.8E+05	4/99							7.8E-05 TAC	2.7E-01	12/90			1
VINYLDENE CHLORIDE (1,1-Dichloroethylene)	75-35-4					7.0E+01	1/01								1
XYLENES (mixed isomers)	1330-20-7	2.2E+04	4/99			7.0E+02	4/00								1
m-XYLENE	108-38-3	2.2E+04	4/99			7.0E+02	4/00								1
o-XYLENE	95-47-6	2.2E+04	4/99			7.0E+02	4/00								1
p-XYLENE	106-42-3	2.2E+04	4/99			7.0E+02	4/00								1

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Table 1
CONSOLIDATED TABLE OF OEHHH/ARB APPROVED RISK ASSESSMENT HEALTH VALUES^a

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 (OEHHH) and the Air Resources Board (ARB) for use in facility health risk assessments conducted for the AB 2588 Air Toxics "Hot Spots" Program. The OEHHH 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 OEHHH has adopted three technical support documents for these guidelines, which can be found on their website (http://www.oehha.ca.gov/air/hot_spots/index.html). This table lists the OEHHH adopted inhalation and oral cancer slope factors, noncancer acute Reference Exposure Levels (RELs), and inhalation and oral noncancer chronic RELs. OEHHH 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 OEHHH website (www.oehha.ca.gov) for any updates to the health values. May 2008 update: The Air Resources Board adopted amendments to the AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines Regulation (Title 17, California Code of Regulations, Section 93300.5) on November 16, 2008. The amendments became effective on September 26, 2007, after approval from the Office of Administrative Law. Under the new amendments, the substances previously listed in Appendix A-1 (Substances for Which Emissions Must Be Quantified) and Appendix F (Criteria For Inputs For Risk Assessment Using Screening Air Dispersion Modeling) of the ARB's Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICS) (July 1997) have been removed from this table. September 2022 update: The Air Resources Board adopted amendments to the AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines Regulation (Title 17, California Code of Regulations, Section 93300.5) on November 19, 2020. The amendments became effective on March 21, 2022, after approval from the Office of Administrative Law. Under the new amendments a number of pollutants were added to Appendix A-1: Substances for Which Emissions Must be Quantified. OEHHH was consulted to determine which existing health values may be applied to these new pollutants. OEHHH also helped determine the appropriate MNAF, if applicable.	
NOTE ON REPORTING UNDER HOT SPOTS PROGRAM: New chemicals that are reported by a facility due to being covered by one of the chemical "functional group" definitions, which are shown at the end of EICG Appendix A-1 (i.e., the functional groups related to isocyanates, halogenated PAHs, and certain types of per/poly fluorinated compounds), should be discussed with CARB and/or OEHHH to determine whether an OEHHH health value may apply to them.	
a	The <i>italic font</i> used in this table is designed to clarify applicability of OEHHH 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".
b	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. (https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots-hot-spots-inventory-guidelines)

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Table 1
CONSOLIDATED TABLE OF OEHH/ARB APPROVED RISK ASSESSMENT HEALTH VALUES^a

