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Priority Toxic Air Contaminant List

Supporting document for 2026 Toxic Air Contaminant Review
and Update Rulemaking



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Executive summary

This document supports the 2026 Toxic Air Contaminant Review and Update Rulemaking and outlines proposed updates to the [Toxic Air Contaminant Priority List](#), or Priority List. The Priority List contains chemicals known or suspected to cause harm when inhaled. These contaminants are prioritized by the Oregon Department of Environmental Quality for emissions reporting and risk assessment due to their potential impacts on public health.

The Priority List serves as the foundation for required emissions reporting under the periodic statewide emissions inventory, commonly called the Air Toxics Emissions Inventory. It is also the basis for a Risk Assessment that may be required as part the Cleaner Air Oregon program. This document provides the technical background for the proposed updates to the Priority List and is intended to guide rules advisory committee members and other external parties in understanding the revisions.

The proposed changes include:

- **Expansion of the Priority List** from 606 to 650 Toxic Air Contaminants, including 95 new additions.
- **Revisions to chemical groupings**, including metal compounds and other groups, and the introduction of new group headers for clarity and consistency.
- **Structural and formatting changes** to the Priority List itself to improve clarity.

This document also contains a brief discussion of the Excel-based tool, the Priority List Appendix Workbook that DEQ developed to assist DEQ staff and external parties with reporting emissions from the updated Priority List.



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List of Abbreviations

| | |
|--------|--|
| ATSAC | Air Toxics Science Advisory Committee |
| CARB | California Air Resources Board |
| CAS RN | Chemical Abstract Service Registry Number |
| CAO | Cleaner Air Oregon Program |
| DEQ | Oregon Department of Environmental Quality |
| DEQ ID | DEQ Sequence ID |
| EPA | U.S. Environmental Protection Agency |
| MW | Molecular weight |
| OHA | Oregon Health Authority |
| OAR | Oregon Administrative Rules |
| PFAS | Per- and polyfluoroalkyl substances |
| RBC | Risk based concentration |
| TAC | Toxic air contaminant |
| TRV | Toxicity reference value |

Chapter 1: Information sources for updating the Priority List

The proposed Toxic Air Contaminant Priority List, or Priority List, contains 650 individual contaminants or groupings of contaminants. Each Toxic Air Contaminant, or TAC, has a unique chemical abstract service registration number (CAS RN) or DEQ-assigned sequence ID (DEQ ID). A "Notes" column also identifies relevant clarifications about some TACs.

DEQ compiled the proposed Priority List from four primary sources provided in [Oregon Administrative Rule \(OAR\) 340-247-0040\(2\)\(a\)](#). These sources include:

- (1) California's Air Resources Board's Toxic Air Contaminant Identification List Appendix A-1;
- (2) Washington Ecology's Table of Acceptable Source Impact Levels, Small Quantities Emission Rate, and De Minimis Emission Values;
- (3) Oregon Department of Environmental Quality's Toxics Focus List; and
- (4) US Environmental Protection Agency's Hazardous Air Pollutants list.

In addition to these sources, DEQ also considered the US EPA Toxics Reporting Inventory (TRI)-listed chemicals, as well as voluntarily disclosed contaminant emissions submitted by facilities operating in Oregon as part of the 2020 Air Toxics Emissions Inventory process. Finally, DEQ consulted the authoritative sources used for establishing the inhalation Toxicity Reference Values (TRVs) in Division 247 for refining the proposed reporting list. [\[OAR 340-247-0030\]](#)

Chapter 2: Newly Added Toxic Air Contaminants

Section 2.1: New TRV Toxic Air Contaminants

Since the current Priority List was first adopted by rule in 2018, the California Air Resources Board (CARB) was the only primary source list to significantly increase the number of reportable chemicals, by adding 1,171 new chemicals to their Appendix A-1 in 2020. DEQ's primary considerations for proposing a new TAC to the Priority List, from CARB's list or any other source, were:

- (1) whether it had a TRV; or
- (2) if there was new toxicological information available that changed how health effects from exposure to a TAC are assessed for risk – for example, soluble vs insoluble forms of heavy metals.

