

# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

## Draft Staff Report

### Proposed Amended Rule 1144 – Metalworking Fluids and Direct-Contact Lubricants

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# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	EX-1
<b>CHAPTER 1: BACKGROUND</b>	
INTRODUCTION .....	1-1
BACKGROUND .....	1-1
REGULATORY HISTORY .....	1-3
AFFECTED FACILITIES AND EQUIPMENT .....	1-3
PUBLIC PROCESS .....	1-4
<b>CHAPTER 2: PCBTF/T-BAC TOXICITY</b>	
INTRODUCTION .....	2-1
BACKGROUND ON PCBTF AND T-BAC.....	2-1
COMPARING PCBTF AND T-BAC TOXICITY TO OTHER COMPOUNDS .....	2-1
STAFF RECOMMENDATIONS ON PCBTF AND T-BAC .....	2-2
METALWORKING FLUIDS AND DIRECT-CONTACT LUBRICANTS MANUFACTURER SURVEY/QUESTIONNAIRE .....	2-3
<b>CHAPTER 3: PROPOSED AMENDED RULE 1144</b>	
INTRODUCTION .....	3-1
PROPOSED AMENDED RULE STRUCTURE .....	3-1
PROPOSED AMENDED RULE 1144.....	3-1
<b>CHAPTER 4: IMPACT ASSESSMENTS</b>	
INTRODUCTION .....	4-1
EMISSION REDUCTIONS .....	4-1
COSTS .....	4-1
SOCIOECONOMIC IMPACT ASSESSMENT .....	4-1
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ANALYSIS.....	4-1
DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE SECTION 40727 .....	4-1
Necessity .....	4-2
Authority .....	4-2
Clarity .....	4-2
Consistency .....	4-2
Non-Duplication .....	4-2
Reference .....	4-2
COMPARATIVE ANALYSIS.....	4-2
APPENDIX A: RESPONSES TO PUBLIC WORKSHOP COMMENTS.....	A-1

## EXECUTIVE SUMMARY

Rule 1144 – Metalworking Fluids and Direct-Contact Lubricants (Rule 1144) was adopted in March 2009 to reduce volatile organic compound (VOC) emissions from the use of metalworking fluids and direct-contact lubricants. Proposed Amended Rule 1144 (PAR 1144) addresses the toxicity of certain compounds that could be used in metalworking fluids and lubricants formulations.

The Office of Environmental Health Hazard Assessment (OEHHA) determined that *tert*-Butyl Acetate (t-BAc) and para-Chlorobenzotrifluoride (pCBtF) have toxic endpoints, including carcinogenicity. Historically, manufacturers have been using these two chemicals to formulate coatings and adhesives that comply with VOC content limits in South Coast AQMD rules due to their VOC exemption status. While these two compounds are not currently used by metalworking fluid and lubricant manufacturers, manufacturers could use these two compounds as VOC exempt options in future reformulations. Under South Coast AQMD regulations, t-BAc is exempt from the definition of a VOC for certain product categories in a few source-specific rules, not including Rule 1144. In contrast, pCBtF is exempt from the definition of VOC for all uses, including products regulated under Rule 1144. PAR 1144 partially implements the 2022 Air Quality Management Plan (AQMP) control measure CTS-01 to phase out pCBtF and t-Bac and assess opportunities for VOC emission reductions.

To ensure metalworking fluids and lubricants manufacturers do not develop new products with pCBtF and t-BAc, PAR 1144 establishes an end date of July 1, 2027, for manufacture of any metalworking fluid or direct-contact lubricant. Following this final manufacturing period, there is a one-year sell-through period and then an additional one-year use-through period. These additional phases ensure that manufacturers, distributors, and end users are provided with adequate time to transition to products without pCBtF and/or t-Bac, if needed. After the phase-out timeline provided, Rule 1144 products would be prohibited from containing pCBtF and/or t-BAc in excess of 0.01 percent by weight. PAR 1144 will be fully implemented after July 1, 2029. Since PAR 1144 does not alter VOC limits, and manufacturers subject to this rule have been found to not use pCBtF or t-BAc in their products, PAR 1144 is not expected to result in VOC emission reductions or increases.

PAR 1144 was developed through a robust public process. A Working Group meeting was held on August 12, 2025, that presented multiple South Coast AQMD rules, including Rule 1144, that proposed the prohibitions of pCBtF and t-BAc. Another Working Group meeting was held on November 20, 2025, where staff presented results from a manufacturer survey on pCBtF and t-BAc use in metalworking fluids and lubricants and proposed rule concepts. A Public Workshop for PAR 1144 was held on January 28, 2026.

