

California Environmental Protection Agency

 **Air Resources Board**

**The Identification of
Federal Hazardous Air Pollutants
as Toxic Air Contaminants**

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**State of California
Air Resources Board
Stationary Source Division**

State of California
California Environmental Protection Agency

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Staff Report
The Identification of Federal Hazardous Air Pollutants
as Toxic Air Contaminants

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TABLE OF CONTENTS

	<u>Page</u>
I. <u>Background and Summary</u>	
A. Introduction	1
B. Federal Hazardous Air Pollutants	1
C. AB 2728	2
D. Summary	2
II. <u>Identification of Substances as TACs</u>	
A. Under AB 1807	3
B. Under AB 2728	4
III. <u>Changes in Other State Agencies and Review Groups</u>	5
IV. <u>Environmental Impacts</u>	6
V. <u>Economic Impacts</u>	7

APPENDIX 1 Assembly Bill 2728

APPENDIX 2 Final Regulation Order: List of 189 Federal Hazardous Air Pollutants

APPENDIX 3 April 1993 Toxic Air Contaminant Identification List

I.

BACKGROUND AND SUMMARY

A. INTRODUCTION

In this report, the staff of the Air Resources Board (ARB or Board) presents the identification of the 189 federal hazardous air pollutants (HAPs) as toxic air contaminants (TACs). On April 8, 1993, the Board identified, by regulation, the 189 HAPs as TACs as required by Assembly Bill 2728 (AB 2728, Tanner, Chapter 1161, statutes of 1992, see Appendix 1 for a copy of AB 2728).

B. FEDERAL HAZARDOUS AIR POLLUTANTS

HAPs are toxic substances listed by Congress, as recommended by the United States Environmental Protection Agency (U.S. EPA), in section 112 (b) of the federal Clean Air Act Amendments of 1990 (42 USC section 7412 (b)). The U.S. EPA is required to use this list for establishing categories of sources and determining emissions standards. The U.S. EPA chose these 189 substances because they are known to have or may have adverse effects on human health or the environment.

C. AB 2728

AB 2728 amended the state's AB 1807 (Tanner, Chapter 1047 statutes of 1983, Health and Safety Code sections 39660, et seq.) program for the identification and control of TACs. It required the Board to identify federal HAPs as TACs and provided for coordination of the AB 1807 control program with the federal control program. This report focuses solely on the regulation adopted by the Board on April 8, 1993, identifying federal HAPs as TACs.

D. SUMMARY

On April 8, 1993, the Board adopted the staff recommendations to identify the 189 federal HAPs as TACs as required by AB 2728 (Appendix 2) and approve the amended Toxic Air Contaminant Identification List for the TAC program which has the 189 HAPs in Category I, "Substances Identified as TACs by the ARB" (Appendix 3). We will work with the Office of Environmental Health Hazard Assessment (OEHHA) and the Scientific Review Panel (SRP) to develop potency numbers for the 189 HAPs. Also, we will periodically update the Board on the potency numbers as they are developed. Further, we will review the list of federal HAPs for possible changes. If there are changes to the federal list of HAPs, we may subsequently propose modifications to the list of substances identified as TACs by the ARB.

II.

IDENTIFICATION OF SUBSTANCES AS TACS

A. UNDER AB 1807

On April 8, 1993, the Board identified the 189 federal HAPs as TACs. The Board will continue to identify toxic substances that are not HAPs through the state's AB 1807 program.

Under the AB 1807 identification process, the ARB and the OEHHA staff prepare a report that serves as the basis for the identification of a TAC. The OEHHA reviews the health effects information available and provides potency numbers, while the ARB gathers the exposure information. The public is given an opportunity to review the report and make written and oral comments at various points during the process. After the workshop and public comment periods, the SRP reviews the scientific accuracy of the report and prepares its "Findings" which are sent to the Board. Finally, the ARB conducts a public hearing during which the decision is made as to whether a substance will be formally identified as a TAC.

B. UNDER AB 2728

AB 2728 changed the way certain substances became identified as TACs under the AB 1807 program. Substances which are federal HAPs were identified as TACs by the Board through a streamlined regulation. The intent of AB 2728 was to save the state the time and expense of individually identifying each of the 189 HAPs as TACs, in recognition of the fact that the Congress and U.S. EPA have already conducted an elaborate process to evaluate and identify these substances. The 189 HAPs will be evaluated and prioritized for development of potency numbers by the DEHHA and the SRP. In this phase, the SRP will determine whether or not a threshold exists for the substance. Once potency numbers are developed, the staff will evaluate the need for control measures.

It should be noted that some substances on the federal HAPs list were identified by the Board as TACs under AB 1807; these are noted with an asterisk on the list contained in Appendix 3. Also, if the federal HAPs list is modified under the federal Clean Air Act process, which allows for additions and deletions of substances, we will update our list accordingly, through the Board process. Finally, all of the 189 HAPs are already included and are being addressed in the AB 2588 Air Toxics "Hot Spots" program.

III.

CHANGES IN OTHER STATE AGENCIES AND REVIEW GROUPS

With the identification of the 189 HAPs as TACs, the process to be used by the OEHHA and SRP for the evaluation of potency numbers for these substances will be modified. Similar to the AB 1807 process, the ARB and OEHHA staffs will prioritize the HAPs for evaluation of potency numbers. In the AB 1807 process the ARB and OEHHA staffs submit a report on one substance at a time to the SRP for review. Under the new process, the OEHHA will be developing reports specifically on potency numbers which may address more than one substance at a time, depending on the information available. The ARB and OEHHA staffs will work closely with the SRP on the modified process. Throughout the entire process there will continue to be ample opportunity for public comment, both written and orally at public workshops and meetings.

For non-HAPs, the SRP will also continue to review and approve the individual AB 1807 identification reports for those substances.

The list of 189 HAPs includes 82 substances which have pesticidal uses. Of these, 38 substances are registered in California as pesticides. All of the 38 substances also have industrial uses. Although the Board has identified these as TACs, the Department of Pesticide Regulation retains the sole authority to identify and to regulate pesticides in their pesticidal uses.

IV.

