SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Preliminary Draft Staff Report
Proposed Amended Rule 1401 – New Source Review of Toxic Air Contaminants

May 2026

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EXECUTIVE SUMMARY

South Coast Air Quality Management District (South Coast AQMD) Rule 1401 – New Source Review of Toxic Air Contaminants (Rule 1401) specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants (TACs). Permit applications where an operation emits TACs listed in Table 1 of Rule 1401 are required to undergo a health risk assessment and be below the established limits to receive a permit to operate.

The California Office of Environmental Health Hazard Assessment (OEHHA) establishes risk exposure levels (i.e., risk values) for TACs. The compounds listed in Table I are periodically updated to reflect the new chemical compounds identified by OEHHA as a TAC.

PAR 1401 would update one existing compound and add nine new parent compounds and its associated compounds into Table 1, remove compounds from Table I, and add a new column in Table I to include the effective date for 8-hour reference exposure levels (RELs). Amendments to define and reference 8-hour hazard index will be included and Table II will also be removed. PAR 1401 will impact facilities that submit a permit application for a new, modified, or relocated equipment or source that emits any toxic air contaminant listed in Table 1 where the permit application is deemed complete after PAR 1401 is adopted. Existing permits with no further permit action are not impacted by PAR 1401. PAR 1401 may have cost impacts related to the installation of controls.

CHAPTER 1 – BACKGROUND

Introduction

South Coast AQMD implements a permitting program to comply with federal, state, and local air quality rules and regulations for stationary sources that emit air pollutants such as nitrogen oxide (NOx), volatile organic compounds (VOC), sulfur dioxide (SO2), particulate matter (PM), and toxic air contaminants (TACs). Permit applications are evaluated for compliance with all applicable rules and regulations and look at factors such as air pollutant emissions, health risks, and distances to sensitive receptors, such as to schools. If an equipment or source emits TACs, the equipment or source is subject to Rule 1401.

Rule 1401 specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units or relocations, or modifications to existing permit units which emit toxic air contaminants listed in Table I. The methodology used to estimate health risks for South Coast AQMD's toxic regulatory program, including Rule 1401, is based on guidance from OEHHA. OEHHA's Risk Assessment Guidelines are incorporated in the South Coast AQMD Risk Assessment Procedures, which is used when implementing Rule 1401.

Regulatory History

Rule 1401

Rule 1401 was adopted by the AQMD Governing Board in June 1990. It is amended periodically to add new compounds or new risk values to the list of TACs as they are identified and risk values are finalized or amended by OEHHA. The rule has been amended 18 times to add new compounds or update risk factors after approval by OEHHA. The last amendment was in 2017. During the amendment process, staff analyzed potential permitting impacts for spray booths and gasoline dispensing facilities from implementing South Coast AQMD's Risk Assessment Procedures Version 8.1 and transitioned to using the 2015 OEHHA HRA Guidelines for all permitted sources. The 2017 amendments incorporated additional compounds and risk thresholds into Table I. Currently, the latest version of the Risk Assessment Procedure is Version 9.0.

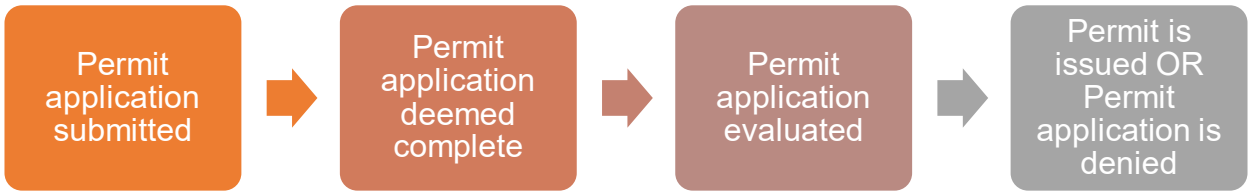
Rule 1401 establishes cancer and non-cancer health risk thresholds for new, relocated, or modified permitted sources of toxic air pollutants. Maximum individual cancer risk (MICR) cannot exceed one in one million. If best available control technology for toxics (T-BACT) is installed, the MICR cannot exceed 10 in one million. The MICR is the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to toxic air contaminants. Cancer burden may not exceed 0.5. Cancer burden represents the estimated increase in the occurrence of cancer cases in a given population due to exposure to TACs. For non-cancer health risk, both chronic and acute, the threshold is a hazard index (HI) of 1.0. A hazard index is the ratio of the estimated maximum concentration of a TAC for the maximally exposed individual to its reference exposure level (REL). If any of the thresholds are exceeded, a permit is not granted.

Rule 1401 Cancer Risk Threshold	Rule 1401 Noncancer Risk Threshold
1 in a million without T-BACT	Acute hazard index of 1
10 in a million with T-BACT	Chronic hazard index of 1

South Coast AQMD Permitting Process

The flow chart below summarizes the permitting process in four main steps.

Overview of Permitting Process

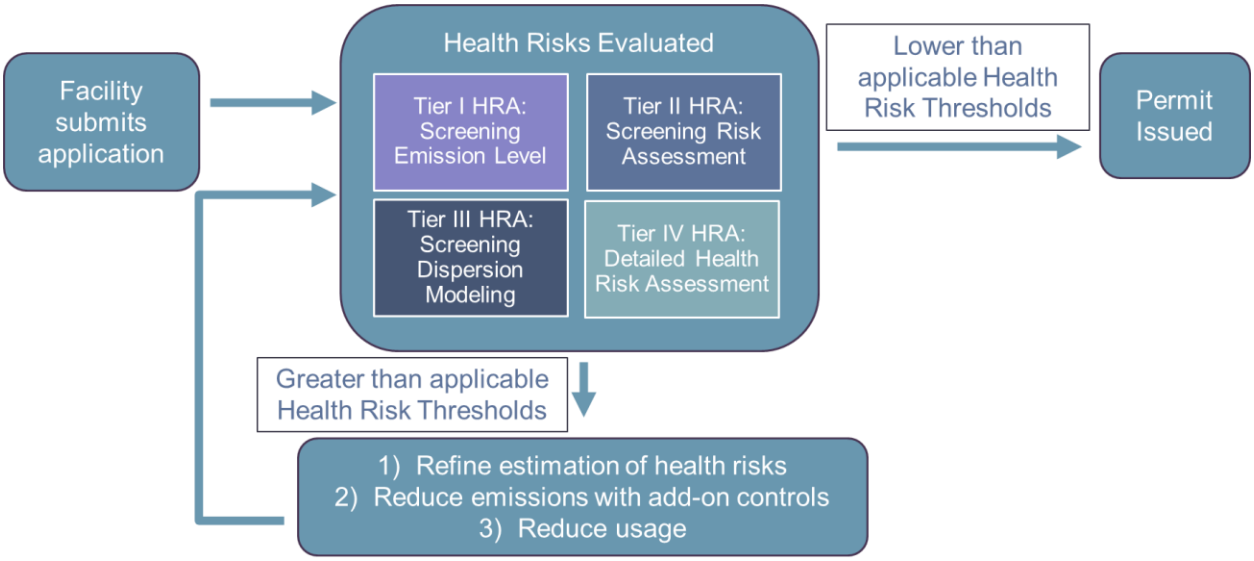


The first step is submitting a permit application. Pursuant to Rule 201, equipment that may cause the issuance of air contaminants or that may eliminate, reduce, or control the issuance of air contaminants requires authorization or a permit from South Coast AQMD, unless the equipment is determined to be exempt pursuant to Rule 219. Note that some Rule 219 equipment might need to be registered pursuant to Rule 222. After a permit application is submitted, South Coast AQMD staff may require additional information before the permit application can be evaluated. During this time, the applicant may be asked for additional information or details regarding their equipment. Once sufficient information is received, the permit application is deemed complete. Therefore, the date the permit application is deemed complete generally is not the same date as when the permit application is submitted. This distinction is critical because the date the permit application is deemed complete is the date that determines the:

- Version of Rule 1401 Table I that is used; and
- TACs and corresponding health values.