## **CHAPTER 1: BACKGROUND**

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**INTRODUCTION**

**BACKGROUND**

**REGULATORY HISTORY**

**AFFECTED FACILITIES AND EQUIPMENT**

**PUBLIC PROCESS**

## INTRODUCTION

Rule 1144 – Metalworking Fluids and Direct-Contact Lubricants (PAR 1144) is a source-specific rule that was adopted to reduce VOC emissions from the use of metalworking fluids and direct-contact lubricants at industrial facilities. Rule 1144 establishes VOC content limits for eight different types of fluids that include vanishing oils, various metalworking fluids, and direct-contact lubricants. Rule 1144 is being amended to address health concerns related to pCBtF and t-BAC, which were identified by OEHHA as having toxic health endpoints.

## BACKGROUND

Nationally, an estimated 1.2 million workers are employed in machine finishing, machine tooling, and other metalworking and metal-forming operations that use lubricants, metalworking fluids, or rust inhibitors. The U.S. Census (2022) estimates 11.3 percent of the fabricated metal industry are located in California, and the South Coast Air Basin accounts for approximately 55 percent of the industry, more than 3,300 establishments. Of these establishments, the U.S. Census (2022) estimates that 77 percent have fewer than twenty employees.

Typical industries using lubricants, metal working fluids, and rust inhibitors include:

- Aerospace
- Machine Shop (Job Shop)
- Steel Mills
- Auto Rebuild
- Screw Machine
- Steel Tubes (Pipes)
- Steel Springs
- Captive

Captive machine shops are machine shops located inside of another type of business (aerospace, automotive, etc.) that supports the business but are not the primary aspect of that business. Metalworking shops tend to be small businesses that generally do not use paints, coating, inks or adhesives; routinely use very low VOC content cleaning solvents; and have limited interaction with the South Coast AQMD. Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II, exempts machining equipment that use lubricants, metalworking fluids, and rust inhibitors with VOC contents less than 50 grams per liter (g/l) or a VOC composite partial pressure of 20 mm Hg. Nearly all lubricants, metalworking fluids and rust inhibitors, including those with a high-VOC content, have a VOC composite of 5 mm Hg or less. Thus, metalworking shops rarely have permits from the South Coast AQMD.

Lubricants, metalworking fluids and rust inhibitors are complex mixtures of oils, emulsifiers, anti-weld agents, corrosion inhibitors, extreme pressure additives, buffers (alkaline reserve), biocides, and other additives. Some products contain extreme pressure (EP) additives containing chlorinated, sulfurized, or phosphorus-type extreme pressure ingredients. There are numerous formulations, ranging from straight oils (such as petroleum oils) to water-based fluids, which

include soluble oils and semi-synthetic/synthetic fluids. In general, higher oil content provides better lubricity while higher water content allows more rapid cooling.

### *Development of Health Risk Understanding for pCBtF and t-BAc*

In 1994, the United States Environmental Protection Agency (U.S. EPA) granted pCBtF an exemption from the definition of a VOC (59 FR 50693)<sup>1</sup>. Similarly, in 2004, U.S. EPA added t-BAc to its list of VOC-exempt solvents (69 FR 69298)<sup>2</sup>. The initial exemptions were granted based on the chemicals' negligible photochemical reactivity. These exemptions were subsequently incorporated into South Coast AQMD rules. In 2005, a limited VOC exemption for t-BAc was added to Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations (Rule 1151), exempting its use when calculating the VOC content in color and clear coat applications. In 2014, pCBtF was added to the list of VOC-exempt compounds under Rule 102 – Definition of Terms (Rule 102).

However, emerging toxicological data prompted a reevaluation of the pCBtF and t-BAc exemptions. In 2015, OEHHA released a draft HRA for t-BAc, indicating it may be more toxic than previously understood. In response, the resolution adopting the 2016 amendments to Rule 1113 – Architectural Coatings (Rule 1113) directed South Coast AQMD staff to reassess the exemption for t-BAc. Staff developed a white paper in 2017 and presented findings to Stationary Source Committee (SSC), which recommended that toxicity concerns should take precedence over VOC emission reductions if t-BAc was confirmed to be a carcinogen. The most recent Health Risk Assessments (HRA), which estimate lifetime health risks associated with exposure, were adopted for t-BAc in August 2018<sup>3</sup> and for pCBtF in August 2020<sup>4</sup>. As a result of these findings and determinations by OEHHA, removing the VOC exemption status of pCBtF and t-BAc is necessary to reduce toxic risk to the general public.