ENVIRONMENTAL IMPACTS

The identification of 189 HAPs as TACs is not expected to result in any adverse impact on the environment. Ultimately, the Board's identification of 189 HAPs as TACs and the subsequent analysis of the need to control emissions in the amended AB 1807 control program may result in the adoption of control measures by regulation pursuant to Health and Safety Code Sections 39665 and 39666. When the ARB considers adopting control measures by later regulation, the ARB will consider all potential adverse impacts of the measures on the environment, as well as the potential benefits to public health by reducing HAP emissions. Environmental impacts identified with respect to specific future control measures will be included in the consideration of such control measures pursuant to Health and Safety Code Sections 39665 and 39666.

V.

ECONOMIC IMPACTS

The Board's identification of the 189 HAPs as TACs will have no direct economic impact on private persons, businesses or other governmental entities. Identification alone imposes no compliance costs, alters no permit condition and affects no fee.

Once potency factors have been developed for individual TACs by the OEHHA and endorsed by the SRP, these substances become candidates for the establishment of control measures. No control measures are proposed in this regulatory action. Control measures must be adopted by regulation. If and when a control measure is proposed for any of these 189 HAPs, its impact on businesses, and government will be fully assessed by the ARB and the air pollution control districts in public forums where the need, degree, cost and other impacts of control will be evaluated.

It should be noted that this identification of HAPs as TACs will not affect consumer products that have been regulated by the ARB. Title 17 CCR section 94502(d) of the antiperspirants and deodorants regulation prohibits the manufacture, sale, offer to sell and supply of any antipersperant or deodorant which contains any compound that has been identified by the ARB as

a toxic air contaminant in Title 17 CCR section 93000. This identification of HAPs as TACs appears in Title 17 CCR section 93001, not in section 93000, and does not affect the antiperspirants and deodorants regulation for this reason. The action neither added to nor subtracted from the list of TACs at Title 17 CCR section 93000. Should ARB staff determine a need to move substances from section 93001 to 93000, it will be done only after public comment and full participation at public workshops and meetings.

The ARB's comprehensive consumer products regulation (Title 17 CCR sections 94507-94517) was also not affected by the proposed action. The consumer products regulation does not specify any general restrictions on the use of toxic air contaminants in consumer products as are contained in Title 17 CCR section 94502.

APPENDIX 1

ASSEMBLY BILL 2728

Assembly Bill No. 2728

CHAPTER 1161

An act to amend Sections 39660, 39661, 39662, 39665, 39666, 39670, 39674, and 39675 of, to add Section 39669 to, and to add Article 2.5 (commencing with Section 39656) to, and to repeal and add Article 2 (commencing with Section 39655) of, Chapter 3.5 of Part 2 of Division 26 of, the Health and Safety Code, relating to air pollution.

[Approved by Governor September 29, 1992. Filed with
Secretary of State September 30, 1992.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2728, Tanner. Toxic air contaminants.

(1) Existing law (the Governor's Reorganization Plan No. 1 of 1991 which took effect on July 17, 1991) creates the Office of Environmental Health Hazard Assessment and the Department of Pesticide Regulation in the California Environmental Protection Agency administered by the Secretary for Environmental Protection.

This bill would make various statutory changes in provisions relating to toxic air contaminants to conform statutes to the plan.

(2) Existing law requires the State Air Resources Board to adopt airborne toxic control measures to reduce emissions of toxic air contaminants from nonvehicular sources.

This bill would require the state board to identify or designate various substances as toxic air contaminants, and to establish airborne toxic control measures, with reference to federal law, as specified.

The bill would authorize the state board and air pollution control districts and air quality management districts to take prescribed actions to regulate certain toxic air contaminants.

(3) Existing law requires the office to evaluate the health effects of, and prepare recommendations regarding, substances, other than pesticides and their pesticidal use.

This bill would prescribe additional matters to be included in the evaluation.

(4) The bill would delete obsolete provisions.

(5) This bill also makes additional changes proposed by AB 1572, to be operative only if AB 1572 and this bill are both chaptered and become effective on or before January 1, 1993, and this bill is chaptered last.

The people of the State of California do enact as follows:

SECTION 1. Article 2 (commencing with Section 39655) of Chapter 3.5 of Part 2 of Division 26 of the Health and Safety Code is repealed.

SEC. 2. Article 2 (commencing with Section 39655) is added to Chapter 3.5 of Part 2 of Division 26 of the Health and Safety Code, to read:

Article 2. Definitions

39655. As used in this chapter:

(a) "Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant. A toxic air contaminant which is a pesticide shall be regulated in its pesticidal use by the Department of Pesticide Regulation pursuant to Article 1.5 (commencing with Section 14021) of Chapter 3 of Division 7 of the Food and Agricultural Code.

(b) "Airborne toxic control measure" means either of the following:

(1) Recommended methods, and, where appropriate, a range of methods, that reduce, avoid, or eliminate the emissions of a toxic air contaminant. Airborne toxic control measures include, but are not limited to, emission limitations, control technologies, the use of operational and maintenance conditions, closed system engineering, design, equipment, or work practice standards, and the reduction, avoidance, or elimination of emissions through process changes, substitution of materials, or other modifications.

(2) Emission standards adopted by the Environmental Protection Agency pursuant to Section 112 of the federal act (42 U.S.C. Sec. 7412).

(c) "Pesticide" means any economic poison as defined in Section 12753 of the Food and Agricultural Code.

(d) "Federal act" means the Clean Air Act (42 U.S.C. 7401 et seq.), as amended by the Clean Air Act Amendments of 1990 (P.L. 101-549), and as the federal act may be further amended.

(e) "Office" means the Office of Environmental Health Hazard Assessment.

SEC. 3. Article 2.5 (commencing with Section 39656) is added to Chapter 3.5 of Part 2 of Division 26 of the Health and Safety Code, to read:

Article 2.5. Coordination With the Federal Act

39656. It is the intent of the Legislature that the state board and the districts implement a program to regulate toxic air contaminants that will enable the state to receive approval to implement and enforce emission standards and other requirements for air pollutants subject to Section 112 of the federal act (42 U.S.C. Sec. 7412). The

state board and the districts may establish a program that is consistent with the requirements for state programs set forth in subsection (1) of Section 112 and Section 502 of the federal act (42 U.S.C. Secs. 7412(1) and 7661a). Nothing in this chapter requires that the program be identical to the federal program for hazardous air pollutants as set forth in the federal act.

