

**The California Air Resources Board Air Toxics Hot Spots Program:
Overview for the Scientific Review Panel Chemical List Review**

The California Air Resources Board (CARB) is in the process of amending the AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) regulation, and is soliciting support from the Scientific Review Panel (SRP) in reviewing the proposed updates to the chemical substances list in Appendix A of the regulation. The review of this list by the SRP will provide instructive feedback to CARB as they move forward with revisions to the EICG. Appendix A was last updated in 2007.

I. Background: AB 2588 Air Toxics "Hot Spots" Program

CARB collects air toxics emissions data for stationary sources under requirements established by the Air Toxics "Hot Spots" Act (AB 2588, Connelly). Under this program, stationary source facilities are required to report the types and quantities of toxic substances they routinely release into the air. The goals of this program are to identify facilities having potential for localized impacts; evaluate their health risks; notify nearby residents about significant risks; and ultimately reduce the risks below a health protective threshold.

One of CARB's responsibilities under the program is to develop and maintain the EICG regulation to provide direction to facilities on how to compile and report their air toxics emission data. The EICG outlines specific requirements and information for preparing emission inventories such as:

- Which facilities are subject to emission inventory reporting, including large and medium-sized criteria pollutant facilities, as well as specified smaller facilities that emit less than ten tons per year of criteria pollutants;
- The information that a facility operator must include in a facility's air toxics emission inventory, and its update requirements;
- Source testing requirements, acceptable emission estimation methods, and the reporting formats to be used;
- A look-up table providing guidance regarding the likely air toxic chemicals expected to be associated with industrial sectors, operations, and processes (Appendix C);
- A list of chemical substances (Appendix A) that may pose chronic or acute health threats when present in the air.

Specifically, Appendix A is further subdivided into three tables:

- Appendix A-I: Substances for which Emissions Must Be Quantified. Facilities must evaluate their operations, processes, and handling of materials for listed substances (for example, using Material Safety Data Sheets and other records, and using Appendix C for additional guidance), and prepare a plan for review by the air district regarding the appropriate quantification method they propose to use. A-I is the universe of reported

substances from which priorities are established for the development of recommended exposure limits (RELs) and cancer potencies;

- Appendix A-II: Substances for which Production, Use, or Other Presence Must be Reported (but not quantified); and
- Appendix A-III: Substances Which Need Not Be Reported Unless Manufactured by the Facility

II. Organization of the Files for SRP Review

To facilitate review by the SRP members, we are providing four files:

- **Existing Appendix A.pdf** - A list of the substances in Appendices A-I to A-III of the current regulation (last amended August 27, 2007). This file is being provided for reference/context.
- **Master List of New Proposed Substances.pdf** - A list of over 800 new substances proposed for addition to Appendices A-I to A-III, along with a list of over 600 substances that were evaluated but are not being proposed for inclusion (see section V. below for some of the reasons for screening out chemicals).
- **New Proposed Appendix A-I by Category.pdf** – This is the subset of the Master List: new substances proposed for addition to Appendix A-I, grouped into the following eight categories:
 - a) Carcinogens
 - b) Developmental and Reproductive Toxicants
 - c) Pesticides
 - d) Metals
 - e) Other Inorganics
 - f) Pharmaceuticals
 - g) Neurotoxins
 - h) Other

The “Other” category includes chemicals with diverse health effects, including but not limited to: endocrine disruptors, respiratory irritants, eye irritants, skin irritants, sensitizing agents and asthma triggers, persistent and bioaccumulative toxics (PBTs), additional polycyclic aromatic hydrocarbons (PAHs) and PAH derivatives, isocyanate-related chemicals, and chemicals that are additional specific instances of a chemical group already on the list (e.g., additional examples of chlorobenzenes). If known, the uses of the potential chemical are listed on the table for reference.