### *Phase Out of pCBtF and t-BAc*

Currently, pCBtF is universally VOC-exempt for all rules, while t-BAc retains its limited exemption in Rule 1113 for specific uses needed for product formulation, such as industrial maintenance and non-sacrificial anti-graffiti coatings. To implement the phase-out of pCBtF and t-BAc, South Coast AQMD staff began amending VOC rules in 2022, beginning with Rule 1168 – Adhesive and Sealant Applications (Rule 1168), for which modeling confirmed pCBtF and t-BAc would pose health risks to sensitive receptors near adhesive application projects, specifically for roofing projects. Further, staff concluded that both pCBtF and t-BAc exhibit toxicities comparable to chemicals that are already prohibited in some VOC rules; therefore, staff proposed prohibiting their use. Since Rule 1168, staff also amended Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operation; Rule 1171 – Solvent Cleaning Operations; and Rule 1107 – Coating of Metal Parts and Products to prohibit the use of pCBtF and t-BAc, and are currently working to address their use in all other South Coast AQMD VOC rules.

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<sup>1</sup> [Federal Register :: Revision to Definition of Volatile Organic Compounds-Exclusion of para-Chlorobenzotrifluoride](#)

<sup>2</sup> [Federal Register :: Revision to Definition of Volatile Organic Compounds-Exclusion of t-Butyl Acetate](#)

<sup>3</sup> [Notice of Adoption of Cancer Inhalation Unit Risk and Slope Factors and Cancer Oral Slope Factor for Tert-Butyl Acetate - OEHHA](#)

<sup>4</sup> [Notice of Adoption of Cancer Inhalation Unit Risk Factor for p-Chloro- \$\alpha,\alpha,\alpha\$ -Trifluorotoluene - OEHHA](#)

### *2022 Air Quality Management Plan (AQMP)*

The 2022 AQMP adopted on December 2, 2022, sets forth a path for improving air quality and meeting federal air pollution standards by striving for zero-NOx emission technologies across all sectors and lower VOC emissions where feasible. The 2022 AQMP included Control Measure CTS-01 Further Emission Reductions from Coatings, Solvents, Adhesives, and Lubricants (CTS-01), which seeks to address the toxicity concerns of pCBtF and t-BAc and assess opportunities for VOC emission reductions.<sup>5</sup> PAR 1144 partially implements CTS-01 from the 2022 AQMP.

## **REGULATORY HISTORY**

Rule 1144 was adopted on March 6, 2009, and was amended on July 9, 2010. The amendment was primarily focused on adding VOC limits to metalworking fluids and lubricants. Adding those VOC limits was delayed at the time the rule was initially proposed because existing test methods were found to be unreliable for semi-volatile materials typically found in metalworking fluids and lubricants. The amendment also fully implemented control measure CTS-01 Emission Reduction from Lubricants in the 2007 AQMP.

## **AFFECTED FACILITIES AND EQUIPMENT**

Rule 1144 is applicable to all persons who manufacture, supply, sell, offer for sale, or use metalworking fluids and direct-contact lubricants within South Coast AQMD's jurisdiction. Certain parts of the rule, such as paragraph (d)(2) and subdivision (f) do not apply to metalworking fluids and direct-contact lubricants subject to California Air Resources Board's (CARB's) consumer products regulation found in Title 17 of the California Code of Regulations.

The provisions of subdivision (d) do not apply to the following operations:

- (A) Lapping
- (B) Sinker EDM
- (C) Avionics and assembled aircraft
- (D) Space vehicle components
- (E) Fluids utilizing the control device option in subdivision (e)

Due to the nature of this rule and applicability, metalworking shops tend to be small businesses that generally do not use paints, coatings, inks or adhesives; routinely use low VOC cleaning solvents; and rarely have permits with South Coast AQMD. Over an estimated 3,300 facilities may be subject to Rule 1144.

## **PUBLIC PROCESS**

The current rule amendment process began in August 2025. Staff conducted two Working Group Meetings with the first held on August 12, 2025, and the second one on November 20, 2025. The Working Group is composed of representatives from businesses, environmental groups, public agencies, and consultants. The purpose of Working Group meetings is to discuss proposed

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<sup>5</sup> [2022 Air Quality Management Plan - Chapter 4: Control Strategy and Implementation](#)

concepts and work through the details of South Coast AQMD’s proposal. Additionally, a Public Workshop was held on January 28, 2026. The purpose of the Public Workshop is to present the proposed amended rule language to the general public and stakeholders and to solicit comments. Staff also conducted individual meetings with industry stakeholders and distributed a survey/questionnaire to metalworking fluid and lubricant manufacturers requesting information on usage of pCBtF and/or t-BAc as part of this rulemaking process. Table 1-1 summarizes the key topics discussed at each of the public meetings for PAR 1144.