39657. (a) Except as provided in subdivision (b), the state board shall identify toxic air contaminants which are emitted into the ambient air of the state using the procedures and following the requirements prescribed by Article 3 (commencing with Section 39660).

(b) The state board shall, by regulation, designate any substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) as a toxic air contaminant. A regulation which designates a hazardous air pollutant as a toxic air contaminant shall be deemed to be a regulation mandated by federal law and is not subject to Section 11346.7 of the Government Code, Article 6 (commencing with Section 11349) of Chapter 3.5 of Part 1 of Division 3 of Title 2 of the Government Code, or Article 3 (commencing with Section 39660).

39658. The state board shall establish airborne toxic control measures for toxic air contaminants in accordance with all of the following:

(a) If a substance is identified as a toxic air contaminant pursuant to Article 3 (commencing with Section 39660), the airborne toxic control measure applicable to the toxic air contaminant shall be adopted following the procedures and meeting the requirements of Article 4 (commencing with Section 39665).

(b) If a substance is designated as a toxic air contaminant because it is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)), the state board shall establish the airborne toxic control measure applicable to the substance as follows:

(1) If an emission standard applicable to the hazardous air pollutant has been adopted by the Environmental Protection Agency pursuant to Section 112 of the federal act (42 U.S.C. Sec. 7412), except as provided in paragraphs (2), (3), and (4), that emission standard adopted pursuant to Section 112 of the federal act (42 U.S.C. Sec. 7412) for the hazardous air pollutant is also the airborne toxic control measure for the toxic air contaminant. The state board shall implement the relevant emission standard and it shall be the airborne toxic control measure for purposes of this chapter. The implementation of the emission standard is not subject to Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code or Article 4 (commencing with Section 39665).

(2) If an emission standard applicable to the hazardous air pollutant has been adopted by the Environmental Protection

Agency pursuant to Section 112 of the federal act (42 U.S.C. Sec. 7412) and the state board finds that the emission standard does not achieve the purposes set forth in subdivision (b) or (c), as applicable, of Section 39666, the state board shall adopt an airborne toxic control measure for the toxic air contaminant that it finds will achieve those purposes. The state board shall, when it adopts an airborne toxic control measure pursuant to this paragraph, follow the procedures and meet the requirements of Article 4 (commencing with Section 39665).

(3) If the state board implements an airborne toxic control measure applicable to the substance pursuant to paragraph (1) and later finds that the purposes set forth in subdivision (b) or (c), as applicable, of Section 39666 are not achieved by the airborne toxic control measure, the state board may revise the airborne toxic control measure to achieve those purposes. The state board shall, when it revises an airborne toxic control measure pursuant to this paragraph, follow the procedures and meet the requirements of Article 4 (commencing with Section 39665). The state board may revise an airborne toxic control measure pursuant to this paragraph only if it first finds that the reduction in risk to the public health that will be achieved by the revision justifies the burden that will be imposed on persons who are in compliance with the airborne toxic control measure previously implemented pursuant to paragraph (1).

(4) If an emission standard applicable to the hazardous air pollutant has not been adopted by the Environmental Protection Agency pursuant to Section 112 of the federal act (42 U.S.C. Sec. 7412), the state board may adopt an airborne toxic control measure applicable to the toxic air contaminant pursuant to Article 4 (commencing with Section 39665).

39659. (a) The state board and the districts may adopt regulations which do both of the following:

(1) Impose monitoring requirements, establish procedures for issuing, reissuing, and enforcing permits, and take any other action that may be necessary to establish, implement, and enforce programs for the regulation of hazardous air pollutants which have been listed as toxic air contaminants pursuant to subdivision (b) of Section 39657.

(2) Meet the requirements of subsection (1) of Section 112 and Section 502 of the federal act (42 U.S.C. Secs. 7412(1) and 7661a) and the guidelines and regulations adopted by the Environmental Protection Agency pursuant to those sections.

(b) In adopting regulations pursuant to subdivision (a), the state board and the districts shall, to the extent necessary to ensure that the requirements of the federal act are met, use the definitions contained in subsection (a) of Section 112 of the federal act (42 U.S.C. Sec. 7412(a)).

SEC. 4. Section 39660 of the Health and Safety Code is amended to read:

39660. (a) Upon the request of the state board, the office, in

consultation with and with the participation of the state board, shall evaluate the health effects of and prepare recommendations regarding substances, other than pesticides in their pesticidal use, which may be or are emitted into the ambient air of California and which may be determined to be toxic air contaminants. The request shall be in accordance with an agreement that ensures that the office's workload in implementing this chapter is not increased over that budgeted for the 1991-92 fiscal year. The agreement shall be revised and the office's workload increased if additional budgetary resources are appropriated to the office.

(b) In conducting this evaluation, the office shall consider all available scientific data, including, but not limited to, relevant data provided by the state board, the State Department of Health Services, the Occupational Safety and Health Division of the Department of Industrial Relations, the Department of Pesticide Regulation, international and federal health agencies, private industry, academic researchers, and public health and environmental organizations.

(c) The evaluation shall assess the availability and quality of data on health effects, including potency, mode of action, and other relevant biological factors, of the substance.

The evaluation shall also contain an estimate of the levels of exposure which may cause or contribute to adverse health effects. Where it can be established that a threshold of adverse health effects exists, the estimate shall include both of the following factors:

(1) The exposure level below which no adverse health effects are anticipated.

(2) An ample margin of safety which accounts for the variable effects that heterogeneous human populations exposed to the substance under evaluation may experience, the uncertainties associated with the applicability of the data to human beings, and the completeness and quality of the information available on potential human exposure to the substance. In cases where there is no threshold of significant adverse health effects, the office shall determine the range of risk to humans resulting from current or anticipated exposure to the substance.

(d) The office shall submit its written evaluation and recommendations to the state board within 90 days after receiving the request of the state board pursuant to subdivision (a). The office may, however, petition the state board for an extension of the deadline, not to exceed 30 days, setting forth its statement of the reasons which prevent the office from completing its evaluation and recommendations within 90 days. Upon receipt of a request for extension of, or noncompliance with, the deadline contained in this section, the state board shall immediately transmit to the Assembly Committee on Rules and the Senate Committee on Rules, for transmittal to the appropriate standing, select, or joint committee of the Legislature, a statement of reasons for extension of the deadline,

along with copies of the office's statement of reasons which prevent it from completing its evaluation and recommendations in a timely manner.