Both considerations relied heavily on the Oregon Health Authority's TRV review process being performed in parallel with the Priority List review, as part of the current rulemaking. OHA, in

consultation with the Air Toxics Science Advisory Committee (ATSAC) proposed TRVs, all of which were compared against the primary sources for Priority List review to determine which TACs to include on the proposed Priority List. This led to 92 new TACs with TRVs being added to the Priority List.

Almost half of these newly added TACs belong to groups or classes of chemicals, predominantly dioxin-like brominated compounds and per- and polyfluoroalkyl substances (PFAS).

Table 1. Added Priority List TACs with new TRVs

| Toxic Air Contaminants Added | New TACs |
|---|----------|
| Polybrominated dioxins and furans* | 18 |
| Polybrominated biphenyls (PBBs), dioxin-like* | 15 |
| Per-and polyfluoroalkyl substances (PFAS) | 11 |
| Other toxic air contaminants | 48 |

* Includes Toxic Equivalency (TEQ) values

Other notable priority list additions include jet propulsion fuels (JPs), trivalent chromium, 4-chlorobenzotrifluoride (PCBTF), amorphous silica, ethyl tert-butyl ether (ETBE), methyl amyl ketone {2-heptanone}, and 1-methylnaphthalene.

For more information on the proposed TRVs for this rulemaking see the [Toxicity Reference Value Supporting Document](#).

2.1.1 Metal Solubility Reporting Updates

Recent toxicological information for assessing health effects from some metal contaminants requires separating them into insoluble and soluble forms for the purposes of risk assessment and therefore emissions reporting. Trivalent chromium and uranium metal are new TACs proposed in the rulemaking, each with separate soluble and insoluble TRVs. Cobalt is also divided into separate TRVs but adds only a single reportable TAC for the newly described soluble form.

New toxicology information also indicates that nickel, which was previously split into insoluble and soluble forms, can be consolidated into a single “nickel and compounds” row for reporting and risk assessment.

Table 2. Metals divided into new insoluble and soluble forms

| CAS RN or DEQ ID | Chemical Name |
|-----------------------|---|
| 16065-83-1 | Chromium, trivalent and compounds (insoluble particulate) |
| 1034T | Chromium, trivalent and compounds (soluble) |
| 7440-48-4 | Cobalt and compounds (insoluble particulate) |
| 1011T | Cobalt and compounds (soluble) |
| 7440-61-1 | Uranium and compounds (insoluble particulate) |
| 1065T | Uranium and compounds (soluble) |

Reporting these different forms of metals requires specific information related to CAS RN and DEQ ID identifiers; the final chapter of this document, Appendix Workbook to the Priority List, provides information on reporting these special scenarios.

2.1.2 Evaporated and Aerosol Particulate Reporting Updates

The proposed Priority List also separates evaporated and aerosol particulate forms of polybrominated biphenyls (PBBs) and polychlorinated compounds (PCBs) based on toxicological evidence. Evaporated forms are emitted through volatilization (heat), while aerosols are formed when the sample is physically agitated or atomized. The separation of these gas phase and particulate compounds means that Totals and mixtures of these contaminants can be identified accordingly.

Section 2.2: Other Added TACs

Few TACs without established TRVs are included in the proposed Priority List this rulemaking. These include two chemicals that are known to be used in significant quantities in Oregon and have the potential to cause harm. 4,5-Dichloro-2-N-octyl-4-isothiazolin-3-one (DCOI) is used as a wood preservative alternative to pentachlorophenol and copper naphthenates, and N-methyl-2-pyrrolidone (NMP) or N-methylpyrrolidone is used in various solvent and cleaning applications.