c	Date Value Reviewed/Added: These columns list the date that the health value was last reviewed by OEHH, and/or 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 []. - April 1999 is listed for the cancer potency values and noncancer acute RELs, which have been adopted by the OEHH as part of the AB 2588 Hot Spot Risk Assessment Guidelines. - February 2000, April 2000, January 2001, and December 2001 are listed for the first set of 16, the second set of 22, the third set of 22, and the fourth set of 12 noncancer chronic RELs, respectively. The chronic REL for carbon disulfide was adopted in May 2002. Chronic RELs for phosphine and triethylamine were adopted in September 2002. Chronic RELs for fluorides including hydrogen fluoride were adopted August 2003. Chronic REL for silica [crystalline respirable] was adopted February 2005. - October 2000 is listed for the oral chronic RELs and oral cancer slope factors. - Cancer potency value adopted for naphthalene in August 2004. The inhalation and oral cancer potency values for ethyl benzene were adopted in November 2007. - For the substances identified as Toxic Air Contaminants, the Air Resources Board hearing date is listed. The dates for acetaldehyde, benzaldehyde, and methyl tertiary-butyl ether represent the dates the values were approved by the Scientific Review Panel. - On December 19, 2008, OEHH adopted new acute, 8-hour, and chronic RELs for acetaldehyde, acrolein, formaldehyde, manganese, and mercury. The most current health values can be found at: http://www.oehha.ca.gov/air/relis.html. Note: 1. We present the new oral RELs only in milligrams per kilogram-day (mg/kg-d), although OEHH has presented them in other tables in either micrograms per kilogram-day (ug/kg-d) or milligrams per kilogram-day. 2. All acute RELs use a 1-hour averaging period (OEHH, 2008). RELs which were developed using earlier guidelines and specified a different averaging time are unchanged in concentration value, but now refer to the 1-hour averaging period. As of August 1, 2013, the affected chemicals are: benzene, carbon disulfide, carbon tetrachloride, chloroform, ethylene glycol monoethyl ether, ethylene glycol monoethyl ether acetate, and ethylene glycol dimethyl ether. These may be replaced by updated RELs following the OEHH (2008) guidelines in due course. 3. An OEHH's direction, the chronic oral REL for arsenic does not apply to arsine because arsine is a gas and not particle associated. - OEHH's adoption of the World Health Organization's 2005 Toxicity Equivalency Factors for polychlorinated dibenzo-p-dioxins (PCDDs), dibenzofurans (PCDFs), and dioxin-like polychlorinated biphenyls (PCBs) occurred in January 2011. See Appendix C of OEHH's Air Toxics Hot Spots Program Technical Support Document for Cancer Potencies at https://oehha.ca.gov/air/cmt/technical-support-document-cancer-potencies-2011-2009 for more information. - On March 23, 2012, OEHH 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_relis/032312CREL.html. - On July 29, 2013, OEHH adopted an acute and 8-hour REL, and a revised chronic REL for 1,3-butadiene. The REL values and summary can be found online at: http://www.oehha.ca.gov/air/hot_spots/index.html. - On October 18, 2013, the following changes were made to the Consolidated Table of OEHH/ARB Approved Risk Assessment Health Values: - OEHH adopted acute, 8-hour, and chronic RELs for caprolactam. The REL values and summary can be found at: https://oehha.ca.gov/media/downloads/cmt/caprolactam2013.pdf. - Changes have been made to target organs to the following substances with no change to health factors: Chloroform, Diethanolamine, Fluorides and Hydrogen Fluoride, Methylene Chloride, Styrene, Xylenes. The "date added" in this table reflects the date of the health factor only. - On June 27, 2014, OEHH adopted a new 8-hour REL and revised acute and chronic RELs for benzene. The REL values and summary can be found at: http://www.oehha.ca.gov/air/chronic_relis/BenzeneJune2014.html. - On March 28, 2016, OEHH adopted new and revised RELs for toluene diisocyanate (TDI) and methylene diphenyl diisocyanate (MDI). The REL values and summaries can be found at: http://www.oehha.ca.gov/air/chronic_relis/032816TDI_MDI_RELs.html. On March 30, 2016, the name of MDI was changed from methylene diphenyl isocyanate to a more accurate name: methylene diphenyl diisocyanate. - On September 8, 2016, OEHH adopted an updated inhalation cancer unit risk factor (URF) for perchloroethylene (PCE or tetrachloroethylene). The updated URF and summary can be found at: http://oehha.ca.gov/air/cmt/notice-adoption-inhalation-cancer-unit-risk-factor-pce-tetrachloroethylene.
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Table 1
CONSOLIDATED TABLE OF OEHHH/ARB APPROVED RISK ASSESSMENT HEALTH VALUES*