During the permit application evaluation process, a health risk assessment (HRA) is performed by permitting staff for new, modified, or relocated equipment to determine if the health risks are less than the Rule 1401 cancer and noncancer risk thresholds.

Figure 1 Permit Evaluation Process



South Coast AQMD's Risk Assessment Procedures describe four different HRA tiers, which are different from the OEHHA Risk Assessment Guidelines tiered approach, and the health risks from permitted equipment can be estimated using any of the HRA tiers. If the evaluation determines that the health risks from equipment is less than the Rule 1401 health risk thresholds and the equipment demonstrates compliance with all applicable rules and regulations, then a permit can be issued. However, if the evaluation determines the health risks from the equipment is greater than the health risk thresholds, then additional steps will need be taken to reduce the health risks below the thresholds before a permit can be issued. The following paragraphs describe the three different pathways a facility can take to reduce health risks associated with the equipment.

One pathway to show reduced health risks is by refining health risk estimation using higher HRA tiers, as shown in Figure 1. The HRA tiers are in order of increasing complexity, providing a more refined estimate of health risks at the higher tiers. The higher the HRA tier, the more information is required to perform the dispersion modeling required, such as:

- Distance from the source to the nearest off-site residential and worker receptor(s)
- Source characteristics, such as stack height and/or building dimensions
- Operating schedule
- Geographic location coordinates

Specific details on how each of the HRAs are conducted can be found in the South Coast AQMD Risk Assessment Procedures.[1] Note that in conjunction with this rule amendment, staff is updating the Risk Assessment Procedures and the online Risk Tool to reflect the additional TACs proposed to be added to Table I as well as other administrative changes.

[1] South Coast Air Quality Management District. (2026). Risk Assessment Procedures for Rules 1401, 1401.1, and 212. https://www.aqmd.gov/home/permits/PermittingHRA

In addition, the applicant may also propose alternative operating parameters, such as a limit on operating hours, alternative emission rates, increased control efficiency, or a different particle size distribution, all of which need to be supported by studies and evidence. By utilizing a higher HRA tier and refining the estimation of health risks and/or modifying the operating assumptions, applicants can reduce the health risks to below the Rule 1401 thresholds or potentially operate with a greater throughput than that resulting from a Tier I HRA.

The second pathway to reduce health risks is by installing control equipment to reduce the emission of TACs. The appropriate control equipment will vary depending on the following:

- Amount of emission reduction required (e.g., control efficiency of 85% vs 99.97%)
- Pollutant specifications (e.g., corrosivity, outlet temperature, size)
- Type of pollutant (e.g., VOC or particulate)

The third pathway to reduce health risk is reducing the usage of the product containing the TACs being evaluated from the amount originally applied for or proposing a lower throughput.

Compounds with New or Amended Cancer Potency Factors and Non-Cancer Reference Exposure Levels

OEHHA oversees the development and amendment of health values for different compounds through an extensive public process. For each compound, OEHHA publishes a technical support document that provides justification for the new or amended health values. OEHHA utilizes a specific methodology for deriving health values, such as conducting literature reviews or utilizing values established by other agencies. These methodologies are reviewed by the Scientific Review Panel. This is an advisory committee composed of nine appointed members who are experts in their respective fields. They are charged with evaluating the risk assessments of substances proposed for identification as toxic air contaminants by CARB, OEHHA, and the Department of Pesticide Regulation, and reviewing guidelines prepared by OEHHA.

For inhalation exposure, OEHHA develops four potential heath values:

- Cancer Potency
- Reference Exposure Level (REL)
    - Acute
    - 8-Hour
    - Chronic

The cancer inhalation risk is the excess cancer risk associated with continuous inhalation exposure to a given carcinogen at 1 microgram per cubic meter ($\mu g/m^3$) over a lifetime (70 years). The cancer potency factor estimates excess lifetime cancer risk associated with exposure at 1 milligram per kilogram of body weight per day (mg/kg-d).[2]

[2] OEHHA. (2025). Isoprene Cancer Inhalation Unit Risk Factor Technical Support Document for Cancer Potency Factors Appendix B. https://oehha.ca.gov/sites/default/files/media/2025-01/IsopreneIUR010325.pdf

REL is the maximum concentration level of a substance in the air that is not expected to have adverse health effects in humans over a specified exposure duration. Therefore, an increase in the REL or dose level, would indicate a less stringent value for the compound and a lower REL would mean that the value has become more stringent. RELs can be acute, 8-hour, or chronic. Exposure averaging time for acute RELs is 1 hour. For 8-hour RELs, the exposure averaging time is 8 hours, which may be repeated. Chronic RELs are designed to address continuous exposures for up to a lifetime and the exposure metric used is the annual average (mean) exposure.[3] Note that the 8-hour REL is considered to be chronic exposure and the estimation on 8-hour concentrations is based on the long-term concentration, not the acute concentration.

These health values are updated and incorporated into the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values.[4] This table lists all the health values that have been approved to be used in a facility health risk assessment. Since the most recent amendment, nine compounds were added, and the health values for one compound was updated. Each compound's health effect and potential sources of the compound are summarized below.

1-Bromopropane (Chemical Abstracts Service Number 106-94-5)

In 2023, OEHHA developed acute, 8-hr, and chronic RELs for 1-bromopropane. It is a colorless liquid at room temperature. Acute effects from exposure affect the reproductive system and nervous system. Nervous system effects include dizziness, headaches, and nausea. Sources of 1-bromopropane include being a solvent vehicle for adhesives in laminates and foam products, degreasing/cleaning agent for metals, metal products, plastics, optics, and electronics, and alternative solvent in modified perchloroethylene dry-cleaning machines.[5] Based on Annual Emission Reporting and permitting data, the primary sources within South Coast AQMD are cleaning solvents and dry cleaners.

1,4-Dichlorobenzene (Chemical Abstracts Service Number 106-46-7)

1,4-Dichlorobenzene is a compound that was added to Rule 1401 Table I in 1998. In 2025, OEHHA adopted new acute and 8-hour RELs, and a revised chronic REL. 1,4-Dichlorobenzene is a colorless or white crystalline solid that sublimes at ambient temperatures. Acute effects from exposure include irritation to the eyes and nose and chronic effects include damage to the nervous system and liver. Sources of 1,4-dichlorobenzene include deodorant for toilets, urinals, and refuse containers, moth repellant for clothing, fumigant to control mold, and landfills.[6] Based on Annual

[3] OEHHA. (2023). OEHHA Acute, 8-hour and Chronic Reference Exposure Level (REL) Summary. https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary

[4] OEHHA. (2025). Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. https://ww2.arb.ca.gov/sites/default/files/classic/toxics/healthval/contable09252025.pdf

[5] OEHHA. (2023). 1-Bromopropane Reference Exposure Levels Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D1. https://oehha.ca.gov/media/downloads/crnr/1-bpsrprel052823.pdf

[6] OEHHA. (2025). 1,4-Dichlorobenzene Reference Exposure Levels Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D1. https://oehha.ca.gov/sites/default/files/media/2025-07/1%2C4-DCB%20REL071825_2.pdf

Emission Reporting and permitting data, primary sources within South Coast AQMD are sewage treatment plants, landfills, and refineries.

