

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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**FINAL STATEMENT OF REASONS**

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Division 1, Chapter 4, Subchapter 7, Article 107, Section 5155
of the General Industry Safety Orders

Airborne Contaminants**MODIFICATIONS AND RESPONSE TO COMMENTS RESULTING FROM
THE 45-DAY PUBLIC COMMENT PERIOD**

There are no modifications to the information contained in the Initial Statement of Reasons except for the following substantive, non-substantive, and/or sufficiently related modifications that are the result of public comments and/or Occupational Safety and Health Standards Board (Board) staff evaluation:

Section 5155, Table AC-1, Permissible Exposure Limits for Airborne Contaminants

Existing Section 5155 establishes minimum requirements for controlling employee exposure to specific airborne contaminants. Table AC-1 in this section specifies several types of airborne exposure limits, along with requirements for control of short term exposures generally to prevent harmful effects such as narcosis; significant irritation of the eyes, the skin, or the respiratory tract; as well as chronic or irreversible tissue changes.

Existing Table AC-1 includes a Short Term Exposure Limit (STEL) for the hazardous chemical sulfuric acid that was proposed in this rulemaking to be deleted in the course of reducing the full-day average exposure limit, the 8-hour time-weighted average (8-hour TWA), to a value of 0.1 mg/M³. With thirty-two 15-minute periods in an 8-hour work-shift, the 8-hour TWA being proposed is almost numerically equivalent to the existing STEL of 3 mg/M³. A written comment was received that acknowledged this rough numerical equivalence of the proposed TWA and the existing STEL, but suggested several reasons for revising the proposal to retain a sulfuric acid STEL.

Retention of Existing 15-Minute Short Term Exposure Limit for Sulfuric Acid

The Board agrees to retain a 15-minute STEL in the airborne exposure limit for sulfuric acid. The original proposed amendments to the Permissible Exposure Limit (PEL) for sulfuric acid are

modified to retain the existing 15-minute STEL of 3 mg/M³. As the commenter notes, many exposures to sulfuric acid in California are of an intermittent and short-term nature. As the commenter suggests and the Board agrees, a STEL is necessary to help assure that employers are aware that they need to assess such short-term exposures during which employee exposures may be at their maximum, to better identify if exposure control measures in place are functioning properly and are adequate, so as to minimize the risk of possible health effects. The Division of Occupational Safety and Health (Division) plans to initiate discussion of possible revision of the STEL for sulfuric acid in a future PEL advisory meeting.

Summary of and Responses to Oral and Written Comments

I. Written Comments:

Van A. Howell, CSP, Area Director, U.S. Department of Labor, Occupational Safety and Health Administration, by letter dated March 4, 2011.

Comment: Mr. Howell stated that the proposed revisions of PELs are lower than those listed in federal standards, but the proposed revisions are commensurate with federal protections.

The proposed lowering of the 8-hour time-weighted average PELs for toluene and carbon disulfide could make the existing STEL values established for carbon disulfide and toluene problematic for an employer. With the industrial hygiene principle of no more than four STEL exposures allowed during an eight-hour time-weighted average (TWA), the PEL-TWA value could be exceeded even if the employer did not exceed the STEL value. While this would still be a violative condition, an advisory note would put employers on notice that regardless of the STEL value for a substance an employer cannot exceed the established eight-hour time-weighted PEL.

Response: As noted elsewhere in these Responses to Comments, the Division plans to discuss the STEL for toluene in its advisory committee process for PELs. Rather than adding the suggested NOTE at this time, the Division will add the issue addressed in this letter to the planning for that advisory committee discussion.

The Board thanks Mr. Howell for participating in this rulemaking process.

Judith S. Freyman, Mercer ORC Networks, by letter dated March 29, 2011.

Comment: Ms. Freyman supports the four PELs proposed for amendments and the revised advisory committee process used by the Division to develop them. She noted that the revised process provides for increased transparency and opportunity for stakeholder involvement and dialogue which she believes can help improve their acceptance by these groups of the PELs proposed to the Board.

Response: The Board thanks Ms. Freyman for participating in this rulemaking process.

Catherine A. Porter, JD, California Healthy Nail Salon Collaborative, by letter dated April 12, 2011.

Comment: Ms. Porter urges adoption of a PEL for toluene that would protect against spontaneous abortion as much as possible, consistent with the findings of the study of Ng et al. (1992) discussed in the Health Expert Advisory Committee (HEAC). She notes that since the HEAC recommendation was made in December 2008, toluene has been listed as a reproductive toxicant under Proposition 65. Ms. Porter recommends a PEL of not greater than 3 ppm to better protect nail salon workers, the majority of whom are women of reproductive age. She also urged that the PEL for toluene be as protective as the standard for the general public under Proposition 65 by being no greater than 0.5 ppm based upon a No Observed Effect Level (NOEL) of 500 ppm divided by 1,000, as detailed in the Final Statement of Reasons for Establishment of a Regulatory Level for Toluene, March 1992. Ms. Porter also encouraged adoption of a STEL for toluene to better protect workers against exposures of short duration but of a higher and dangerous level.

Response: With regard to a PEL of 3 ppm based on the study of Ng et al. (1992), see the response below to Julia Quint's written comment. With regard to a PEL of 0.5 ppm based on a NOEL of 500 ppm, the Board declines to make this change to the proposal. For a possible PEL of 0.5 ppm based on a NOEL of 500 ppm for reproductive effects, the commenter cites a factor of 1,000 as being referenced in the 1992 Proposition 65 rulemaking for toluene. This factor of 1,000 is codified in the statutory language of Proposition 65 in Health and Safety Code Section 25249.10(c). However, Office of Environmental Health Hazard Assessment (OEHHA) and the United States Environmental Protection Agency have recommended different uncertainty factors which were used by the HEAC in recommending the amended PEL for toluene proposed for adoption.

With regard to the commenter's suggestion that a STEL be adopted for toluene, the Board notes that the PEL for toluene currently includes a 15-minute STEL of 150 ppm for toluene, and this value has not been proposed for amendment in this rulemaking. The Division plans to initiate discussion of possible revision of the STEL for toluene in a future HEAC meeting.

The Board thanks Ms. Porter for participating in this rulemaking process.

Julia Quint, Ph.D., by letter dated April 21, 2011.

Comment: Dr. Quint notes that in August 2009, OEHHA listed toluene under Proposition 65 as "known to the state to cause reproductive toxicity" based on the Ng et al. study (1992) which showed an increase in spontaneous abortions among toluene-exposed workers. She said that in her work on toluene as a HEAC member, she had derived a possible PEL for toluene of 3 ppm based on the Ng et al. study, but she did not propose a PEL for toluene based on this study because of a potential confounding factor, which could have affected the study results. Dr. Quint notes, however, that the addition in August 2009 of female reproductive effects to the Proposition 65 listing for toluene was based on the Ng et al. study. She suggested that, due to OEHHA's extensive and superior expertise in this area, a PEL of 3 ppm for toluene may be more scientifically accurate and health protective.

Response: On June 24, 2011, Division staff spoke with Jim Donald, from the Reproductive and Cancer Hazard Assessment Branch of OEHHA, which is responsible for chemical listings under Proposition 65. Mr. Donald explained that under the "Labor Code Mechanism" of the Health &

Safety Code for listing substances and their effects on the Proposition 65 chemicals list, “female reproductive toxicity” was added to the listing for toluene as a result of this effect being a basis for the revised Threshold Limit Value (TLV) for toluene published by the American Conference of Governmental Industrial Hygienists in 2007. Mr. Donald said that the Labor Code Mechanism for listing under Proposition 65 does not provide for OEHHA to evaluate the rationale of the TLV or the study underlying its revision based in part on female reproductive effects. This was confirmed by OEHHA Chief Counsel Carol Monahan-Cummings on July 22, 2011 who indicated that the relevant Health & Safety Code section for the Labor Code Mechanism is 25249.8(a).

It is clear from the above that the Labor Code Mechanism used in adding “female reproductive toxicity” to the Proposition 65 listing for toluene in 2009 did not provide for OEHHA to independently assess the Ng et al. (1992) study, as the commenter suggests might have occurred. In light of this, the Board declines to modify the PEL proposed for toluene based upon the Ng et al. (1992) study.

Comment: Dr. Quint commented on what she viewed as the excessive amount of time it has taken the Division to forward PEL proposals to the Board from the advisory committee process, based on her experience developing health-based PEL recommendations for three substances for the HEAC before resigning from that committee.

Response: The comments made by Dr. Quint regarding the HEAC process are beyond the scope of this rulemaking and will not be the subject of a response.

Frances C. Schreiber; Kazan, McClain, Lyons, Greenwood & Harley; PLC, by letter dated April 21, 2011.

Comment: Ms. Schreiber objected to the proposed elimination of the 15-minute STEL for sulfuric acid and asked that the proposal be revised to include a STEL for sulfuric acid. She acknowledges that the 8-hour time-weighted average value is almost numerically equivalent to the existing 15-minute STEL value. However, she notes that many exposures to sulfuric acid in California are of an intermittent and short-term nature that may not be assessed if the PEL does not include a STEL. Ms. Schreiber notes also that removing the STEL for sulfuric acid may affect exposure assessments related to the ventilation requirements under California Code of Regulations, Title 8, Section 5154 with respect to open surface tanks.

Response: The Board agrees with the commenter that a STEL should be retained for sulfuric acid and is proposing to modify the proposal to retain the existing STEL of 3 mg/M³ for sulfuric acid. A possible revision of the STEL for sulfuric acid may be discussed in a future PEL advisory meeting.

The Board thanks Ms. Schreiber for participating in this rulemaking process.

II. Oral Comments at the April 21, 2011 Public Hearing in Sacramento, California:

Elizabeth Treanor, Phylmar Regulatory Roundtable.

Comment: Ms. Treanor expressed appreciation for the transparency of the advisory committee process which led to them and the committee members and Division staff involved.

Response: The Board thanks Ms. Treanor for participating in this rulemaking process.

Catherine Porter, California Health Nail Salon Collaborative.

Comment: Ms. Porter summarized her written comments regarding toluene, by letter dated April 12, 2011.

Response: See the Board's response to Ms. Porter's letter, dated April 12, 2011.

Judi Freyman, Mercer ORC Networks.

Comment: Ms. Freyman summarized her written comments praising the HEAC and FAC process, by letter dated March 29, 2011.

Response: See the Board's response to Ms. Freyman's letter, dated March 29, 2011.

Dan Leacox, Greenberg Traurig.

Comment: Speaking on behalf of the Nail Manufacturers Council, Mr. Leacox said that the PEL proposed for toluene was based on the health effects studies and that feasibility had not been an issue. He said that, especially since toluene had been largely formulated out of nail salon products five or six years ago, the feasibility of the amended PEL proposed for toluene is not an issue in the nail salon industry.

Response: The Board thanks Mr. Leacox for participating in this rulemaking process.

Julia Quint, Ph.D.

Comment: Dr. Quint summarized her written comments praising the HEAC and FAC process, by letter dated April 21, 2011.

Response: See the Board's response to Dr. Quint's letter, dated April 21, 2011.

MODIFICATIONS OF AND RESPONSES TO COMMENTS RESULTING FROM
THE 15-DAY NOTICE OF PROPOSED MODIFICATIONS

No further modifications to the information contained in the Initial Statement of Reasons are proposed as a result of the 15-Day Notice of Proposed Modifications mailed on December 12, 2011.

Summary of and Response to Written Comments

Catherine A. Porter, Policy Specialist, California Healthy Nail Salon Collaborative, by letter dated December 27, 2011.

Comment: Ms. Porter reiterated her prior written comments on toluene.

Response: The toluene portion of the proposal was not the subject of the 15-Day Notice of modification. Therefore, these comments are beyond the scope of the 15-Day Notice and will not be the subject of a response.

The Board thanks Ms. Porter for her comments and participation in this rulemaking process.

Kathleen Roberts, Carbon Disulfide Coalition, by letter dated December 30, 2011.

Comment: Ms. Robert requests the Board to withdraw the proposal with regard to carbon disulfide and to reconsider the comments provided in this letter.

Response: These comments are not the subject of the 15-Day Notice of modification. Therefore, these comments are beyond the scope of the 15-Day Notice and will not be the subject of a response.

The Board thanks Ms. Roberts for her comments and participation in this rulemaking process.

ADDITIONAL DOCUMENTS RELIED UPON

None.

ADDITIONAL DOCUMENTS INCORPORATED BY REFERENCE

None.

DETERMINATION OF MANDATE

This regulation does not impose a mandate on local agencies or school districts as indicated in the Initial Statement of Reasons.

ALTERNATIVES CONSIDERED

The Board invited interested persons to present statements or arguments with respect to alternatives to the proposed regulation. No alternative considered by the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the adopted action.