	- On February 21, 2017, OEHHH adopted new acute, 8-hour, and chronic inhalation RELs for carbonyl sulfide. The REL values and summary can be found at http://oehha.ca.gov/air/crm/notice-adoption-reference-exposure-levels-carbonyl-sulfide. - On May 4, 2018, OEHHH adopted new 8-hour and chronic inhalation REL, and a revised acute REL for ethylene glycol butyl ether. The REL values and summary can be found at: https://oehha.ca.gov/air/chemicals/ethylene-glycol-mono-butyl-ether. - On August 16, 2018, OEHHH adopted an inhalation URF, inhalation cancer potency factor, and oral cancer potency factor for tertiary-butyl acetate (TBAC). Although OEHHH has adopted an oral cancer potency value for tertiary-butyl acetate, its chemical/biological properties do not fit the multipathway scheme. Therefore, non-inhalation pathway risks calculated from this value will be zero because the transfer factors are set to zero. Please contact OEHHH for more information. The values can be found at: https://oehha.ca.gov/air/crm/notice-adoption-cancer-inhalation-unit-risk-factors-cobalt-and-cobalt-compounds. - On September 6, 2019, OEHHH adopted new RELs for hexamethylene diisocyanate. The REL values and summary can be found at: https://oehha.ca.gov/air/crm/notice-adoption-reference-exposure-levels-hexamethylene-diisocyanate. - On August 20, 2020, OEHHH adopted new and revised RELs for toluene. The REL values and summary can be found at: https://oehha.ca.gov/air/crm/notice-adoption-reference-exposure-levels-toluene. - On October 2, 2020, OEHHH adopted a new inhalation URF for cobalt. The updated URF and summary can be found at: https://oehha.ca.gov/air/crm/notice-adoption-cancer-inhalation-unit-risk-factors-cobalt-and-cobalt-compounds. - On August 31, 2022, OEHHH adopted new RELs for trivalent chromium (Cr(III)). The REL values and summary can be found at: https://oehha.ca.gov/air/document/chromium-trivalent-inorganic-water-soluble-compounds-reference-exposure-levels-rels. - August 2022 (8/22) is listed to reflect the new pollutants that were added to Appendix A-1: Substances for Which Emissions Must be Quantified in the 2022 Emission Inventory. Criteria Guidelines (https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots-hot-spots-inventory-guidelines). OEHHH was consulted to determine which existing health values may be applied to these new pollutants. Health values were added for 61 pollutants on August 31, 2022. OEHHH was also consulted on the appropriate MNAF, if applicable. - Selenium hexafluoride (7783-79-1): The health values for fluorides were applied to selenium hexafluoride. Selenium also has a set of health values; however, the Hot Spots Analysis and Reporting Program (HARP) software can only apply one set of health values for each pollutant. To account for the additional toxicity of selenium, the MNAF default is 1. - On December 9, 2022, OEHHH adopted a new inhalation cancer unit risk factor (URF) for 1-bromopropane. The URF and summary can be found at: https://oehha.ca.gov/air/crm/notice-adoption-cancer-inhalation-unit-risk-and-slope-factors-1-bromopropane. - On April 28, 2023, OEHHH adopted new RELs for 1-bromopropane. The REL values and summary can be found at: https://oehha.ca.gov/air/crm/notice-adoption-reference-exposure-levels-1-bromopropane. - On August 4, 2023, OEHHH adopted a revised cancer URF for cobalt sulfate heptahydrate and water-soluble cobalt compounds. The updated URF and summary can be found at: https://oehha.ca.gov/air/crm/notice-adoption-revised-cancer-inhalation-unit-risk-factors-cobalt-sulfate-heptahydrate-and. - On October 6, 2023, OEHHH adopted new RELs for trimethylbenzenes. The REL values and summary can be found at: https://oehha.ca.gov/air/crm/notice-adoption-reference-exposure-levels-trimethylbenzenes. - On January 3, 2025, OEHHH adopted a new inhalation URF for isoprene. The URF and summary can be found at: https://oehha.ca.gov/air/crm/notice-adoption-cancer-inhalation-unit-risk-factor-isoprene.
d	Inhalation cancer potency factor: The "unit risk factor" has been replaced in the new risk assessment algorithms by a factor called the "inhalation cancer potency factor". Inhalation cancer potency factors are expressed as units of inverse dose [i.e., (mg/kg-day)⁻¹]. They were derived from unit risk factors [units = (ug/m³)⁻¹] by assuming that a receptor weighs 70 kilograms and breathes 20 cubic meters of air per day. The inhalation potency factor is used to calculate a potential inhalation cancer risk using the new risk assessment algorithms defined in the OEHHH, <i>Air Toxics Hot Spots Program; Technical Support Document for Exposure Assessment and Stochastic Analysis</i> (August 2012). (https://oehha.ca.gov/media/downloads/crm/exposureassessment2012td.pdf)
e	Molecular Weight Adjustment Factor: For most of the Hot Spots toxic metals, the OEHHH cancer potency factors and noncancer RELs apply to the weight of the toxic metal atom contained in the overall compound. Some of the Hot Spots compounds contain various elements along with the toxic metal atom (e.g., "Nickel hydroxide", CAS number 12054-48-7, has a formula of H₂NiO₂). Therefore, an adjustment to the reported pounds of the overall compound is needed before applying the OEHHH cancer potency factor and noncancer RELs for "Nickel and compounds" to such a compound. This ensures that the cancer potency factor and noncancer RELs are applied only to the fraction of the overall weight of the emissions that are associated with health effects of the metal. In other cases, the Hot Spots metals are already reported as the metal atom equivalent (e.g., CAS 7440-02-0, "Nickel"), and these cases do not use any further molecular weight adjustment. (Refer to Note [7] in Appendix A, List of Substances in the EICG Report for further information on how the emissions of various Hot Spots metal compounds are reported.) The appropriate molecular weight adjustment factors (MNAF) to be used along with the OEHHH cancer potency factors and noncancer RELs for Hot Spots metals can be found in the MNAF column of this table. So, for example, assume that 100 pounds of "Nickel hydroxide" emissions are reported under CAS number 12054-48-7. To get the Nickel atom equivalent of these emissions, multiply by the listed MNAF (0.6332) for Nickel hydroxide: 100 pounds x 0.6332 = 63.32 pounds of Nickel atom equivalent. This step should be completed prior to applying the OEHHH cancer potency factor and noncancer RELs for "Nickel and compounds" in a calculation for a prioritization score or risk assessment calculation. (Note -The HARP software automatically applies the appropriate MNAF for each Hot Spots chemical (by CAS number), so the emissions should not be manually adjusted when using HARP. Therefore, if using HARP, you would use 100 pounds for Nickel hydroxide and HARP will make the MNAF adjustment for you. If not using HARP, you would use 63.32 pounds.) For more information on MNAF please refer to Section 4.2.1.1 of OEHHH's document <i>The Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments</i> (Guidance Manual) (February 2015). Note: The value listed in the MNAF column for Asbestos is not a molecular weight adjustment. This is a conversion factor for adjusting mass and fibers or structures. See Appendix C of OEHHH's Guidance Manual (February 2015) for more information on Asbestos reporting and risk assessment information or see the EICG report for reporting guidance. Also see the Asbestos footnote (designated by the letter f).