**Table 1-1 – Public Meeting Dates and Topics**

Meeting Title	Date	Topics
<b>Working Group Meeting #1</b>	August 12, 2025	<ul style="list-style-type: none"> <li>• Introduction to Proposed Prohibitions for Multiple Rules, including Rule 1144</li> <li>• Manufacturer Survey</li> </ul>
<b>Working Group Meeting #2</b>	November 20, 2025	<ul style="list-style-type: none"> <li>• Rule Background and Objectives</li> <li>• VOC and Exempt Compounds</li> <li>• Manufacturer Survey Results</li> <li>• Initial Proposed Prohibition Timeline</li> </ul>
<b>Public Workshop</b>	January 28, 2026	<ul style="list-style-type: none"> <li>• Preliminary Draft Rule Language</li> <li>• Preliminary Impact Assessments</li> </ul>

## **CHAPTER 2: PCBTF/T-BAC TOXICITY**

**INTRODUCTION**

**BACKGROUND OF PCBTF AND T-BAC**

**COMPARING PCBTF AND T-BAC TOXICITY TO OTHER  
COMPOUNDS**

**STAFF RECOMMENDATIONS ON PCBTF AND T-BAC**

**METALWORKING FLUIDS AND DIRECT-CONTACT LUBRICANTS  
MANUFACTURER SURVEY/QUESTIONNAIRE**

## INTRODUCTION

pCBtF and t-BAc are two solvents that are exempt from the federal definition of a VOC due to their low photochemical reactivity, but recently became a focus of public health concern. Health risk assessments for pCBtF and t-BAc identified elevated cancer potency factors, inhalation unit risks, and acute reference exposure levels (acute REL) compared to other regulated compounds. In response, South Coast AQMD evaluated the use of pCBtF and t-BAc in metalworking fluids and direct-contact lubricants regulated under Rule 1144 and developed PAR 1144 rule proposals to address toxicity without increasing VOC emissions.

## BACKGROUND ON PCBTF AND T-BAC

In 1994, U.S. EPA exempted pCBtF from the federal definition of a VOC due to its negligible photochemical reactivity. In 2014, South Coast AQMD incorporated this exemption by adding pCBtF to Rule 102, which designates VOC-exempt compounds. As a result, pCBtF is currently not considered a VOC unless otherwise specified under any South Coast AQMD rule.

In 2004, U.S. EPA added t-BAc to its list of VOC-exempt compounds. However, South Coast AQMD did not provide a full exemption for t-BAc under Rule 102 due to concerns regarding potential toxicity. Instead, limited exemptions were granted for t-BAc through source-specific rules, such as Rule 1113.

The 2013 amendments to Rule 1113 included a resolution that directed staff to review the exemption for t-BAc due to renewed toxicity concerns. In 2017, South Coast AQMD staff presented preliminary findings to the Stationary Source Committee (SSC) on t-BAc, including concerns regarding pCBtF, which OEHHA had not yet assessed at that time.

Based on staff recommendations, the SSC directed staff to remove the existing t-BAc exemption in Rules 1113 and 1151 once OEHHA finalized their assessment. The SSC also requested that OEHHA review the potential toxicity of pCBtF and that South Coast AQMD staff remove the pCBtF exemption, as resources allow, if pCBtF is deemed a potential carcinogen. OEHHA finalized the health risk assessment for t-BAc in 2018, concluding that it had a higher cancer potential than previously estimated. In 2020, the pCBtF health risk assessment was finalized by OEHHA, which indicated pCBtF is a potential carcinogen. Staff's actions to date to prohibit pCBtF and t-BAc include amending: Rule 1168 – Adhesive and Sealant Applications (Rule 1168) on November 4, 2022; Rule 1151 on November 1, 2024, Rule 1171 – Solvent Cleaning Operations (Rule 1171) on June 6, 2025, and Rule 1107 – Coating of Metal Parts and Products (Rule 1107) on December 5, 2025.