(e) (1) The state board or a district may request, and any person shall provide, information on any substance which is or may be under evaluation and which is manufactured, distributed, emitted, or used by the person of whom the request is made, in order to carry out its responsibilities pursuant to this chapter. To the extent practical, the state board or a district may collect the information in aggregate form or in any other manner designed to protect trade secrets.

(2) Any person providing information pursuant to this subdivision may, at the time of submission, identify a portion of the information submitted to the state board or a district as a trade secret and shall support the claim of a trade secret, upon the written request of the state board or district board. Subject to Section 1060 of the Evidence Code, information supplied which is a trade secret, as specified in Section 6254.7 of the Government Code, and which is so marked at the time of submission, shall not be released to any member of the public. This section shall not be construed to prohibit the exchange of properly designated trade secrets between public agencies when those trade secrets are relevant and necessary to the exercise of their jurisdiction provided that the public agencies exchanging those trade secrets shall preserve the protections afforded that information by this paragraph.

(3) Any information not identified as a trade secret shall be available to the public unless exempted from disclosure by other provisions of law. The fact that information is claimed to be a trade secret is public information. Upon receipt of a request for the release of information which has been claimed to be a trade secret, the state board or district shall immediately notify the person who submitted the information, and shall determine whether or not the information claimed to be a trade secret is to be released to the public. The state board or district board, as the case may be, shall make its determination within 60 days after receiving the request for disclosure, but not before 30 days following the notification of the person who submitted the information. If the state board or district decides to make the information public, it shall provide the person who submitted the information 10 days' notice prior to public disclosure of the information.

(f) The office and the state board shall give priority to the evaluation and regulation of substances based on factors related to the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community. In determining the importance of these factors, the office and the state board shall consider all of the following information, to the extent that it is available:

(1) Research and monitoring data collected by the state board and

the districts pursuant to Sections 39607, 39701, and 40715, and by the Environmental Protection Agency pursuant to paragraph (2) of subsection (k) of Section 112 of the federal act (42 U.S.C. Sec. 7412(k)(2)).

(2) Emissions inventory data reported for substances subject to Part 6 (commencing with Section 44300) and the risk assessments prepared for those substances.

(3) Toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (42 U.S.C. Sec. 11023) and Section 6607 of the Pollution Prevention Act of 1990 (42 U.S.C. Sec. 13106).

(4) Information on estimated actual exposures to substances based on geographic and demographic data and on data derived from analytical methods that measure the dispersion and concentrations of substances in ambient air.

SEC. 5. Section 39661 of the Health and Safety Code is amended to read:

39661. (a) Upon receipt of the evaluation and recommendations prepared pursuant to Section 39660, the state board, in consultation with and with the participation of the office, shall prepare a report in a form which may serve as the basis for regulatory action regarding a particular substance pursuant to subdivisions (b) and (c) of Section 39662.

The report shall include and be developed in consideration of the evaluation and recommendations of the office.

(b) The report, together with the scientific data on which the report is based, shall, with the exception of trade secrets, be made available to the public and shall be formally reviewed by the scientific review panel established pursuant to Section 39670. The panel shall review the scientific procedures and methods used to support the data, the data itself, and the conclusions and assessments on which the report is based. Any person may submit any information for consideration by the panel which may, at its discretion, receive oral testimony. The panel shall submit its written findings to the state board within 45 days after receiving the report. The panel may, however, petition the state board for an extension of the deadline, which may not exceed 15 working days.

(c) If the scientific review panel determines that the health effects report is seriously deficient, the report shall be returned to the state board, and the state board, in consultation with and with the participation of the office, shall prepare revisions to the report which shall be resubmitted, within 30 days following receipt of the panel's determination, to the scientific review panel which shall review the report in conformance with subdivision (b) prior to a formal proposal by the state board pursuant to Section 39662.

SEC. 6. Section 39662 of the Health and Safety Code is amended to read:

39662. (a) Within 10 working days following receipt of the findings of the scientific review panel pursuant to subdivision (c) of Section 39661, the state board shall prepare a hearing notice and a proposed regulation which shall include the proposed determination as to whether a substance is a toxic air contaminant.

(b) After conducting a public hearing pursuant to Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, the state board shall list, by regulation, substances determined to be toxic air contaminants.

(c) If a substance is determined to be a toxic air contaminant, the regulation shall specify a threshold exposure level, if any, below which no significant adverse health effects are anticipated, and an ample margin of safety which accounts for the factors described in subdivision (c) of Section 39660.

(d) In evaluating the nature of the adverse health effect and the range of risk to humans from exposure to a substance, the state board shall utilize scientific criteria which are protective of public health, consistent with current scientific data.

(e) Any person may petition the state board to review a determination made pursuant to this section. The petition shall specify the additional scientific evidence regarding the health effects of a substance which was not available at the time the original determination was made and any other evidence which would justify a revised determination.

SEC. 7. Section 39665 of the Health and Safety Code is amended to read:

39665. (a) Following adoption of the determinations pursuant to Section 39662, the executive officer of the state board shall, with the participation of the districts, and in consultation with affected sources and the interested public, prepare a report on the need and appropriate degree of regulation for each substance which the state board has determined to be a toxic air contaminant.

(b) The report shall address all of the following issues, to the extent data can reasonably be made available:

(1) The rate and extent of present and anticipated future emissions, the estimated levels of human exposure, and the risks associated with those levels.

(2) The stability, persistence, transformation products, dispersion potential, and other physical and chemical characteristics of the substance when present in the ambient air.

(3) The categories, numbers, and relative contribution of present or anticipated sources of the substance, including mobile, industrial, agricultural, and natural sources.

(4) The availability and technological feasibility of airborne toxic control measures to reduce or eliminate emissions, the anticipated effect of airborne toxic control measures on levels of exposure, and the degree to which proposed airborne toxic control measures are compatible with, or applicable to, recent technological

improvements or other actions which emitting sources have implemented or taken in the recent past to reduce emissions.