Appendix 3 Cont'd

Table 1
CONSOLIDATED TABLE OF OEHHAA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES*

TAC	Toxic Air Contaminant: The Air Resources Board has identified this substance as a Toxic Air Contaminant. (https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants)
f	Asbestos: The units for the Inhalation Cancer Potency factor for asbestos are (100 PCM fibers/m ³) ⁻¹ . A conversion factor of 100 fibers/0.003 µg can be multiplied by a receptor concentration of asbestos expressed in µg/m ³ . Unless other information necessary to estimate the concentration (fibers/m ³) of asbestos at receptors of interest is available. A unit risk factor of 1.9 E 10 ⁻⁴ (µg/m ³) ⁻¹ and an inhalation cancer potency factor of 2.2 E 10 ⁻² (mg/kg BW * day) ⁻¹ are available. For more information on asbestos quantity conversion factors, see Appendix F of OEHA's <i>The Air Toxics Hot Spots Program Risk Assessment Guidelines, Part II: Technical Support Document for Cancer Potency Factors (May 2009)</i> (https://oehha.ca.gov/air/crm/technical-support-document-cancer-potency-factors-2009), and Appendix C of OEHA's <i>Guidance Manual (February 2015)</i> (https://oehha.ca.gov/air/crm/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0).
g	Chromium 6 (Hexavalent Chromium): In July 2011, OEHA developed the oral cancer slope factor for chromium 6+ and compounds for the California Public Health Goal in drinking water. As of February 2014, OEHA states it should also be used for the Hot Spots Program.
h	Lead, inorganic: Inorganic Lead was identified by the Air Resources Board as a Toxic Air Contaminant in April 1987. Since information on noncancer health effects show no identified threshold, no Reference Exposure Level has been developed. The document, <i>Risk Management Guidelines for New, Modified, and Existing Sources of Lead</i> , March 2001, has been developed by ARB and OEHA staff for assessing noncancer health impacts from sources of lead (https://ww2.arb.ca.gov/sites/default/files/classic/toxics/lead/mainandappend.pdf). See Appendix F of OEHA's document <i>The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003)</i> for an overview of how to evaluate noncancer impacts from exposure to lead using these risk management guidelines (https://oehha.ca.gov/media/downloads/crm/2015guidancemanual.pdf).
i	Particulate Emissions from Diesel-Fueled Engines: The inhalation cancer potency factor was derived from whole diesel exhaust and should be used only for impacts from the inhalation pathway (based on diesel PM measurements). The inhalation impacts from speciated emissions from diesel-fueled engines are already accounted for in the inhalation cancer potency factor. However, at the discretion of the risk assessor, speciated emissions from diesel-fueled engines may be used to estimate acute noncancer health impacts or the contribution to cancer risk or chronic noncancer health impacts for the non-inhalation exposure pathway. See Appendix D of OEHA's document <i>The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003)</i> for more information. The noncancer chronic REL for diesel exhaust is based on assumptions of contributions of diesel PM to ambient PM. It should be used with diesel PM measurement.
j	Cancer Potency Factors (CPF) for unspecified mixtures of Polychlorinated Biphenyls: High Risk: For use in cases where congeners with more than four chlorines comprise more than one-half percent of total polychlorinated biphenyls. Use as default CPF for Tier 1 assessments. Low Risk: This number would not ordinarily be used in the Hot Spots program. Lowest Risk: For use in cases where congeners with more than four chlorines comprise less than one-half percent of total polychlorinated biphenyls. As of February 2014, there is no approved method that can be used to assess the noncancer hazard of an unspecified PCB mixture. Persons preparing HRAs for the Hot Spots Program should consult with OEHA and the local Air Pollution Control or Air Quality Management District if an assessment of the noncancer hazard for unspecified PCB mixtures is needed.