Chapter 3: Organizational Changes to the Priority List

Most of the proposed changes to the Priority List in the redline version of the rules are based on adjusting contaminant groupings, either adding or removing them, as well as minor updates to chemical names and their order within the list.

Section 3.1: Revised TAC Order and Chemical Names

The Priority List is broadly organized alphabetically by the primary component of the chemical names. The proposed Priority List corrects some alphabetizing and other errors, and nests grouped TACs. In some cases, this results in reordered TACs in the redline version of the Priority List table as compared to the current list.

It is common for multiple, equally accurate chemical names to exist for a single TAC. The proposed list revises some chemical names to reflect more frequently used nomenclature, or to reflect structural similarities between related TACs. The proposed list also includes common alternate chemical names and trade names, identified by braces {} following the listed name. In all cases, chemicals are best identified by their unique CAS RN as chemical names alone are insufficient for ensuring complete reporting.

Notably, contaminants that are currently listed as perfluorinated compounds (PFCs) have been renamed to per- and polyfluoroalkyl substances, or PFAS. PFAS is the broadly accepted nomenclature for a large (and growing) class of organic chemicals that may be fully fluorinated (perfluoroalkyl) or partially fluorinated (polyfluoroalkyl), and that are “containing at least one fully fluorinated carbon atom”, as defined under [Oregon Revised Statues 459.465\(3\)](#). Thus, the expanded definition provides reporting clarity, and the assurance that emissions of all “forever chemicals” are accurately reported. More on PFAS consolidation and grouping is described in section 3.2.3 below.

Section 3.2: Consolidated Chemical Groups

Many contaminants fall into broad categories or classes that exhibit similar toxicological effects upon exposure. In the proposed Priority List, these TACs are consolidated under “and compounds” groups, or within broader categories and classes. In these cases, DEQ has proposed to consolidate reporting of these compounds into groupings where appropriate. In all cases, any chemical that falls within a group, must be individually reported, or reported as a member of a group.

3.2.1 Metals and Metalloids

Metal and metalloid compounds are consolidated into the parent metal “and compounds” for which there is a TRV. In cases where multiple compounds of the same parent metal were listed in the current Priority List, the proposed updates present just the parent compound for the grouping. For example, beryllium oxide and beryllium are now listed as “beryllium and compounds.” The following metal compounds have all been removed and consolidated under their parent metal.

Consolidated metal compounds

| | |
|--------------------------------|----------------------------|
| Aluminum oxide (fibrous forms) | Nickel hydroxide |
| Antimony trioxide | Nickel nitrate hexahydrate |
| Beryllium oxide | Nickel subsulfide |
| Beryllium sulfate | Nickel sulfate |
| Nickel acetate | Nickel sulfate hexahydrate |
| Nickel carbonate | Nickel sulfide |
| Nickel carbonate hydroxide | Nickelocene |
| Nickel carbonyl | Selenium sulfide |
| Nickel chloride | Vanadium pentoxide |

There are several exceptions to the consolidated metals, including:

- when a metal or metalloid compound has its own TRV, separate from its “and compounds” parent (e.g., nickel oxide);

- when a compound contains more than one metal (e.g., lead chromate oxide, which contains hexavalent chromium and lead);
- when a metal has distinct soluble and insoluble forms. In these cases, the insoluble form and particulate are reported under the CAS RN and the soluble forms are assigned a DEQ ID.

3.2.2 Non-metal Ionic Compounds

Ionic, non-metal TACs were renamed to specify that only inorganic compounds fall within the group. These include “cyanide and inorganic compounds” and “fluoride and inorganic compounds”.