(5) The approximate cost of each airborne toxic control measure, the magnitude of risks posed by the substances as reflected by the amount of emissions from the source or category of sources, and the reduction in risk which can be attributed to each airborne toxic control measure.

(6) The availability, suitability, and relative efficacy of substitute compounds of a less hazardous nature.

(7) The potential adverse health, safety, or environmental impacts that may occur as a result of implementation of an airborne toxic control measure.

(8) The basis for the finding required by paragraph (3) of subdivision (b) of Section 39658, if applicable.

(c) The staff report, and relevant comments received during consultation with the districts, affected sources, and the public, shall be made available for public review and comment at least 45 days prior to the public hearing required by Section 39666.

SEC. 8. Section 39666 of the Health and Safety Code is amended to read:

39666. (a) Following a noticed public hearing, the state board shall adopt airborne toxic control measures to reduce emissions of toxic air contaminants from nonvehicular sources.

(b) For toxic air contaminants for which the state board has determined, pursuant to Section 39662, that there is a threshold exposure level below which no significant adverse health effects are anticipated, the airborne toxic control measure shall be designed, in consideration of the factors specified in subdivision (b) of Section 39665, to reduce emissions sufficiently so that the source will not result in, or contribute to, ambient levels at or in excess of the level which may cause or contribute to adverse health effects at that level as estimated pursuant to subdivision (c) of Section 39660.

(c) For toxic air contaminants for which the state board has not specified a threshold exposure level pursuant to Section 39662, the airborne toxic control measure shall be designed, in consideration of the factors specified in subdivision (b) of Section 39665, to reduce emissions to the lowest level achievable through application of best available control technology or a more effective control method, unless the state board or a district board determines, based on an assessment of risk, that an alternative level of emission reduction is adequate or necessary to prevent an endangerment of public health.

(d) Not later than 120 days after the adoption or implementation by the state board of an airborne toxic control measure pursuant to this section or Section 39658, the districts shall implement and enforce the airborne toxic control measure or shall propose regulations enacting airborne toxic control measures on nonvehicular sources within their jurisdiction which meet the requirements of subdivisions (b), (c), and (e), except that a district

may, at its option, and after considering the factors specified in subdivision (b) of Section 39665, adopt and enforce equally effective or more stringent airborne toxic control measures than the airborne toxic control measures adopted by the state board. A district shall adopt rules and regulations implementing airborne toxic control measures on nonvehicular sources within its jurisdiction in conformance with subdivisions (b), (c), and (e), not later than six months following the adoption of airborne toxic control measures by the state board.

(c) District new source review rules and regulations shall require new or modified sources to control emissions of toxic air contaminants consistent with subdivisions (b), (c), and (d) and Article 2.5 (commencing with Section 39656).

(f) Where an airborne toxic control measure requires the use of a specified method or methods to reduce, avoid, or eliminate the emissions of a toxic air contaminant, a source may submit to the district an alternative method or methods that will achieve an equal or greater amount of reduction in emissions of, and risk associated with, that toxic air contaminant. The district shall approve the proposed alternative method or methods if the operator of the source demonstrates that the method is, or the methods are, enforceable, that equal or greater amounts of reduction in emissions and risk will be achieved, and that the reductions will be achieved within the time period required by the applicable airborne toxic control measure. The district shall revoke approval of the alternative method or methods if the source fails to adequately implement the approved alternative method or methods or if subsequent monitoring demonstrates that the alternative method or methods do not reduce emissions and risk as required. The district shall notify the state board of any action it proposes to take pursuant to this subdivision. This subdivision is operative only to the extent it is consistent with the federal act.

SEC. 9. Section 39669 is added to the Health and Safety Code, to read:

39669. Nothing in this chapter is a limitation on the authority of the state board or a district to implement and enforce an airborne toxic control measure adopted prior to January 1, 1993.

SEC. 10. Section 39670 of the Health and Safety Code is amended to read:

39670. (a) A nine-member Scientific Review Panel on Toxic Air Contaminants shall be appointed to advise the state board and the Department of Pesticide Regulation in their evaluation of the health effects toxicity of substances pursuant to Article 3 (commencing with Section 39660) of this chapter and Article 1.5 (commencing with Section 14021) of Chapter 3 of Division 7 of the Food and Agricultural Code.

(b) The members of the panel shall be highly qualified and professionally active or engaged in the conduct of scientific research,

and shall be appointed as follows, subject to Section 39671, for a term of three years:

(1) Five members shall be appointed by the Secretary for Environmental Protection, one of whom shall be qualified as a pathologist, one of whom shall be qualified as an oncologist, one of whom shall be qualified as an epidemiologist, one of whom shall be qualified as an atmospheric scientist, and one of whom shall have relevant scientific experience and shall be experienced in the operation of scientific review or advisory bodies.

(2) Two members shall be appointed by the Senate Committee on Rules, one of whom shall be qualified as a biostatistician and one of whom shall be a physician or scientist specializing in occupational medicine.

(3) Two members shall be appointed by the Speaker of the Assembly, one of whom shall be qualified as a toxicologist and one of whom shall be qualified as a biochemist or molecular biologist.

(4) Members of the panel shall be appointed from a pool of nominees submitted to each appointing body by the President of the University of California. The pool shall include, at a minimum, three nominees for each discipline represented on the panel, and shall include only individuals who hold, or have held, academic or equivalent appointments at universities and their affiliates in California.

(c) The Secretary for Environmental Protection shall appoint a member of the panel to serve as chairperson.

(d) The panel may utilize special consultants or establish ad hoc committees, which may include other scientists, to assist it in performing its functions.

(e) Members of the panel, and any ad hoc committee established by the panel, shall submit annually a financial disclosure statement that includes a listing of income received within the preceding three years, including investments, grants, and consulting fees derived from individuals or businesses which might be affected by regulatory actions undertaken by the state board or districts pursuant to this chapter. The financial disclosure statements submitted pursuant to this subdivision are public information. Members of the panel shall be subject to the disqualification requirements of Section 87100 of the Government Code.

(f) Members of the panel shall receive one hundred dollars (\$100) per day for attending panel meetings and meetings of the state board, or upon authorization of the chairperson of the state board while on official business of the panel, and shall be reimbursed for actual and necessary travel expenses incurred in the performance of their duties.