k	Polychlorinated Dibenzop-dioxins and Polychlorinated Dibenzofurans (also referred to as chlorinated dioxins and dibenzofurans) and dioxin-like PCB congeners: The OEHA has adopted the World Health Organization 2005 (WHO-05) Toxicity Equivalency Factors (TEFs) for polychlorinated dibenzop-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) and dioxin-like PCB congeners. See Appendix A of OEHA's <i>Technical Support Document for Describing Available Cancer Potency Factors</i> for more information about the scheme. See Appendix C (revised January 20, 2011) of OEHA's <i>Technical Support Document: Methodologies for Derivation, Listing of Available Values, and Adjustments to Allow for Early Life Exposures (2009)</i> online at http://oehha.ca.gov/air/hot_spots/hst/052909.html for more information about the scheme. The two numbers (i.e., 1085 and 1086) in the column listing Chemical Abstracts Numbers are used for reporting and risk assessment purposes. Be sure to input emissions under the proper code when using the HARP software. ID code 1085 has no health values associated with it in the HARP software; therefore, no health impacts will be calculated when using ID 1085. See the Emissions Inventory Criteria and Guidelines for more information on reporting emissions.
l	Polycyclic Aromatic Hydrocarbons (PAHs): These substances are PAH or PAH-derivatives that have OEHA-developed Potency Equivalency Factors (PEFs) which were approved by the Scientific Review Panel in April 1994 (see ARB document <i>Cyclical Benz[a]pyrene as a Toxic Air Contaminant</i>). PAH inhalation slope factors listed here have been adjusted by the PEFs. See OEHA's <i>Technical Support Document: Methodologies for Derivation, Listing of Available Values, and Adjustments to Allow for Early Life Exposures (2009)</i> for more information about the scheme. Section 8.2.3 and Appendix G of OEHA's <i>The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003)</i> also contains information on PAHs.
m	The two numbers (i.e., 1150 and 1151) in the column listing Chemical Abstracts Numbers are used for reporting and risk assessment purposes. Be sure to input emissions under the proper code when using the HARP software. ID code 1150 has no health values associated with it in the HARP software; therefore, no health impacts will be calculated when using ID 1150. See the Emissions Inventory Criteria and Guidelines for more information on reporting emissions.
n	SELENIUM AND COMPOUNDS: In February 2014, an oral REL was added to the consolidated table. The REL was adopted in December 2001 but could not be used by the Hot Spots Program (or HARP software) until transfer factors for the oral and dermal routes were adopted. Transfer factors were included in the OEHA's <i>Technical Support Document for Exposure Assessment and Stochastic Analysis (August 2012)</i> and were added to the HARP software in March 2015. 1,6-HEXAMETHYLENE DIISOCYANATE (HDI): On September 19, 2019, acute, 8-hour, and chronic RELs were added to the table and HARP for the HDI (monomer). OEHA adopted these RELs and others for HDI polyisocyanates on September 6, 2019. The Acute, 8-hour, and chronic RELs for HDI polyisocyanates were added to the consolidated table and HARP on August 31, 2022.

Appendix 3 Cont'd

Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES^a

N/A	Not Applicable.
Other Changes:	
10/18/2010, removed CHLORODIFLUOROMETHANE, which should have been removed in May 2008.	
February 2014:	
- Removed applicability of oleum to the sulfuric acid chronic inhalation REL because oleum represents only an acute health hazard. - Removed "METHYL MERCURY (see Mercury & Compounds)" entry because methyl mercury has different chemical properties, potency, and toxicity compared to elemental mercury and mercury salts, and it is not emitted directly from any California facilities. - September 1, 2017, changed the "1101 Fluorides" entry back to "1101 Fluorides and compounds" to keep the consistency with the Emission Inventory Guidelines. The substance name for CAS# 1101 was changed from "Fluorides and compounds" as in 2002 to "Fluorides" in 2003 without footnotes about the change.	