## COMPARING PCBTF AND T-BAC TOXICITY TO OTHER COMPOUNDS

Staff considered several approaches to address the toxicity concerns for pCBtF and t-BAc, ranging from removing the VOC-exempt status to a complete prohibition of use. To inform that decision, staff considered how other compounds with potential toxic endpoints have historically been addressed. Under Rule 102, VOC-exempt compounds are categorized as either Group I or Group

II. Group II compounds, while still considered exempt VOCs, may be prohibited from use in specific source rules due to health or safety concerns.

Two key toxicological metrics were considered in this analysis: the cancer potency factor and the acute REL. Cancer potency factor is a measure used to estimate the risk of cancer associated with exposure to a carcinogenic substance and represents the increased cancer risk per unit of exposure over a lifetime measured in milligrams of a substance per kilogram of body weight per day. 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 measured in micrograms per cubic meter of air. RELs can be established for acute (short-term), 8-hour, or chronic (long-term). For context and comparison, the cancer potency factors and acute RELs for five compounds are summarized in Table 2-1 – Cancer Potency Factor Comparison and Table 2-2 – Acute REL Comparison, respectively.

**Table 2-1 – Cancer Potency Factor Comparison**

Compound	Cancer Potency Factor (mg/kg-day)
Perchloroethylene (perc)	0.021
Dimethyl Carbonate (DMC)	0.0035
t-BAc	0.0047
pCBtF	0.03
Ethylene Oxide (EtO)	0.31

For the five compounds shown in Table 2-1, pCBtF has the second highest cancer potency factor, with EtO being the only compound with a greater associated cancer risk due to exposure. The cancer potency factor of pCBtF is almost 50 percent higher than perchloroethylene's, a currently prohibited Group II Exempt Compound.

Table 2-2 shows the available acute RELs for the same five compounds. t-BAc has the lowest REL, meaning the highest risk among the compounds. The cancer potency factor for pCBtF is much higher than t-BAc, perc, and DMC, but it has no established acute REL.

**Table 2-2 – Acute REL Comparison**

Compound	Acute REL ( $\mu\text{g}/\text{m}^3$ )
perc	20,000
DMC	14,000
t-BAc	10,000
pCBtF	N/A
EtO	N/A

## STAFF RECOMMENDATIONS ON PCBtF AND T-BAC

The preceding comparison of pCBtF and t-BAc to other toxic compounds that are prohibited from use in VOC rules, including Rule 1144, supports a prohibition of pCBtF and t-BAc. OEHHA's assessment of pCBtF and t-BAc shows these compounds to be as toxic as many chemicals currently prohibited; therefore, staff recommends prohibiting the use of pCBtF and t-BAc.

## METALWORKING FLUIDS AND DIRECT-CONTACT LUBRICANTS MANUFACTURER SURVEY/QUESTIONNAIRE

In August 2025, staff conducted a manufacturer survey that was followed up by a questionnaire to understand the extent to which pCBtF and t-BAc are used to comply with the VOC limits in Rule 1144. The survey had the following questions:

**Table 2-3 – Metalworking Fluid and Direct-Contact Lubricant Manufacturer Survey**

Requested Information	
<b>Product Information including the following:</b>	
1.	Product Code & Name
2.	Applicable Category
3.	t-BAc WT% & pCBtF WT%
4.	VOC of Material
5.	Waterborne or Solvent-Based
6.	Total Annual Volume (gal) sold for use in South Coast AQMD or California
7.	PW-MIR (g O <sub>3</sub> /g Product) and Safety Data Sheet

PW-MIR = Product-Weighted Maximum Incremental Reactivity

The questionnaire had the following questions:

1. *Does your facility or represented company manufacture any products that contain Parachlorobenzotrifluoride (pCBtF) and/or Tert-butyl acetate (t-BAc)?*
2. *If yes to #1, please state the name of the product(s) and provide documentation that includes the amount of pCBtF and/or t-BAc in each product.*
3. *If yes to #1, is there a readily available replacement under consideration? If yes, please provide the name of the replacement chemical(s).*

In total, five manufacturers and two organizations that represent multiple manufacturers responded to the survey. All survey/questionnaire responses reported that they were not manufacturing products that included pCBtF or t-BAc.

Survey responses indicate that pCBtF and t-BAc are not being used in metalworking fluids and direct-contact lubricants.

## **CHAPTER 3: PROPOSED AMENDED RULE 1144**

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**INTRODUCTION**

**PROPOSED AMENDED RULE STRUCTURE**

**PROPOSED AMENDED RULE 1144**

## INTRODUCTION

The main objective of PAR 1144 is to phase out the use of pCBtF and t-BAc as solvents in metalworking fluids and direct-contact lubricants due to toxicity and public health concerns.

The following information explains new provisions and any modifications to provisions that have been incorporated. PAR 1144 also includes deletions to obsolete rule language (e.g. past effective dates) and editorial changes for clarity.

## PROPOSED AMENDED RULE STRUCTURE

PAR 1144 retains the following subdivisions:

- a) *Purpose*
- b) *Applicability*
- c) *Definitions*
- d) *Requirements*
- e) *Control Equipment*
- f) *Administrative Requirements*
- g) *Recordkeeping Requirements*
- h) *Test Methods and Procedures*
- i) *Exemptions*

## PROPOSED AMENDED RULE 1144

### *Subdivision (b) – Applicability*

For clarity, the statement that the provisions of this rule shall not apply to repair, maintenance, or research operations is moved to the Exemptions subdivision under new paragraph (i)(8).

### *Subdivision (c) – Definitions*

While no new or modified definitions are proposed, PAR 1144 adds titles of other rules mentioned such as Rule 102 – Definition of Terms.

### *Subdivision (d) – Requirements*

PAR 1144 updates Table A – Fluid Categories and VOC Limits to remove past effective dates and reflect the most current effective VOC limits for each category.

To harmonize with other South Coast AQMD VOC rules, PAR 1144 also includes a new provision in subparagraph (d)(1)(B) to clarify that for any metalworking fluid and/or direct-contact lubricant intended for use in multiple categories listed in Table A, the lowest applicable VOC limit shall apply. Addition of this provision is not expected to alter current compliance or enforcement of the VOC content requirements of this rule, provided the metalworking fluid and/or direct-contact lubricant is properly labeled and represented for its intended use.

To provide further clarity, the two provisions in paragraph (d)(2) specifying the conditions where the prohibition of sale in subparagraph (d)(2)(A) does not apply (formerly subparagraphs (d)(2)(B) and (d)(2)(C)) are moved to the Exemptions subdivision under paragraphs (i)(6) and (i)(7).

PAR 1144 also broadens paragraph (d)(2) to include all prohibitions, not simply those related to sale, and adds new subparagraphs (d)(2)(B) through (d)(2)(E) to facilitate the prohibition of pCBtF, t-BAc, and other toxic compounds in metalworking fluids and direct-contact lubricants.

In these new subparagraphs, staff proposes a phase-out approach. Though the manufacturer questionnaire responses indicate that pCBtF and t-BAc are not being used in metalworking fluids and direct-contact lubricants, a phase-out timeline allows sufficient time to comply for companies that did not respond to the survey and/or may be developing products containing pCBtF or t-BAc, and is consistent with other South Coast AQMD VOC rules where prohibitions on these two compounds are included. Metalworking fluids and direct-contact lubricants that exceed 0.01 percent by weight of pCBtF and/or t-BAc can continue to be manufactured until July 1, 2027. This percent level by weight is to account for potential trace levels of pCBtF and t-BAc. Any products manufactured on or prior to July 1, 2027 with pCBtF and/or t-BAc, can continue to be sold until July 1, 2028. After July 1, 2028, the sale or redistribution for the purpose of sale for use within South Coast AQMD is strictly prohibited. The final step to phase out pCBtF and t-BAc is a one-year use-though timeline, which allows any owner or operator to use any existing inventory of metalworking fluids or lubricants containing greater than 0.01 percent by weight of pCBtF and/or t-BAc, until July 1, 2029. After July 1, 2029, products containing greater than 0.01 percent by weight of pCBtF and/or t-BAc cannot be used at facilities subject to the provisions of this rule. This prohibition does not restrict transport or storage of these products when they are not used or intended for use within the South Coast AQMD.

To ensure that no other exempt-status chemicals with known toxicities are manufactured or used in metalworking fluids or direct-contact lubricants, PAR 1144 includes a prohibition on the manufacture, distribution, or sale for use within South Coast AQMD, or use of products containing greater than 0.01 percent by weight of Group II Exempt Compounds after July 1, 2027.

PAR 1144 deletes paragraph (d)(3) as the sell through provisions for metalworking fluids and direct-contact lubricants not meeting the applicable VOC content limits have expired.

#### *Subdivision (f) – Administrative Requirements*

PAR 1144 streamlines this subdivision by removing redundant administrative requirements and rule language referencing past effective dates, including paragraph (f)(3) which required manufacturer or supplier submittal of annual quantity and emission reports until year 2013. What remains is requiring the display of VOC content and date of manufacture (or equivalent code) on the product container (formerly paragraph (f)(2)).