(g) The state board and the office, and, in the case of economic poisons, the Department of Pesticide Regulation, shall provide sufficient resources for support of the panel, including technical, administrative, and clerical support, which shall include, but not be

limited to, office facilities and staff sufficient for the maintenance of files, scheduling of meetings, arrangement of travel accommodations, and preparation of panel findings, as required by subdivision (b) of Section 39651.

SEC. 11. Section 39674 of the Health and Safety Code is amended to read:

39674. (a) Any person who violates any rule or regulation, emission limitation, or permit condition adopted pursuant to Section 39659 or Article 4 (commencing with Section 39665) or which is implemented and enforced as authorized by subdivision (b) of Section 39658 is liable for a civil penalty not to exceed ten thousand dollars (\$10,000) for each day in which the violation occurs.

(b) There is no liability under subdivision (a) if the person accused of the violation alleges by affirmative defense and establishes that the violation is caused by an act which was not the result of intentional or negligent conduct.

SEC. 11.5. Section 39674 of the Health and Safety Code is amended to read:

39674. (a) Any person who violates any rule or regulation, emission limitation, or permit condition adopted pursuant to Section 39659 or Article 4 (commencing with Section 39665) or which is implemented and enforced as authorized by subdivision (b) of Section 39658 is strictly liable for a civil penalty not to exceed one thousand dollars (\$1,000) for each day in which the violation occurs.

(b) (1) Any person who violates any rule or regulation, emission, limitation, or permit condition adopted pursuant to Section 39659 or Article 4 (commencing with Section 39665) or which is implemented and enforced as authorized by subdivision (b) of Section 39658 is liable for a civil penalty not to exceed ten thousand dollars (\$10,000) for each day in which the violation occurs.

(2) Where a civil penalty in excess of one thousand dollars (\$1,000) for each day of violation is sought, there is no liability under this subdivision if the person accused of the violation alleges by affirmative defense and establishes that the violation is caused by an act which was not the result of intentional or negligent conduct.

SEC. 12. Section 39675 of the Health and Safety Code is amended to read:

39675. (a) Sections 42400, 42400.1, 42400.2, and 42402.2 apply to violations of regulations or orders adopted pursuant to Section 39659 or Article 4 (commencing with Section 39665) or which are implemented and enforced as authorized by subdivision (b) of Section 39658. The recovery of civil penalties pursuant to Section 39674 or 42402.2 precludes criminal prosecution pursuant to Section 42400.1 or 42400.2 for the same offense. When a district refers a violation to a prosecuting agency, the filing of a criminal complaint is grounds requiring the dismissal of any civil action brought pursuant to this division.

(b) The adoption of this section does not constitute a change in,

but is declaratory of, existing law.

SEC. 13. Section 11.5 of this bill incorporates amendments to Section 39674 of the Health and Safety Code proposed by both this bill and AB 1572. It shall only become operative if (1) both bills are enacted and become effective on or before January 1, 1993, (2) each bill amends Section 39674 of the Health and Safety Code, and (3) this bill is enacted after AB 1572, in which case Section 11 of this bill shall not become operative.

O

APPENDIX 2

**FINAL REGULATION ORDER:
LIST OF 189 FEDERAL HAZARDOUS AIR POLLUTANTS**

REGULATION ORDER

Add to Titles 17 and 26, California Code of Regulations, Section 93001 to read as follows:

93001. Hazardous Air Pollutants Identified as Toxic Air Contaminants. Each substance listed in this section has been identified as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (42 U.S.C. Section 7412 (b)) and has been designated by the State Board to be a toxic air contaminant pursuant to Health and Safety Code Section 39657.

Substance

Acetaldehyde
Acetamide
Acetonitrile
Acetophenone
2-Acetylaminofluorene
Acrolein
Acrylamide
Acrylic acid
Acrylonitrile
Allyl chloride
4-Aminobiphenyl
Aniline
o-Anisidine
Asbestos
Benzene (including benzene from gasoline)
Benzidine
Benzotrichloride
Benzyl chloride
Biphenyl
Bis(2-ethylhexyl)phthalate (DEHP)
Bis(chloromethyl)ether
Bromoform
1,3-Butadiene
Calcium cyanamide
Caprolactam
Captan
Carbaryl
Carbon disulfide
Carbon tetrachloride
Carbonyl sulfide
Catechol
Chloramben
Chlordane
Chlorine
Chloroacetic acid
2-Chloroacetophenone
Chlorobenzene
Chlorobenzilate
Chloroform
Chloromethyl methyl ether

Chloroprene
Cresols/Cresylic acid (isomers and mixture)
o-Cresol
m-Cresol
p-Cresol
Cumene
2,4-D, salts and esters
DDE
Diazomethane
Dibenzofurans
1,2-Dibromo-3-chloropropane
Dibutylphthalate
1,4-Dichlorobenzene(p)
3,3-Dichlorobenzidene
Dichloroethyl ether (Bis(2-chloroethyl)ether)
1,3-Dichloropropene
Dichlorvos
Diethanolamine
N,N-Diethyl aniline (N,N-Dimethylaniline)
Diethyl sulfate
3,3-Dimethoxybenzidine
Dimethyl aminoazobenzene
3,3-Dimethyl benzidine
Dimethyl carbamoyl chloride
Dimethyl formamide
1,1-Dimethyl hydrazine
Dimethyl phthalate
Dimethyl sulfate
4,6-Dinitro-o-cresol, and salts
2,4-Dinitrophenol
2,4-Dinitrotoluene
1,4-Dioxane (1,4-Diethyleneoxide)
1,2-Diphenylhydrazine
Epichlorohydrin (1-Chloro-2,3-epoxypropane)
1,2-Epoxybutane
Ethyl acrylate
Ethyl benzene
Ethyl carbamate (Urethane)
Ethyl chloride (Chloroethane)
Ethylene dibromide (Dibromoethane)
Ethylene dichloride (1,2-Dichloroethane)
Ethylene glycol
Ethylene imine (Aziridine)
Ethylene oxide
Ethylene thiourea
Ethylidene dichloride (1,1-Dichloroethane)
Formaldehyde
Heptachlor
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexamethylene-1,6-diisocyanate
Hexamethylphosphoramide
Hexane
Hydrazine

Hydrochloric acid
Hydrogen fluoride (Hydrofluoric acid)
Hydroquinone
Isophorone
Lindane (all isomers)
Maleic anhydride
Methanol
Methoxychlor
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl chloroform (1,1,1-Trichloroethane)
Methyl ethyl ketone (2-Butanone)
Methyl hydrazine
Methyl iodide (Iodomethane)
Methyl isobutyl ketone (Hexone)
Methyl isocyanate
Methyl methacrylate
Methyl tert butyl ether
4,4-Methylene bis(2-chloroaniline)
Methylene chloride (Dichloromethane)
Methylene diphenyl diisocyanate (MDI)
4,4-Methylenedianiline
Naphthalene
Nitrobenzene
4-Nitrobiphenyl
4-Nitrophenol
2-Nitropropane
N-Nitroso-N-methylurea
N-Nitrosodimethylamine
N-Nitrosomorpholine
Parathion
Pentachloronitrobenzene (Quintobenzene)
Pentachlorophenol
Phenol
p-Phenylenediamine
Phosgene
Phosphine
Phosphorus
Phthalic anhydride
Polychlorinated biphenyls (Aroclors)
1,3-Propane sultone
beta-Propiolactone
Propionaldehyde
Propoxur (Baygon)
Propylene dichloride (1,2-Dichloropropane)
Propylene oxide
1,2-Propylenimine (2-Methylaziridine)
Quinoline
Quinone
Styrene
Styrene oxide
2,3,7,8-Tetrachlorodibenzo-p-dioxin
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Perchloroethylene)
Titanium tetrachloride
Toluene

2,4-Toluene diamine
 2,4-Toluene diisocyanate
 o-Toluidine
 Toxaphene (chlorinated camphene)
 1,2,4-Trichlorobenzene
 1,1,2-Trichloroethane
 Trichloroethylene
 2,4,5-Trichlorophenol
 2,4,6-Trichlorophenol
 Triethylamine
 Trifluralin
 2,2,4-Trimethylpentane
 Vinyl acetate
 Vinyl bromide
 Vinyl chloride
 Vinylidene chloride (1,1-Dichloroethylene)
 Xylenes (isomers and mixture)
 o-Xylenes
 m-Xylenes
 p-Xylenes
 Antimony Compounds
 Arsenic Compounds (inorganic including arsine)
 Beryllium Compounds
 Cadmium Compounds
 Chromium Compounds
 Cobalt Compounds
 Coke Oven Emissions
 Cyanide Compounds¹
 Glycol ethers²
 Lead Compounds
 Manganese Compounds
 Mercury Compounds
 Fine mineral fibers³
 Nickel Compounds
 Polycyclic Organic Matter⁴
 Radionuclides (including radon)⁵
 Selenium Compounds

NOTE: For all listing above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc) as part of that chemical's infrastructure.

¹X'CN where X=H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)₂

²includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol (R(OCH₂CH₂)_n-OR' where

n = 1, 2 or 3

R = alkyl or aryl groups

$R' = R, H,$ or groups which, when removed, yield glycol ethers with the structure; $R(OCH_2CH)_n-OH$. Polymers are excluded from the glycol category.

- ³ includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.
- ⁴ includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to $100^{\circ}C$.
- ⁵ a type of atom which spontaneously undergoes radioactive decay.

NOTE: Authority cited: Sections 39657, 39600, 39601 and 39662, Health and Safety Code. Reference: Sections 39650, 39655, 39656, 39657, 39658, 39659, 39660, 39661 and 39662, Health and Safety Code.

APPENDIX 3

APRIL 1993 TOXIC AIR CONTAMINANT IDENTIFICATION LIST

Toxic Air Contaminant Identification List

April 1993

I. Substances identified as Toxic Air Contaminants by the Air Resources Board, pursuant to the provisions of AB 1807 and AB 2728 (includes all Hazardous Air Pollutants listed in the Federal Clean Air Act Amendments of 1990).

Acetaldehyde	2,4-D, salts and esters	Hexachlorocyclopentadiene
Acetamide	DDE	Hexachloroethane
Acetonitrile	Diazomethane	Hexamethylene-1,6-diisocyanate
Acetophenone	Dibenzofurans	Hexamethylphosphoramide
2-Acetylaminofluorene	1,2-Dibromo-3-chloropropane	Hexane
Acrolein	Dibutylphthalate	Hydrazine
Acrylamide	1,4-Dichlorobenzene(p)	Hydrochloric acid
Acrylic acid	3,3-Dichlorobenzidine	Hydrogen fluoride (Hydrofluoric acid)
Acrylonitrile	Dichloroethyl ether	Hydroquinone
Allyl chloride	(Bis(2-chloroethyl)ether)	*Inorganic arsenic
4-Aminobiphenyl	1,3-Dichloropropene	Isophorone
Aniline	Dichlorvos	Lindane (all isomers)
o-Anisidine	Diethanolamine	Maleic anhydride
*Asbestos	N,N-Diethyl aniline (N,N-Dimethylaniline)	Methanol
*Benzene (including benzene from gasoline)	Diethyl sulfate	Methoxychlor
Benzidine	3,3-Dimethoxybenzidine	Methyl bromide (Bromomethane)
Benzotrichloride	Dimethyl aminoazobenzene	Methyl chloride (Chloromethane)
Benzyl chloride	3,3-Dimethyl benzidine	Methyl chloroform
Biphenyl	Dimethyl carbamoyl chloride	(1,1,1-Trichloroethane)
Bis(2-ethylhexyl)phthalate (DEHP)	Dimethyl formamide	Methyl ethyl ketone (2-Butanone)
Bis(chloromethyl)ether	1,1-Dimethyl hydrazine	Methyl hydrazine
Bromoform	Dimethyl phthalate	Methyl iodide (Iodomethane)
*1,3-Butadiene	Dimethyl sulfate	Methyl isobutyl ketone (Hexone)
*Cadmium (metallic cadmium and cadmium compounds)	4,6-Dinitro-o-cresol, and salts	Methyl isocyanate
Calcium cyanamide	2,4-Dinitrophenol	Methyl methacrylate
Caprolactam	2,4-Dinitrotoluene	Methyl tert butyl ether
Captan	1,4-Dioxane (1,4-Diethyleneoxide)	4,4-Methylene bis(2-chloroaniline)
Carbaryl	1,2-Diphenylhydrazine	*Methylene chloride
Carbon disulfide	Epichlorohydrin	(Dichloromethane)
*Carbon tetrachloride	(1-Chloro-2,3-epoxypropane)	Methylene diphenyl diisocyanate
Carbonyl sulfide	1,2-Epoxybutane	(MDI)
Catechol	Ethyl acrylate	4,4-Methylenedianiline
Chloramben	Ethyl benzene	Naphthalene
Chlordane	Ethyl carbamate (Urethane)	*Nickel and nickel compounds
Chlorine	Ethyl chloride (Chloroethane)	Nitrobenzene
*Chlorinated dioxins and dibenzofurans (15 species)	*Ethylene dibromide (Dibromoethane)	4-Nitrobiphenyl
Chloroacetic acid	*Ethylene dichloride	4-Nitrophenol
2-Chloroacetophenone	(1,2-Dichloroethane)	2-Nitropropane
Chlorobenzene	Ethylene glycol	N-Nitroso-N-methylurea
Chlorobenzilate	Ethylene imine (Aziridine)	N-Nitrosodimethylamine
*Chloroform	*Ethylene oxide	N-Nitrosomorpholine
Chloromethyl methyl ether	Ethylene thiourea	Parathion
Chloroprene	Ethylidene dichloride	Pentachloronitrobenzene
*Chromium VI	(1,1-Dichloroethane)	(Quintobenzene)
Cresols/Cresylic acid (isomers and mixture)	*Formaldehyde	Pentachlorophenol
o-Cresol	Heptachlor	Phenol
m-Cresol	Hexachlorobenzene	p-Phenylenediamine
p-Cresol	Hexachlorobutadiene	Phosgene
Cumene		Phosphine
		Phosphorus
		Phthalic anhydride
		Polychlorinated biphenyls (Aroclors)
		1,3-Propane sultone

Category I Continued

beta-Propiolactone
 Propionaldehyde
 Propoxur (Baygon)
 Propylene dichloride
 (1,2-Dichloropropane)
 Propylene oxide
 1,2-Propylenimine (2-Methyl aziridine)
 Quinoline
 Quinone
 Styrene
 Styrene oxide
 2,3,7,8-Tetrachlorodibenzo-p-dioxin
 1,1,2,2-Tetrachloroethane
 *Tetrachloroethylene
 (Perchloroethylene)
 Titanium tetrachloride
 Toluene
 2,4-Toluene diamine
 2,4-Toluene diisocyanate
 o-Toluidine
 Toxaphene (chlorinated camphene)
 1,2,4-Trichlorobenzene
 1,1,2-Trichloroethane
 *Trichloroethylene
 2,4,5-Trichlorophenol
 2,4,6-Trichlorophenol
 Triethylamine
 Trilluralin

2,2,4-Trimethylpentane
 Vinyl acetate
 Vinyl bromide
 *Vinyl chloride
 Vinylidene chloride
 (1,1-Dichloroethylene)
 Xylenes (isomers and mixture)
 o-Xylenes
 m-Xylenes
 p-Xylenes
 o Antimony Compounds
 o Arsenic Compounds (inorganic including
 arsine)
 o Beryllium Compounds
 o Cadmium Compounds
 o Chromium Compounds
 o Cobalt Compounds
 o Coke Oven Emissions
 o Cyanide Compounds¹
 o Glycol Ethers²
 o Lead Compounds
 o Manganese Compounds
 o Mercury Compounds
 o Fine mineral fibers³
 o Nickel Compounds
 o Polycyclic Organic Matter⁴
 o Radionuclides (including radon)⁵
 o Selenium Compounds

* Substances which have already been identified by the Board as TACs and which have potency numbers developed by the OEHHa and SRP.

II. Substances currently under review or nominated for review for identification as Toxic Air Contaminants.

A. Substances already in the review process.

Diesel exhaust

Inorganic lead

B. Substances nominated for review.

Dialkyl nitrosamines

Environmental Tobacco Smoke

III. Substances which are being evaluated for entry into Category II (IIA or IIB). Factors considered in this evaluation include carcinogenic and noncarcinogenic health effects, emissions and exposure in California.

Acetone	Gasoline vapors
Aluminum	Glutaraldehyde
Ammonia	Hexachlorocyclohexanes
Ammonium nitrate	Hydrogen sulfide
Ammonium sulfate	Isopropyl alcohol
Barium compounds	4,4'-Isopropylidenediphenol
Benzoyl chloride	Molybdenum trioxide
Bis(2-ethylhexyl) adipate	n-Butyl alcohol
Bromine compounds	Nitric acid
(Inorganic)	Nitrilotriacetic acid
Butyl acrylate	Peracetic acid
Butyl benzyl phthalate	2-Phenylphenol
Carbon black extracts	Phosphoric acid
Chlorinated fluorocarbons	Propene
Chlorine dioxide	sec-Butyl alcohol
Chlorophenols	Silver compounds
Copper compounds	Sodium hydroxide
Creosotes	Sulfuric acid
Crystalline silica	Terephthalic acid
Cumene hydroperoxide	tert-Butyl alcohol
Cyclohexane	Thiourea
Decabromodiphenyl oxide	1,2,4-Trimethylbenzene
Diaminotoluene (mixed isomers)	Zinc compounds
Dicofol	

Note: For all listing above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc) as part of that chemical's infrastructure.

- 1 $X'CN$ where $X=H'$ or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$
- 2 includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol $(R(OCH_2CH_2)_n-OR')$ where $n = 1, 2$ or 3
 $R =$ alkyl or aryl groups
 $R' = R, H,$ or groups which, when removed, yield glycol ethers with the structure; $R(OCH_2CH_2)_n-OH$. Polymers are excluded from the glycol category.
- 3 includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.
- 4 includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to $100^{\circ}C$.
- 5 a type of atom which spontaneously undergoes radioactive decay.

On April 8, 1993, the Board identified all federal hazardous air pollutants (HAPs) as toxic air contaminants (TACs). Therefore, for descriptive purposes, the terms federal "HAPs" and California "TACs" are synonymous.