Cobalt (Chemical Abstracts Service Number 7440-48-4)

In 2020, 2022, and 2023 OEHHA adopted cancer potency factors and cancer inhalation risk factors for cobalt. Cobalt, a hard but somewhat malleable metal, is a carcinogen; acute and chronic exposure to cobalt can affect the respiratory system causing bronchial tumors, asthma-like symptoms, and hard metal lung disease. Sources of cobalt include the petroleum industry, concrete and cement manufacturing facilities, electronic computer manufacturers, semiconductor and electronic components facilities, military and commercial aerospace products and parts manufacturing, tungsten carbide and other super alloy manufacturing, mining and refining operations, lumber mills, and battery manufacturers.[7] Based on Annual Emission Reporting and permitting data, the primary source within South Coast AQMD is abrasive blasting.

Hexamethylene Diisocyanate (HDI) Monomer (Chemical Abstracts Service Number 822-06-0) and Polymeric Hexamethylene Diisocyanate (HDI) (CARB Air Toxics Hot Spots Emission Inventory Code 1221)

In 2019, 2022, and 2025 OEHHA adopted chronic, 8-hour, and acute RELs for HDI Monomer and Polymeric HDI. HDI monomer is an organic compound that is a clear to slightly yellow liquid. Polymeric HDI is the term often used to refer to a mixture of HDI monomer and various higher molecular weight diisocyanate reaction products. Acute exposure to these compounds affect the respiratory system leading to asthma and bronchitis. Sources of these compounds include hardeners for automobile and airplane polyurethane spray paints, including primers, sealers, and clear coats, and coatings for outdoor furniture, parquet and industrial wood, and architectural finishing.[8] Based on Annual Emission Reporting and permitting data, the primary sources within South Coast AQMD are spray booths in the automotive, aerospace, and metal coatings industry that are spraying polyurethane coatings.

Isoprene (Chemical Abstracts Service Number 78-79-5)

In 2025, OEHHA adopted cancer potency factors and cancer inhalation risk factors for isoprene. Isoprene is a colorless liquid with a mild petroleum like odor. It is a carcinogen and long-term exposure can affect the respiratory system causing lung cancer. Sources of isoprene include thermal cracking of petroleum naphtha, biomass combustion, synthetic rubber production, wood

[7] OEHHA. (2023). Cobalt and Cobalt Compounds Cancer Inhalation Unit Risk Factors Technical Support Document for Cancer Potency Factors Appendix B. https://oehha.ca.gov/media/downloads/crnr/finalcobalt080423.pdf

[8] OEHHA. (2019). Hexamethylene Diisocyanate Reference Exposure Levels (Monomer and Polyisocyanates) Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D1. https://oehha.ca.gov/sites/default/files/media/downloads/crnr/hidrel090519.pdf

pulping, and exhaust from turbines and automobiles.[9] Based on Annual Emission Reporting and permitting data, the primary source within South Coast AQMD is a petroleum refinery.

Parachlorobenzotrifluoride (Chemical Abstracts Service Number 98-56-6)

In 2020, OEHHA adopted cancer potency factors and cancer inhalation risk factors for parachlorobenzotrifluoride (PCBTF), which is a colorless liquid. OEHHA has determined it to be a carcinogen and exposure can affect the respiratory system, liver, and kidneys. Sources of PCBTF include preparation of dyes, pharmaceuticals, pesticides, and as a solvent in paints, inks, and high-solids coating formulations, as well as for metal cleaning.[10] Based on Annual Emission Reporting and permitting data, the primary sources within South Coast AQMD are solvent cleaners for lithographic printing operations, adhesives and sealants, and coatings used in various industries such as automotive, aerospace, metal coatings, wood coatings, marine coatings, architectural coatings, paper coating, fabric coating, film coating, plastic coating, rubber coating, leather coating, and glass coating.

Tertiary Butyl Acetate (Chemical Abstracts Service Number 540-88-5)

In 2018, OEHHA adopted cancer potency factors and cancer inhalation risk factors for tertiary butyl acetate (t-BAc) which is colorless flammable liquid. It is a carcinogen and inhalation can affect the nervous system and irritate the eyes and nose. Sources of t-BAc include industrial coatings, inks, adhesives, industrial cleaners, and degreasers.[11] Like PCBTF, t-Bac is a solvent commonly used due to its low reactivity and doesn't significantly contribute to the formation of ground-level ozone. Based on Annual Emission Reporting and permitting data, the primary sources within South Coast AQMD are solvent cleaning operations, adhesive and sealant applications, and coatings used in various industries such as automotive, aerospace, metal coatings, wood coatings, marine coatings, architectural coatings, paper coating, fabric coating, film coating, plastic coating, rubber coating, leather coating, and glass coating

Trimethylbenzene (Chemical Abstracts Service Number 25551-13-7)

In 2023, OEHHA adopted chronic, 8-hour, and acute RELs for trimethylbenzene which is a colorless liquid that exists in three isomeric forms: 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. Acute exposure can affect the nervous system causing dizziness as well as respiratory irritation such as bronchitis. Sources of trimethylbenzene include surface coatings, paints, printing inks, cleaning fluids, petroleum refinery distillation products (white spirit, high flash point naphtha, and gasoline), steel making facilities, and coal

[9] OEHHA. (2025). Isoprene Cancer Inhalation Unit Risk Factor Technical Support Document for Cancer Potency Factors Appendix B. https://oehha.ca.gov/sites/default/files/media/2025-01/IsopreneIUR010325.pdf

[10] OEHHA. (2020). p-Chloro-α,α,α-trifluorotoluene (p-Chlorobenzotrifluoride, PCBTF) Cancer Inhalation Unit Risk Factor Technical Support Document for Cancer Potency Factors Appendix B. https://oehha.ca.gov/media/downloads/crnr/pcbtfiur080720.pdf

[11] OEHHA. (2018). Tertiary-Butyl Acetate Cancer Inhalation Unit Risk Factor Technical Support Document for Cancer Potency Factors Appendix B. https://oehha.ca.gov/media/downloads/crnr/tbaccanceriur081018.pdf

fired plants.[12] Based on Annual Emission Reporting and permitting data, the primary sources within South Coast AQMD are spray booths in the automotive, aerospace, metal coatings, and wood coatings industries.

Trivalent Chromium (Chemical Abstracts Service Number 16065-83-1)

In 2022, OEHHA adopted chronic, 8-hour, and acute RELs for trivalent chromium (Cr3+). Chromium is a heavy metal that can exist in oxidation states ranging from -2 to +6 with trivalent chromium denoted as Cr+3. Exposure to trivalent chromium can cause respiratory irritation such asthma and decreased lung function. Sources of trivalent chromium include dietary supplements, pigments, catalysts, anti-corrosives, leather tanning agents, decorative plating media, and cement and concrete.[13] Based on Annual Emission Reporting and permitting data, the primary source within South Coast AQMD is decorative chrome plating.

Need for Proposed Amended Rule 1401

During the South Coast AQMD permitting process, Table I is utilized by permitting staff to determine which TACs are required to be evaluated during the health risk assessment. PAR 1401 is needed to:

- Add new TACs,
- Add effective dates for existing TACs with new health values, and
- Remove some TACs that are not evaluated during the permitting process.