#### *Subdivision (g) – Recordkeeping Requirements*

Paragraph (g)(6), which requires manufacturers to maintain notification letters provided to independent distributors informing them that specific metalworking fluids and direct-contact

lubricants are not to be used in the South Coast AQMD, was moved to new paragraph (i)(6) for additional clarity as this recordkeeping requirement only applies to this provision. PAR 1144 also deletes paragraph (g)(7) for consistency with the deletion of paragraph (f)(3).

*Subdivision (i) - Exemptions*

PAR 1144 updates this subdivision by removing obsolete rule language for three provisions. Former paragraph (i)(2) and subparagraph (i)(4)(F) (formerly subparagraph (i)(5)(F)) had temporary exemptions, lasting through January 1, 2011, from some or all of the rule requirements for metalworking fluids and lubricants subject to the CARB consumer products regulation and metal protecting fluids used in association with military or Department of Defense specifications; therefore those exemptions have expired and are now deleted.

For harmonization with other South Coast AQMD VOC rules, PAR 1144 updates paragraph (i)(2) (formerly paragraph (i)(3)) to clarify that the provisions of this rule do not apply to metalworking fluids and direct-contact lubricants that are offered for sale, sold, or manufactured within South Coast AQMD but are only for use outside of South Coast AQMD's jurisdiction, or that are to be shipped to other manufacturers for reformulation or repackaging.

In addition to moving former paragraph (d)(2)(B) to new paragraph (i)(6), this provision exempting manufacturers and suppliers from the sale prohibition on a product with excess VOC content provided they give written notification that the product is not to be used in South Coast AQMD, is broadened to include all prohibitions specified in paragraph (d)(2) for pCBtF, t-BAC, and Group II exempt compound containing products. This would extend the additional compliance assurance for manufacturers and suppliers to their products that may contain these compounds in excess of 0.01 percent in the event a product intended for use outside of the South Coast is sold to an independent distributor who then distributes or sells it for use within South Coast AQMD.

Paragraph (i)(7) was also deleted due to dimethyl carbonate no longer being used as a cooling solvent in computed numerically controlled (CNC) machines.

Lastly, as discussed previously in this chapter, the Exemptions subdivision now includes the three provisions that were specified in earlier subdivisions of the rule that, for clarity purposes, best belong in this subdivision.

## **CHAPTER 4: IMPACT ASSESSMENT**

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**INTRODUCTION**

**EMISSION REDUCTIONS**

**COSTS**

**SOCIOECONOMIC IMPACT ASSESSMENT**

**CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

**DRAFT FINDINGS UNDER THE HEALTH AND SAFETY CODE**

**COMPARATIVE ANALYSIS**

## **INTRODUCTION**

Impact assessments were conducted as part of PAR 1144 rule development to assess the environmental and socioeconomic implications. These impact assessments include a socioeconomic impact assessment and a California Environmental Quality Act (CEQA) analysis. Draft findings and comparative analyses were prepared pursuant to Health and Safety Code Sections 40727 and 40727.2, respectively.

## **EMISSION REDUCTIONS**

PAR 1144 establishes a compliance schedule to phase out metalworking fluids and direct-contact lubricants containing greater than 0.01 percent by weight pCBtF and t-BAc, without changing the established VOC emission limits. Furthermore, due to responses received from the manufacturer survey/questionnaire that these two compounds are not currently being used in metalworking fluid and lubricant products, no product reformulation is expected. In addition, VOC emissions in metalworking fluids are already extremely low based on previous survey data and further VOC emission reductions were not pursued. Therefore, no increase or decrease in VOC emissions are expected as a result of PAR 1144.

## **COSTS**

Staff met with industry stakeholders and learned that, at least for those companies that responded to the manufacturer survey/questionnaire, they can meet the existing VOC emission limits since these companies are not using pCBtF or t-BAc in their products. Since no product reformulations are expected, no cost impacts are anticipated.

## **SOCIOECONOMIC IMPACT ASSESSMENT**

A socioeconomic impact assessment is not required by Health and Safety Code Sections 40440.8 and 40728.5 because PAR 1144 will not significantly affect air quality or emission limitations, and thus, will not result in significant socioeconomic impacts.

## **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (PAR 1144) is exempt from CEQA pursuant to CEQA Guidelines Sections 15061(b)(3). A Notice of Exemption will be prepared pursuant to CEQA Guidelines Section 15062, and if the proposed project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Land Use and Climate Innovation.