3.2.3 Headers to Consolidate Some Groups

Other, non-metal compounds which fall within widely accepted chemical groupings or classes have been functionally organized and consolidated by a group header in the proposed Priority List. These groups tend to have large number of qualifying compounds which cannot be assessed by a single TRV. For clarity, the header is underlined and does not have a corresponding CAS RN or DEQ ID. These proposed headers require reporting of all contaminants that qualify under the grouping – this includes both the current compounds listed in the Priority List, as well as individual contaminants not specifically listed. When no CAS RN or DEQ ID exists for the group header, all qualifying chemical within the group must be reported as emitted. The Appendix Workbook lists additional compounds but is not exhaustive.

New group headers to consolidate:

- Fluorocarbons, chlorinated, including but not limited to:
- Glycol ethers and their acetates, including but not limited to:
- Isocyanates, including but not limited to:
- Per- and Polyfluoroalkyl substances (PFAS), including but not limited to:

There are also headers added for exclusively organizational purposes. In these instances, the qualifying TACs are either comprehensively listed, or are otherwise covered by a ‘Total’ or TEQ.

New group headers to organize:

- Polybrominated biphenyls (PBBs), dioxin-like
- Polybrominated dibenzo-p-dioxins (PBDDs) & dibenzofurans (PBDFs)
- Polychlorinated biphenyls (PCBs), dioxin-like
- Polychlorinated dibenzo-p-dioxins (PCDDs) & dibenzofurans (PCDFs)
- Polycyclic aromatic hydrocarbons (PAHs) and PAH-derivatives, including but not limited to:

Section 3.3: Removed Groups

The following groups are no longer considered reporting categories:

- Phosphorus and compounds
- Bromine and compounds

These groups lack toxicological consistency across members, and only individually listed compounds should be reported.

Chapter 4: Appendix Workbook to the Priority List

The Appendix Workbook to the Priority List is an Excel-based tool designed to support DEQ staff and external parties in implementing the updated Priority List following the Toxic Air Contaminant Review and Update Rulemaking. Unlike static rule tables, this dynamic tool offers enhanced functionality and additional information to improve clarity when reporting emissions and assessing risk.

The primary purpose of the Appendix workbook is to present an unconsolidated version of the reportable TACs from the Priority List. This is particularly useful for metal groups labeled as "and compound," as well as other contaminant groups and classes discussed in Section 3. While not exhaustive, the Appendix expands on chemical names and CAS RN, making it easier to identify and report the most common contaminants within each group.

Another key feature is the inclusion of molecular weight (MW) correction factors. These are applied to metal compounds and other substances where it is appropriate to adjust the emission rate based on the proportion of the reportable TAC within the compound. For example, the concentration of a metal-containing compound is 'corrected' to reflect only the metal component, ensuring accurate reporting and risk assessment.

The Appendix also links each TAC to its corresponding risk-based concentration, or RBC, to support accurate risks evaluations. This is achieved by mapping the DEQ ID of each TAC to its representative RBC. For instance, unconsolidated metal compounds are mapped to the RBC of their parent metal. This feature will help reduce errors during a CAO Risk Assessment by clarifying which RBC applies to each TAC.

It is important to note that the Appendix is not comprehensive. Some reporting groups or classes – such as glycol ethers and per- and polyfluoroalkyl substances (PFAS) – are either too large or still evolving and are therefore not fully represented.

References

- (1) California Air Resources Board 2022. *Substances Identified as Toxic Air Contaminants (Appendix A-1)*. California Environmental Protection Agency, <https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants>.
- (2) Washington State Legislature 2019. WAC 173-460-150: Table of ASIL, SQER and de minimis emission values. Olympia (WA): Washington State Legislature, <https://app.leg.wa.gov/WAC/default.aspx?cite=173-460-150>
- (3) Oregon DEQ 2019. Integrated Toxics Reduction Strategy. Updated Toxics Focus List Chemicals, <https://www.oregon.gov/deq/Hazards-and-Cleanup/Documents/toxicsFocusListChem.pdf>
- (4) U.S. Environmental Protection Agency. Initial list of hazardous air pollutants with modifications. Washington (DC): EPA; <https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications>