



Explanation of Proposed Cleaner Air Oregon Hazard Index Rules

The Oregon Department of Environmental Quality (DEQ) and Oregon Health Authority (OHA) have prepared this brief explanation of the proposed Cleaner Air Oregon (CAO) Hazard Index Rules for the September 23, 2019 CAO Hazard Index Rules Fiscal Advisory Committee Meeting. A detailed discussion of the legal context, scientific basis and regulatory process for the overall CAO Hazard Index rulemaking is available at www.cleanerair.oregon.gov.¹

After carefully evaluating input and recommendations of both the CAO Hazard Index Technical Advisory Committee and the Rules Advisory Committee, DEQ and OHA worked together to create proposed hazard index (HI) rules and an associated draft Fiscal Impact Statement (FIS). DEQ will review the draft FIS with the Fiscal Advisory Committee, and revise it as needed based on input received from committee members. The proposed rules and final FIS will be published for review during an upcoming public comment period, expected to begin in mid-October.

The proposed rules identify 154 toxic air contaminants which, if approved by the Environmental Quality Commission (EQC), could be regulated by DEQ at a benchmark of a Hazard Index of 3 (HI 3), while the remaining 28 toxic air contaminants would be regulated at a benchmark of a Hazard Index of 5 (HI 5).

The agencies used four different qualifications to identify the 154 chemicals that are proposed to be regulated at a Hazard Index of 3, which are described in Table 1 below. Note that the numbers of toxic air contaminants identified in each qualifying category do not add up to 154 because many of these chemicals are found in more than one list.

Table 1.

	Number of Toxic Air Contaminants
Developmental Health Effects	130
Reproductive Health Effects	98
Other Severe Health Effects	61
U.S. Department of Transportation Inhalation Hazards	13
Expected to have Developmental and/or Other Severe Health Effects	154

¹ See in particular *Overview of Hazard Index Rulemaking* at <https://www.oregon.gov/deq/Rulemaking%20Docs/CAOHI2019Overview.pdf>

Many of the chemicals in the four qualification lists (developmental, reproductive, multiple target organs, and U.S. DOT) are found on more than one list. One hundred and four chemicals (67% of 154) are found on more than one list. There are multiple lines of evidence indicating that these chemicals are expected to have other severe human health effects.

Toxic Air Contaminants with Developmental Effects

- 130 toxic air contaminants are expected to have developmental effects.

Toxic Air Contaminants with Other Severe Health Effects

- **Reproductive Health Effects** - 98 air toxic contaminants are proposed to be regulated to a benchmark of a Hazard Index of 3 based on the fact that they are expected to have reproductive effects. Developmental human health effects are specifically called out in Section 7(1)(a) of SB1541, and because reproductive human health effects are closely related to developmental health effects (and are sometimes indistinguishable from them), DEQ is proposing that reproductive effects be classified as other severe human health effects.
- **Multiple Target Organs** - 61 air toxic contaminants are proposed to be regulated to a benchmark of a Hazard Index of 3 based on the fact that the related Toxicity Reference Values apply to more than one target organ or target organ system.
- **U.S. Department of Transportation Inhalation Hazards** - In response to a concern voiced during the Rules Advisory Committee, DEQ and OHA considered information from the U.S. DOT, which lists chemicals that are inhalation hazards under Hazard Classes 2.3 and 6.1. These chemicals are “known to be so toxic to humans as to pose a hazard to health during transportation” (49 CFR 173.115). Phosgene is one such chemical that poses an inhalation hazard during transportation according to the U.S. DOT. The chemicals pose inhalation hazards during transportation via volatilization, aerosolization, or particulate dispersion. There are 13 chemicals that are classified by DOT as inhalation hazards and listed in Cleaner Air Oregon as having noncancer health effects. Several of these overlap with the list of 154 toxic air contaminants with developmental human health effects, reproductive effects, and/or affect multiple target organ systems. DEQ intends to recommend to EQC that two toxic air contaminants from the DOT list that are not already listed under other qualifications be added to the list of chemicals that DEQ may regulate at a Hazard Index of 3. These chemicals are phosgene and chloropicrin.

Exceedance Ratio

An Exceedance Ratio formula would be used to weight the noncancer risk from a mixture of toxic air contaminants being emitted from an individual air contamination source that is regulated based on two different benchmarks for excess noncancer risk (i.e. Hazard Indices of both 3 and 5). This would allow mixtures of toxic air contaminants that are regulated at two different Risk Action Levels to be equivalently considered in order to calculate a single risk value for the emissions from that particular source. The Exceedance Ratio addresses in part requirements of Senate Bill 1541 that direct the commission to establish standards and criteria for determining the degree to which the department can adjust a noncancer benchmark for existing facilities.