## **DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE 40727**

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, as defined in that section, based on

relevant information presented at the Public Hearing, this written analysis, and the rulemaking record. The draft findings are as follows:

**Necessity** – PAR 1144 is needed to phase out pCBtF and t-BAc to reduce potential toxicity in metalworking fluids and direct-contact lubricants as specified by the 2022 AQMP Control Measure CTS-01.

**Authority** – The South Coast AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Health and Safety Code Sections 39002, 39650 *et. seq.*, 40000, 40001, 40440, 40702, 40725 through 40728, and 41508.

**Clarity** – The South Coast AQMD Governing Board has determined that PAR 1144 is written and displayed so that the meaning can be easily understood by persons directly affected by them.

**Consistency** – The South Coast AQMD Governing Board has determined that PAR 1144 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, federal or state regulations.

**Non-Duplication** – The South Coast AQMD Governing Board has determined that PAR 1144 does not impose the same requirement as any existing state or federal regulation, and the proposed amendments are necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

**Reference** – In adopting this regulation, the South Coast AQMD Governing Board references the following statutes, which the South Coast AQMD hereby implements, interprets, enforces, or makes specific: Health and Safety Code Section 40001, and 40702.

## COMPARATIVE ANALYSIS

Under Health and Safety Code Section 40727.2, the South Coast AQMD is required to perform a comparative 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 other air pollution control requirements and guidelines which are applicable to VOC regulations for metalworking fluids and direct-contact lubricants in industrial facilities. Neither state nor federal regulations regulate VOC emissions from metalworking fluids and direct-contact lubricants in industrial facilities, so there is no comparison to analyze.

**APPENDIX A – RESPONSES TO PUBLIC WORKSHOP COMMENTS**

**Comments from Public Workshop**

**Comment #1:** John Burke, a representative for Independent Lubricant Manufacturers Association (ILMA), requested a copy of the preliminary draft rule language without strikeout and underline. He also inquired how many people attended the Public Workshop.

**Staff Response:** A clean version (without strikeout/underline) of the preliminary draft rule language can be found on the Proposed Amended Rule 1144 webpage located at the following link: <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1144>.

Regarding the Public Workshop attendance, there were 31 attendees.

**Comment #2:** Moses Huerta, City of Paramount resident, asked when the Office of Environmental Health Hazard Assessment (OEHHA) studies were completed for pCBtF and t-BAc and if they are available to view.

**Staff Response:** In August 2015, OEHHA released a draft document summarizing the carcinogenicity and development of an inhalation cancer unit risk factor for t-BAc, and the document was finalized and published in August 2018. This document and other supporting documentation for t-BAc can be found here: <https://oehha.ca.gov/air/crn/notice-adoption-cancer-inhalation-unit-risk-and-slope-factors-and-cancer-oral-slope-factor-tert>.

In October 2019, OEHHA released a draft document summarizing the carcinogenicity and development of an inhalation cancer unit risk factor for pCBtF, and the document was finalized and published in August 2020.

This document and other supporting documentation for pCBtF can be found here: <https://oehha.ca.gov/air/crn/notice-adoption-cancer-inhalation-unit-risk-factor-p-chloro-aaa-trifluorotoluene>.

**Comment #3:** Patrick Gieske, from Seymour Sycamore, asked if there is a possibility of looking at maximum incremental reactivity (MIR) as a measure for VOC control in metalworking fluids and direct-contact lubricants. He also asked if this rule has a low vapor pressure (LVP) VOC exemption.

**Staff Response:** MIR is a regulatory metric that quantifies the maximum amount of ozone formed per unit mass of a specific VOC under optimal atmospheric conditions. A higher MIR value indicates a greater potential for that VOC to contribute to ground-level ozone formation. Staff does not find it necessary to incorporate MIR in this rule since, based on received surveys, no pCBtF or t-BAc is being used in metalworking fluids or direct-contact lubricants, and thus no reformulation is needed. Generally, MIR is used for products that require reformulation and do not have substitute solvents readily available to be used.

The LVP VOC exemption is a regulatory provision that excludes certain high-boiling or low-volatility organic compounds from being counted towards the total VOC limit in VOC containing products for compliance purposes. While CARB has an LVP VOC exemption for consumer products, South Coast AQMD does not for Rule 1144 metalworking fluids and direct-contact lubricants. South Coast AQMD uses ASTM E 1868 – 10 Standard Test Method for Loss-On-Drying by Thermogravimetry that was developed by stakeholders when this rule was created to determine VOC content. There are some exempt solvents that are listed in South Coast AQMD Rule 102, but staff does not anticipate much use of exempt solvents since many of the products subject to this rule are water-based and therefore already contain low VOC levels.