- **Master List of New Proposed Substances.xlsx** – An Excel version of the Master List of new substances proposed for addition, separated into tabs for Appendices A-I, A-II, A-III, and substances that were evaluated but are not being proposed for inclusion.

III. SRP's Role in Reviewing the Proposed Update to the EICG Chemical List

CARB staff would like to get SRP members' input on the following questions:

- 1. Are we missing any important air toxic chemicals from the proposed list?**
Health and Safety Code specifies six source lists for CARB to review in compiling the list of chemicals, and also provides explicit CARB authority to include other chemicals of concern. We want to ensure we have been comprehensive in our analysis of choosing additional chemicals to add to the list.
- 2. Are the "functional group" characterizations for emerging chemicals appropriate and adequate? Are there other functional groups to add?**
Besides the A to Z list of named chemicals, CARB staff have proposed 3 new "functional group" categories, which are at the end of the proposed A-I list: poly- and per-fluorinated chemicals of specified types (i.e., PFAS related); derivatives and substituted versions of polycyclic aromatic compounds that contain any halogen atom (chlorine, bromine, fluorine, or iodine); and any chemical containing the Isocyanate functional group. Any chemical containing the listed functional group would be considered an A-I chemical, because it can be reasonably expected to have important health impacts.
- 3. Are there any chemicals on the "Not Proposed for Inclusion" List (the last data section of the Master List) that should be included in one of the A Appendices? (See section V. below for some of the reasons for screening out chemicals).**
Health and Safety Code specifies that chemicals that are listed in Appendix A-I have both toxicity of concern and the potential to be airborne in California. Substances on the "Not Proposed for Inclusion" list will not be regulated under the EICG regulation.

IV. Special Consideration Regarding Pesticides

Pesticides pose special considerations because the primary authority for regulating pesticide application is with the California Department of Pesticide Regulation (CDPR). In the context of the AB 2588 "Hot Spots" program, there is an exclusion provision in the Health and Safety Code (Section 44324) for facilities where an economic poison is employed in its pesticidal use. In most cases, agricultural fields are not defined as a "facility" that is subject to AB 2588, so generally there would not be reporting required for these operations under the Hot Spots program. In any case, a pesticide employed in its pesticidal use in an agricultural field would not be subject to AB 2588. CDPR would have jurisdiction for collecting/reporting data on these field applications of pesticides.

However, there are cases where a "facility" (i.e., a stationary source) that is subject to AB 2588 may do post-harvest commodity fumigation. In cases such as those, it has been determined that at the point where the waste gas is vented, it is no longer in its "pesticidal use," and therefore the air districts have the authority to require permits and reporting of the waste gas.

CARB and CDPR staff have been coordinating on the AB 2588 chemical list update process, and we are proposing to include a note to the pesticides on the Appendix A list, in order to help

clarify this distinction and to explain that reporting requirements would pertain only to “facilities” that are subject to Hot Spots applicability provisions.

V. Reasons for Screening Out Chemicals on the “Not Proposed for Inclusion” list

Health and Safety Code specifies six source lists that CARB must consider for inclusion, but also specifies that the chemical list consider whether the chemical has both toxicity of concern and whether it has the potential to be used/present and become airborne in California. CARB staff, in consultation with OEHHA, has reviewed over a thousand referenced chemicals and has proposed not to include several hundred as not meeting those specifications. Some of the reasons for screening out chemicals (or listing them only in Appendix A-II or A-III) include but are not limited to the following:

- Listing was a “process”, not an actual chemical
- Listing was not an air-related substance (e.g., medical implants, ingestion of beverages) or was not relevant to California facility operations (e.g., viruses on the International Agency for Research on Cancer list)
- Sole reason for consideration was an IARC listing of Group 3 (insufficient evidence for cancer), and CARB/OEHHA staff did not find other evidence of toxicity. These are either put on Appendix A-II, or they are screened out if they are not likely to become airborne (e.g., high boiling point, high molecular weight, and/or not used in a manner that could become airborne, including even not as fugitive dust)