Affected Facilities

Permit applications deemed complete after date of rule amendment will be subject to PAR 1401. PAR 1401 applies to equipment or a source that emits one or more TACs listed in Table I that is:

- New,
- Modified (resulting in health risk increase), or
- Relocated.

PAR 1401 will not apply to:

- Applications deemed complete prior to the date of amendment, or
- Existing permits where no further permit actions are taken.

Applications deemed complete prior to the date of rule amendment would be subject to the 2017 version of the rule.

[12] OEHHA. (2023). Trimethylbenzenes Reference Exposure Levels Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D1. https://oehha.ca.gov/media/downloads/crnr/tmbrelfinal100602023.pdf

[13] OEHHA. (2022). Chromium, Trivalent (Inorganic Water-Soluble Compounds) Reference Exposure Levels Technical Support Document for the Derivation of Noncancer Reference Exposure Levels Appendix D1. https://oehha.ca.gov/media/downloads/air/document/finalcriiirel083122.pdf

Public Process

The development of PAR 1401 has been conducted through a public process. Four Working Group Meetings were held to allow the public and stakeholders to discuss details of PAR 1401 and provide South Coast AQMD staff with input during the rule development process. The Working Group includes business representatives, environmental and community groups, public agencies, and consultants. South Coast AQMD held Working Group Meetings on December 19, 2023; July 9, 2024; March 5, 2026; and April 30, 2026 via Zoom videoconference and teleconference.

CHAPTER 2 – SUMMARY OF PROPOSED AMENDED RULE 1401

Overview

As discussed in Chapter 1, Rule 1401 establishes cancer and non-cancer health risk requirements for new, relocated, or modified permitted sources of toxic air pollutants. Table I lists the compounds OEHHA has adopted as a TAC and includes the effective dates for cancer and noncancer health effects, such as chronic, 8-hour, and acute. Table II lists TACs with proposed risk values, which can be added into Table I after OEHHA establishes health values and Rule 1401 is amended. The following is an overview of PAR 1401 amendments.

- Additional definitions
- Alignment with the Risk Assessment Procedures
- Addition of 8-Hour Hazard Index
- Table I
    - Addition of New Compounds
    - Update of RELs for Existing Compounds
    - Addition of Child Compounds
    - Addition of 8-hour RELs
    - Removal of Chemical Compounds
    - Removal of Table I Footnote
    - Amendments to Better Identify Specific Compounds
- Removal of Table II

Subdivision (c) Definitions

Due to the inclusion of 8-hour RELs in Table I, two definitions will be added for 8-hour hazard index. The following definitions below will be added:

INDIVIDUAL SUBSTANCE 8-HOUR HAZARD INDEX (HI) is the ratio of the estimated 8-hour exposure to a toxic air contaminant for a potential maximally exposed individual to its 8-hour reference exposure level.

TOTAL 8-HOUR HAZARD INDEX (HI) is the sum of the individual substance 8-hour HIs for all toxic air contaminants affecting the same target organ system.

Alignment with the Risk Assessment Procedures

Subdivision (d) establishes the health risk thresholds for maximum individual cancer risk, cancer burden, chronic hazard index, 8-hour hazard index, and acute hazard index. Subdivision (f) outlines the methodology to calculate the emissions and determine the respective hazard indexes. This methodology aligns with the South Coast AQMD Risk Assessment Procedures.

PAR 1401 clarifies that the methodology to calculate emissions specified in subdivision (f) would be used in subdivision (d).

Addition of 8-Hour Hazard Index

Subparagraph (d)(2)(B) will be added to deny a permit to construct a new, relocated or modified permit if exceeding health risk threshold of 1.0 for 8-hour hazard index due to the inclusion of 8-hour RELs in Table I. This addition is consistent with the current Risk Assessment Procedures.

Amendments will also be made throughout the rule to appropriately include the 8-hour hazard index, such as when the requirement specifies acute or chronic hazard index as a criteria or when the requirement specifies how to perform emission calculations.

An example would be subparagraph (g)(1)(B):

(g) Exemptions

(1) The requirements of subdivision (d) shall not apply to:

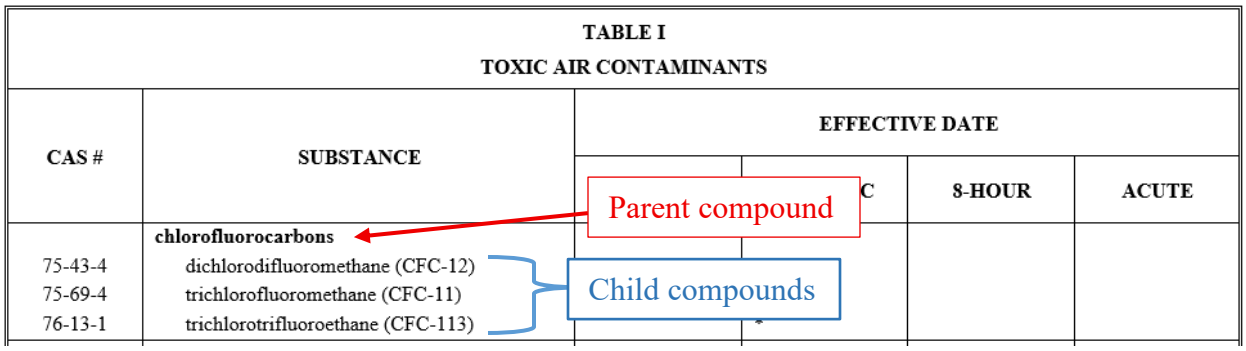
(B) Modification with no increase in risk

A modification of a permit unit that causes a reduction or no increase in the cancer burden, MICR or acute, 8 hour, or chronic HI at any receptor location.

Table I

Table I provides the Chemical Abstracts Number (CAS), 4-digit Air Toxics Hot Spots Emission Inventory Code assigned by CARB (if any), chemical compound (referred to as substance in Table I) name, and the effectives dates for cancer, chronic, and acute REL. While not defined in PAR 1401, but to provide clarity for this chapter, chemical compounds will be categorized as "parent compounds" and "child compounds". Parent compounds are the original chemical compound (e.g. chlorofluorocarbons) and child compounds (e.g., dichlorodifluoromethane) are derived from the parent compound. In Table I, parent compounds and child compounds are listed in one row with the parent compound in bold . Figure 2 provides an example of a parent and child compound in Table I.

Figure 2 Example of Parent and Child Compound



Addition of New Compounds

To reflect the new TACs adopted by OEHHA since 2017, PAR 1401 will include new parent compounds and their child compounds, CAS, and the effective dates for the applicable RELs. The effective date is the date of rule amendment. The new compounds are listed below:

Compound Name	CAS Number
1-bromopropane	106-94-5
Cobalt	7440-48-4
Hexamethylene Diisocyanate (HDI) (Monomer)	822-06-0
Isoprene	78-79-5
Parachlorobenzotrifluoride (PCBTF)	98-56-6
Polymeric Hexamethylene Diisocyanate	1221*
Tertiary Butyl Acetate (TBAc)	540-88-5
Trimethylbenzenes	25551-13-7
Trivalent chromium	16065-83-1

*4-digit Air Toxics Hot Spots Emission Inventory Code assigned by CARB

Update of RELs for Existing Compounds

PAR 1401 will add an effective date to existing compounds that have new REL approved by OEHHA.

Dichlorobenzene, 1,4- (or p-dichlorobenzene) had a new acute REL adopted in 2025. The effective date will be the date of rule amendment.

Ethylene glycol butyl ether (CAS 11-76-2) is currently listed on the existing Rule 1401 Table 1, but its effective date for chronic REL was denoted as a single asterisk. The asterisk meant that at the time of the last rule amendment the chronic risk value proposed by OEHHA had not yet been finalized and the effective date would be the date the Scientific Review Panel approves the chronic risk value. The Panel approved the chronic risk value on May 4, 2018 and that date has been added to PAR 1401. This amendment makes more explicit the current practice of evaluating the chronic REL of this compound during the permitting process.

Addition of Child Compounds

PAR 1401 will also add child compounds for all existing parent compounds. This update follows the practice in the CARB and OEHHA Consolidated Table of providing child compounds. In addition, it makes explicit that child compounds are already being evaluated during health risk

assessments. Each added child compound will have the same effective date as the parent compound. The child compounds will be added for the following existing parent compounds:

Compound Name	CAS Number
Aniline	62-53-3
Arsenic and arsenic compounds (inorganic)	7440-38-2
Asbestos	1332-21-4
Benzidine (and its salts)	92-87-5
Beryllium and beryllium compounds	7440-41-7
Cadmium and cadmium compounds	7440-43-9
Chromium (hexavalent) and chromium compounds	18540-29-9
dibenzofurans (chlorinated)	None
dinitrotoluene, 2,4-	121-14-2
Fluorides and compounds	1101*
Manganese and manganese compounds	7439-96-5
Nickel and nickel compounds	7440-02-0
Selenium and selenium compounds other than hydrogen selenide	7782-49-2

*4-digit Air Toxics Hot Spots Emission Inventory Code assigned by CARB

Addition of 8-Hour Reference Exposure Levels

PAR 1401 will add a new column for 8-hour REL. South Coast AQMD's Risk Assessment Procedures consider the non-cancer 8-hour health risk as chronic exposure (referred to as HIC8). The addition of this column to Table I clarifies and memorializes the current permitting practice.

Existing compounds in Table I that have an 8-hour REL listed in the CARB and OEHHA Consolidated Table will have an effective date added into Table I. The 8-hour REL effective date for existing compounds will match their Table I effective date for chronic REL. This aligns with the CARB and OEHHA Consolidated Table as it shows the effective dates for chronic REL and 8-hour REL matching for all compounds.

For the nine new parent compounds and their child compounds, the effective date will be the date when PAR 1401 is amended.

Removal of Chemical Compounds

PAR 1401 will remove two compounds from Table I.

Gasoline vapors will be removed. Gasoline vapors is not listed on the CARB and OEHHA Consolidated Table. This compound is also documented in Appendix VII of the South Coast

AQMD Risk Assessment Procedures which explains that it is evaluated by its constituents which are benzene, ethylbenzene, and naphthalene which have risk factors. However, there are additional constituents which will be added during this amendment, such as isoprene, which will necessitate an update to the Risk Assessment Procedures for gasoline dispensing facilities.

Methyl mercury will be removed as it is a different compound than inorganic mercury. A footnote in the CARB and OEHHA Consolidated Table notes that this compound was removed in 2014 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". Methyl mercury is an organic compound, but the parent compound it is listed under is mercury and inorganic mercury compounds, which is not accurate.

There are additional compounds listed in Table I that are not included in the OEHHA/CARB consolidated table. Risk Values have been proposed for these additional compounds. They will remain listed in Table I, they are not required to be included in health risk assessments until risk values have been finalized by the Scientific Review Panel, as noted in Table I footnotes.

Removal of Table I Footnote

In Table I, the effective date for certain compounds is listed as March 4, 2005 with a three-asterisk footnote. The three-asterisk footnote states: "Effective date for these risk values will be March 4, 2005 or the date of implementation of the applicable most recent version of Risk Assessment Procedures for Rules 1401, 1401.1 and 212, whichever is later." For clarity, the three-asterisk footnote will be removed and the effective date will remain March 4, 2005 for the following compounds:

Compound Name	CAS Number
3,3',4,4' Tetrachlorobiphenyl	32598-13-3
3,4,4',5 Tetrachlorobiphenyl	70362-50-4
2,3,3',4,4' Pentachlorobiphenyl 2,3,4,4',5 Pentachlorobiphenyl	32598-14-4 74472-37-0
2,3',4,4',5 Pentachlorobiphenyl	31508-00-6
2',3,4,4',5 Pentachlorobiphenyl	65510-44-3
3,3',4,4',5 Pentachlorobiphenyl	57465-28-8
2,3,3',4,4',5 Hexachlorobiphenyl	38380-08-4
2,3,3',4,4',5' Hexachlorobiphenyl	69782-90-7
2,3',4,4',5.5' Hexachlorobiphenyl	52663-72-6
3,3',4,4',5,5' Hexachlorobiphenyl	32774-16-6
2,3,3'4,4',5,5' Heptachlorobiphenyl	39635-31-9
naphthalene	91-20-3

Amendments to Better Identify Specific Compounds

To align with the CARB and OEHHA Consolidated Table, compound names, CAS numbers, and 4-digit Air Toxics Hot Spots Emission Inventory Codes will be amended or added to existing compounds to better identify the specific compound. The following amendments are being made for clarity:

Compound Name	Amendment
bis(2-chloroethyl)ether (DCEE)	Adding "[dichloroethylether]" to the compound name
bis(2-ethylhexyl)phthalate (DEHP)	Adding "[di(2-ethylhexyl)phthalate]" to the compound name
copper and copper compounds	Adding "[including but not limited to: copper fume (as copper)]" to the compound name and including the 4-digit code 1067.
total dioxins, with individual isomers reported	Adding 4-digit code 1085
total dioxins, without individual isomers reported	Adding 4-digit code 1086
lead compounds (inorganic)	Adding 4-digit code 1128
polycyclic aromatic hydrocarbons (PAHs)	Adding "[Treated as B(a)P for HRA]" to the compound name
refinery dust from the pyrometallurgical process	Adding 4-digit code 1146
toluene diisocyanates	Adding CAS 26471-62-5

Table II

For informational purposes, Rule 1401 Table II lists TACs that have proposed risk values or are in development at OEHHA but this is not the most updated list. Since Table II is not referenced in Rule 1401 or any other South Coast AQMD rules, PAR 1401 will delete Table II. For the most updated information on TAC risk values in development, OEHHA has draft assessments for in process compounds which can be found on their website.[14]

[14] OEHHA. (2026). OEHHA – Air. https://oehha.ca.gov/air

CHAPTER 3 – IMPACT ASSESSMENT

Affected Sources

PAR 1401 applies when a facility submits a permit application for a new, modified, or relocated equipment or source that emits any TACs listed in Table I. PAR 1401 will add nine new compounds. An impact analysis was conducted to assess the regulatory impacts of adding new compounds and health risk values to Table I. The impact analysis consisted of:

1. Identifying the potential sources of the compound by evaluating available information from:
   - Annual Emission Reporting data (AER),
   - Alternative assessments conducted by another regulatory agency, such as CARB
   - Permit applications and associated submitted documents, such as Technical Data Sheet (TDS), or
   - Rule development documents, such as staff reports or equipment databases.
2. Assessing if the inclusion of the compound into PAR 1401 would have a potential impact. Even if the compound was not previously on Table I, impacts may be minimal for the following reasons:
   - Throughput is prohibited or restricted by another regulation,
   - An alternative is available,
   - The equipment that emits the compound also emits a compound with a more restrictive health value restricting throughput,
   - Documented usage is less than a potential limit established using a Tier I HRA, or
   - Equipment emitting the compound is subject to control requirements.

Based on staff's impact assessment, equipment that emits polymeric HDI , PCBTF, or t-BAc will be impacted by the amendment. An analysis of each of the compounds is discussed in the following paragraphs.

1-Bromopropane (CAS 106-94-5)

In 2023, OEHHA developed acute, 8-hour, and chronic RELs for 1-Bromopropane.

Potential Emission Sources

The emission sources of 1-Bromopropane are cleaning solvents and dry cleaners.

Assessment

Two facilities reported 1-bromopropane emissions associated with cleaning solvents. The emissions were reported from non-permitted pieces of equipment associated with cleaning or maintenance. This activity is exempt from permitting requirements pursuant to South Coast AQMD Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II. As a permit is not required, PAR 1401 does not apply to these operations.

In January 2007, CARB amended the Dry Cleaning ATCM to address perchloroethylene emissions and phased out the use of perchloroethylene dry cleaning machines and related equipment by

January 1, 2023. While 1-bromopropane was identified as potential alternative to perchloroethylene, many other alternatives are available.[15]

Conclusion

The addition of 1-bromopropane is expected to have minimal impacts for new, modified, or relocated equipment subject to PAR 1401.

1,4-Dichlorobenzene (CAS 106-46-7)

In 2025, OEHHA adopted new acute and 8-hour RELs for 1,4-dichlorobenzene.

Potential Emission Sources

According to OEHHA, 1,4-dichlorobenzene usage includes as a deodorant for toilets, urinals, and refuse containers; moth repellant for clothing; and fumigant to control mold. However, CARB implemented a ban on the sale and manufacture of solid air fresheners or toilet/urinal care products that contain 1,4-dichlorobenzene, effective December 31, 2006, to reduce both indoor and near-source outdoor air concentrations.[16]

Based on AER data from 2025, 1,4-dichlorobenzene emissions were reported from sewage treatment plants, landfills, and refineries.

Assessment

Based on a review of permits for equipment that were sources of 1,4-dichlorobenzene, the equipment identified also emits benzene at a higher quantity. Benzene has a lower REL compared to 1,4-dichlorobenzene and as mentioned in Chapter 1, a lower REL would mean that the value is more stringent.

Compound	Acute REL	8-Hour REL
Benzene	2.7E01 ug/m^3	3 ug/m^3
1,4-Dichlorobenzene	8.7E03 ug/m^3	10 ug/m^3

Benzene is the main driver for health risks at these facilities when estimating health risks for either acute REL or 8-hour REL.

Additionally, permit applications reviewed showed that these facilities implement controls to reduce other TAC emissions. It is expected that the operating conditions to address the health risks from other TAC emissions would also address 1,4-dichlorobenzene emissions.

Conclusion

Adding 1,4-dichlorobenzene is expected to have minimal impacts for new, modified, or relocated equipment subject to PAR 1401.

[15] CARB. (2015). Dry Cleaning Alternative Solvents: Health and Environmental Impacts. https://ww2.arb.ca.gov/sites/default/files/classic/toxics/dryclean/notice2015_alt_solvents.pdf

[16] CARB. (2006). Health Risk and Needs Assessment for the Airborne Toxic Control Measure for para-Dichlorobenzene Solid Air Fresheners and Toilet/Urinal Care Products. https://ww2.arb.ca.gov/sites/default/files/barcu/regact/conprod/ch7.pdf

Cobalt (CAS 7440-48-4)

In 2020, 2022, and 2023 OEHHA adopted cancer potency factors and cancer inhalation risk factors for cobalt and its child compounds.

Potential Emissions Sources

Based on AER data, the main sources of cobalt are semi-conductor manufacturing, resin operations, abrasive blasting, and metal plating.

Assessment

The following is a summary and result of the review of permit applications and the associated Technical Data Sheets (TDS) for different sources.

- 40 semiconductor manufacturing permit applications were reviewed
  - Cobalt was not listed in any of the TDS
  - No usage, no impacts
- 55 resin operations permit application were reviewed
  - Cobalt was not listed in any of the TDS
  - No usage, no impacts
- 30 abrasive blasting permit applications were reviewed
  - 5 abrasive blasting applications identified cobalt in the composition of metal being blasted
  - Abrasive blasting operations have several options to further reduce cancer risk, including reducing horsepower, reducing nozzle size/pressure, installing high efficiency filters, adding an operating time limit, and changing type of steel used
  - Due to various alternatives to limit cobalt emissions, minimal impacts on permitting new, modified, or relocated equipment are expected
- 1 metal plating application was reviewed
  - Decorative chrome plating equipment transitioning from hexavalent chromium to cobalt tungsten
  - Cobalt is a potential alternative for chrome plating operations in lieu of using hexavalent chromium
  - Due to alternatives to cobalt to replace hexavalent chromium, such as trivalent chromium, minimal impacts on permitting new, modified, or relocated equipment are expected.

Conclusion

The addition of cobalt is expected to have minimal impacts for new, modified, or relocated equipment subject to PAR 1401.

Hexamethylene Diisocyanate (HDI) Monomer (CAS 822-06-0)

In 2019, OEHHA adopted chronic, 8-hour, and acute RELs for HDI monomer**.**

Potential Emission Sources

HDI monomer is used in autobody shops that use polyurethane coating. Industries such as aerospace and metal coatings also use products containing HDI monomer to coat aircraft parts, signage, scaffolds, and heavy-duty equipment.

Assessment

90 spray booth permit applications were reviewed and HDI monomer was identified in 25 applications. Concentrations of HDI monomer were all less than or equal to 1%. Products containing HDI monomer also contain PCBTF or polymeric HDI which are the driving risk factors. The phase out and reduction of PCBTF containing products may also lead to the reduction of HDI monomer. Coating manufacturers have also expressed transitioning away from the use of HDI monomer to using polymeric HDI.

Conclusion

The addition of HDI monomer is expected to have minimal impacts for new, modified, or relocated equipment subject to PAR 1401.

Polymeric Hexamethylene Diisocyanate (HDI) (CARB Air Toxics Hot Spots Emission Inventory Code 1221)

In 2019, 2022, and 2025 OEHHA adopted chronic, 8-hour, and acute RELs for polymeric HDI, and their child compounds.

Potential Emission Sources

Polymeric HDI are prevalent in autobody shops that use polyurethane coating. Industries such as aerospace and metal coatings also use products containing polymeric HDI to coat aircraft parts, signage, scaffolds, and heavy-duty equipment.

Assessment – Tier II HRA

As discussed in Chapter 1, a Tier II HRA is a conservative approach assessing the health risk associated with the quantity of a pollutant emitted. For polymeric HDI, the following parameters were used:

- Concentration of polymeric HDI in a coating component,
- A common mixing ratio of the coating component and other materials, and
- A referenceable emission rate.

A review of 90 spray booth permit applications submitted from 2016-2023 provided the following:

- The average polymeric HDI concentration was 65%, and
- A common mix ratio was four (4) parts polymeric HDI-free coating component to one (1) part polymeric HDI containing coating component.

In 2006, a study was conducted by the Ontario Ministry of the Environment to develop emission factors for spray booth operations in autobody shops. The study developed an emission rate of 4.8%-6.3%[17] that was used for the Tier II HRA.

[17] Ontario Ministry of the Environment. (2006). Ontario Ministry of the Environment Joint Ministry/Industry Study Determination of 1,6-Hexamethylene Diisocyanate (HDI) Emissions from Spray Booth Operations. https://www.ontario.ca/page/emission-factors-16-hexamethylene-diisocyanate-hdi-emissions-spray-booth-operations

Staff reached out to facilities and paint manufactures to determine a conservative usage amount. The usage amount was 1-2 gallons of mixed coating applied per hour.

The Tier II HRA determined that the hourly usage would need to be approximately 1-2% of the conservative usage amount provided by industry in order to be below the acute HI threshold.

Assessment - Alternatives to Polymeric HDI

Polymeric HDI is considered a critical and necessary compound for polyurethane coating chemistry and is used to replace Methylene Diphenyl Diisocyanate which is a carcinogen. Additionally, coating manufacturers and industry stakeholders indicated that there are no other known alternatives available and plans for reformulation to remove polymeric HDI are uncertain.

Assessment - Pathways to utilize polymeric HDI

For facilities spraying coatings containing polymeric HDI, two pathways are available to allow facilities to remain under Rule 1401 health risk thresholds:

1. Conduct a more refined estimation of health risks, or
2. Install and implement add-on controls.

Refining Health Risk Estimations

As mentioned in Chapter 1, there are four tiers of HRAs. By utilizing a higher HRA tier and refining the estimation of health risks and/or modifying the operating assumptions, facilities can potentially be allowed a greater throughput than that resulting from a Tier I HRA. Additionally, during this time, the facility may propose a lower throughput or alternative assumptions supported by studies or evidence that can be used to reduce the estimated health risks.

Install and Implement Add-on Controls

In the 2006 Ontario study, particle size distribution was analyzed. Figure 3 depicts the distribution by scenarios.

Figure 3 Dry Filter Booth Particle Size Distribution

DuPont Canada, Inc.											
Size[1]	0.3µm	0.4µm	0.5µm	0.65µm	0.8µm	1.0µm	1.6µm	2.0µm	3.0µm	4.0µm	5.0µm
Scenario 1	42.97%	20.69%	11.62%	7.53%	8.94%	4.39%	1.71%	1.86%	0.25%	0.03%	0.00%
Scenario 2	33.32%	24.18%	12.33%	8.74%	11.60%	4.42%	2.44%	2.56%	0.35%	0.04%	0.01%
Scenario 3	29.09%	25.78%	11.84%	9.05%	13.64%	4.10%	2.83%	3.16%	0.45%	0.06%	0.01%
Scenario 4	21.04%	27.89%	11.21%	10.02%	17.49%	4.08%	3.58%	4.08%	0.54%	0.05%	0.01%
Scenario 5	35.90%	24.15%	13.54%	8.33%	9.47%	4.55%	1.75%	1.95%	0.31%	0.04%	0.01%
Scenario 6	40.91%	21.54%	11.69%	7.68%	9.46%	4.39%	1.85%	2.09%	0.33%	0.04%	0.01%
BASF, Toronto, Ontario Canada											
Scenario 1	Detector Saturated at 0.3 µm range										
Scenario 2	43.71%	20.76%	10.89%	7.13%	8.88%	3.39%	2.50%	2.45%	0.25%	0.02%	0.00%
Scenario 3	44.18%	20.60%	10.71%	7.16%	9.01%	3.22%	2.49%	2.38%	0.22%	0.02%	0.00%

Based off the chart, 99.98-100% of particle size is greater than or equal to 0.3 microns. This means that polymeric HDI emissions are considered and treated as a particulate matter. In South Coast AQMD Rule 1469.1 – Spraying Operations Using Coatings Containing Chromium, emissions from spraying operations were also treated as particulate matter and controlled with HEPA filters. This is potentially a viable control technology since HEPA filters can achieve a capture efficiency of 99.97% for particles 0.3 microns or larger which aligns with the particle size distribution found in the Ontario study.

Affected Facilities

The addition of polymeric HDI to PAR 1401 may impact new, modified, or relocated equipment by requiring either a more refined risk assessment or the usage of enhanced control equipment. Over the course of eight years, from 2016 to 2023, approximately 714 applications for new or modified spray booths indicated coatings containing Polymeric HDI were submitted from 535 different facilities. Based on this period, it is anticipated that 89 spray booth applications from 67 facilities will be submitted each year.

The only known emission factors for polymeric HDI were published in the 2006 study conducted by the Ontario Ministry of the Environment. These emission factors would be used for permitting applicable equipment and during the respective PAR 1401 analysis. Each permit application would be reviewed for relevance to the emission factor in the study. In the event new information becomes available, the most appropriate emission factor would be used. For example, spray booths equipped with HEPA filters would be evaluated differently than ones without.

Isoprene (CAS 78-79-5)

In 2025, OEHHA developed an inhalation unit risk and inhalation cancer potency factor for isoprene.

Potential Emissions Sources

Based on the California Emissions Inventory Data Analysis and Reporting System, which is the database used by CARB to store and maintain criteria and toxic pollutant emissions statewide, and a review of permitting data, the main sources that emits isoprene are petroleum refineries and gasoline stations.

Isoprene is a by-product of the thermal cracking of petroleum naphtha and is a VOC. Based on refinery permitting data, the equipment emitting isoprene is subject to South Coast AQMD Rule 1173 – Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants that requires equipment to be vented to vapor recovery systems. Additionally, the permit applications reviewed showed that these facilities implement T-BACT to reduce emissions. It is expected that existing controls are sufficient to reduce isoprene emissions.

An initial Tier 2 HRA was done for isoprene at gasoline stations and the increase in MICR was less than 0.6%. It is expected that there are minimal impacts to gasoline stations.

Conclusion

The addition of isoprene is expected to have minimal impacts for new, modified, or relocated equipment subject to PAR 1401. The Risk Assessment Procedures and online HRA Tool will be updated with the inclusion of isoprene for gasoline dispensing facilities and will be made available for use upon approval of this rule amendment.

Parachlorobenzotrifluoride (CAS 98-56-6) and Tertiary Butyl Acetate (CAS 540-88-5)

In 2020, OEHHA adopted cancer potency factors and cancer inhalation risk factors for parachlorobenzotrifluoride (PCBTF).

In 2018, OEHHA adopted cancer potency factors and cancer inhalation risk factors for Tertiary Butyl Acetate (t-BAc).

Potential Emissions Sources

Based on Annual Emission Reporting, permitting data, and internal databases, the primary sources of PCBTF are solvent cleaners for lithographic printing operations, adhesives and sealants, and coatings used in various industries such as automotive, aerospace, metal coatings, wood coatings, marine coatings, architectural coatings, paper coating, fabric coating , film coating, plastic coating, rubber coating, leather coating, and glass coating.

Based on Annual Emission Reporting, permitting data, and internal databases, the primary sources of t-BAc are solvent cleaning operations, adhesive and sealant applications, and coatings used in various industries such as automotive, aerospace, metal coatings, wood coatings, marine coatings, architectural coatings, paper coating, fabric coating, film coating, plastic coating, rubber coating, leather coating, and glass coating.

PCBTF and t-BAc are solvents that are exempt from the definition of VOC. VOCs are a critical component in the creation of ground-level ozone and particulate matter caused by the formation of secondary organic aerosols. This has led to the development of multiple South Coast AQMD

rules to establish VOC content limits for products used on different substrates in various industries. To comply with the VOC contents limits, many coatings manufacturers have used solvents exempt from the definition of a VOC. These solvents have low reactivity and therefore do not significantly contribute to the formation of ground-level ozone.

With OEHHA's adoption of cancer potency factors and cancer inhalation risk factors of PCTBF and t-BAc, South Coast AQMD Governing Board identified them as a priority to reduce emissions, even if this approach temporarily results in higher VOC emissions. As a result, there are various source specific VOC rules being developed or that have been amended. The following rules have been adopted to address PCBTF and t-BAc:

- Rule 1107 – Coating of Metal Parts and Products;
- Rule 1124 – Aerospace Assembly and Component Manufacturing Operations
- Rule 1151 – Automotive Coating;
- Rule 1168 – Adhesives and Sealants; and
- Rule 1171 – Solvent Cleaning Operations.

These rules were prioritized due to prevalent use of PCBTF and t-BAc in those respective operations. Key requirements of these rule amendments include:

- Prohibiting usage of products containing more than 0.01% PCBTF and t-BAc by weight
- Implementing a phase out schedule to prohibit further selling and manufacturing of products containing more than 0.01% by weight of PCBTF and t-Bac
- Temporarily allow higher VOC alternative coatings to be applied
- Allowing the usage of products containing PCBTF or t-BAC for situations where there are no alternatives, provided the emissions are controlled

Sources addressed by these rules would either have their impacts evaluated as part of the rule amendment or are not subject to permitting requirements.

Rulemaking is also underway for other rules regulating sources that were identified to be sources of PCBTF or t-BAc. The following rules are currently under rule development:

- Rule 1113 – Architectural Coatings; and
- Rule 1136 – Wood Products Coatings

Based off a review of rules currently in development, the addition of PCBTF and t-BAc into PAR 1401 are expected to have minimal impacts. For sources subject to Rule 1113, the operation is exempt from a permit under Rule 219 – Equipment Not Requiring A Written Permit Pursuant To Regulation II. For sources subject to Rule 1136, amendments to the rule are scheduled to be adopted before PAR 1401 and the impacts are being evaluated as part of its rule development.

Rulemaking is also underway for other rules regulating sources that were identified to be sources of PCBTF or t-BAc. The following rules are currently scheduled for amendment:

- Rule 1106 – Marine and Pleasure Craft Coatings
- Rule 1128 – Paper, Fabric, and Film Coating Operations
- Rule 1145 – Plastic, Rubber, Leather, and Glass Coatings

These sources are being assessed as PAR 1401 is anticipated to be adopted before these rules are amended to restrict PCBTF and/or t-Bac. Due to the gap in time between when PAR 1401 is adopted and when these source specific rules are adopted, it is anticipated that the installation of control technology would be required to remain below health risk thresholds. To determine the number of potentially impacted facilities, these sources were identified using internal databases and past permit actions were evaluated from 2018-2023. Over 6 years, 12 permit applications were submitted from 9 different facilities. Based on this period, it is anticipated that two permit applications from 1 facility will be submitted each year.

Conclusion

For sources regulated under recently amended rules, the impacts were assessed as part of each respective rule development or do not require to be permitted. For sources regulated under rules under development, the impacts are expected to be minimal. For sources that will undergo development, the addition of PCBTF and t-BAc is expected to have temporary impacts for new, modified, or relocated equipment until the source-specific rules are amended.

Trimethylbenzene (CAS 25551-13-7)

In 2023, OEHHA adopted chronic, 8-hour, and acute RELs for trimethylbenzene.

Potential Emission Sources

Based on Annual Emission Reporting and permitting data, the primary sources are spray booths in the automotive, aerospace, metal coatings, and wood coatings industries and gasoline stations.

Assessment

Staff conducted a review of 90 spray booth applications and found trimethylbenzene in 17 applications. All applications had trimethylbenzene concentration less than or equal to 5% by weight. Products containing trimethylbenzene also contain PCTBF which are being addressed in source specific VOC rules to limit usage and phase out. A tier 1 HRA preliminary evaluation of trimethylbenzene for a permit application also showed minimal impacts to health risk.

A preliminary screening analysis conducted for trimethylbenzene showed that there will be minimal impacts for chronic and acute hazard index at gasoline stations.

Conclusion

The addition of trimethylbenzene is expected to have minimal impact on permitting new, modified, or relocated equipment subject to PAR 1401.

Trivalent Chromium (CAS 16065-83-1)

In 2022, OEHHA adopted chronic, 8-hour, and acute RELs for trivalent chromium.

Potential Emission Sources

Based on South Coast AQMD AER and permitting data, decorative chrome plating operations would be a potential source of trivalent chromium emissions. Trivalent chromium decorative chrome plating is anticipated to be the main source of trivalent chromium as more facilities transition away from hexavalent chromium usage due to Rule 1469 – Hexavalent Chromium

Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations prohibiting the use by 2030.

Assessment

A Tier I HRA using operational data from an existing permit application for a decorative chrome plating tank determined that it is likely adding trivalent chromium to PAR 1401 will likely not have impact on permitted throughputs. Additionally, Rule 1469 requires trivalent chromium plating tanks to either be controlled or utilize a chemical fume suppressant, which limits the amount of trivalent chromium emissions. Trivalent chromium does not have a cancer potency factor while hexavalent chromium does. If applying for an identical throughput, transitioning from hexavalent chromium to trivalent chromium may decrease the health risk of metal plating facilities rather than increase it as the primary risk driver for hexavalent chromium is cancer risk, which is not a health risk factor for trivalent chromium. While not anticipated due to the results of the Tier I HRA, a facility may utilize control equipment used to control hexavalent chromium emissions to control trivalent chromium emissions, such as HEPA filters, scrubbers, or other add-on control equipment.

Conclusion

The addition of trivalent chromium is expected to have minimal impacts for new, modified, or relocated equipment subject to PAR 1401.

California Environmental Quality Act

Pursuant to CEQA and South Coast AQMD's certified regulatory program (Public Resources Code Section 21080.5, CEQA Guidelines Section 15251(l) and South Coast AQMD Rule 110), the South Coast AQMD, as lead agency, is currently reviewing the proposed project (PAR 1401) to determine if it will result in any potential adverse environmental impacts. Appropriate CEQA documentation will be prepared based on the analysis.

Socioeconomic Impact Assessment

A socioeconomic impact assessment will be conducted and released for public review and comment at least 30 days prior to the South Coast AQMD Governing Board Hearing for PAR 1401, which is scheduled for August 7, 2026 (subject to change).

Draft Findings under Health and Safety Code Section 40727

Requirements to Make Findings

Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report.

Necessity

PAR 1401 is needed to update Table 1 to incorporate and update the RELs for new and existing TACs that have been adopted by OEHHA.

Authority

The South Coast AQMD Governing Board has authority to adopt PAR 1401 pursuant to the Health and Safety Code Sections 39002, 39650 et. Seq., 40000, 40001, 40440, 40441, 40702, 40725 through 40728, 41508, 41700, and 42300 et. Seq.

Clarity

PAR 1401 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency

PAR 1401 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.

Non-Duplication

PAR 1401 will not impose the same requirements as any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, South Coast AQMD.

Reference

By adopting PAR 1401, the South Coast AQMD Governing Board will be implementing, interpreting, and making specific provisions of the Health and Safety Code Sections 39666 (District new source review rules for toxics), 41700 (prohibited discharges), and 42300 *et. seq*., (permit system).

Comparative Analysis

Under Health and Safety Code Section 40727.2, South Coast AQMD is required to perform a comparative written analysis when adopting, amending, or repealing a rule or regulation. The comparative analysis is relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to the same source. A comparative analysis will be prepared and released in the Draft Staff Report at least 30 days prior to the South Coast AQMD Governing Board Hearing on PAR 1401, that is anticipated to be considered for approval on August 7, 2026 (subject to change).