



Public Workshop

on DTSC's Proposal to List Toluene in Nail Products as a Priority Product

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MARCH 13, 2019



Department of Toxic Substances Control



CalEPA



**Webcast attendees,
submit your comments to:
SaferConsumerProducts@dtsc.ca.gov**



Department of Toxic Substances Control



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DTSC's Proposal to List Toluene in Nail Products as a Priority Product

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Department of Toxic Substances Control



CalEPA

A Priority Product is a Product-Chemical Combination that Meets these Criteria:



- There are potential **exposures** to a Candidate Chemical in the product

AND

- One or more exposures have the potential to contribute to or cause **significant or widespread adverse impacts**

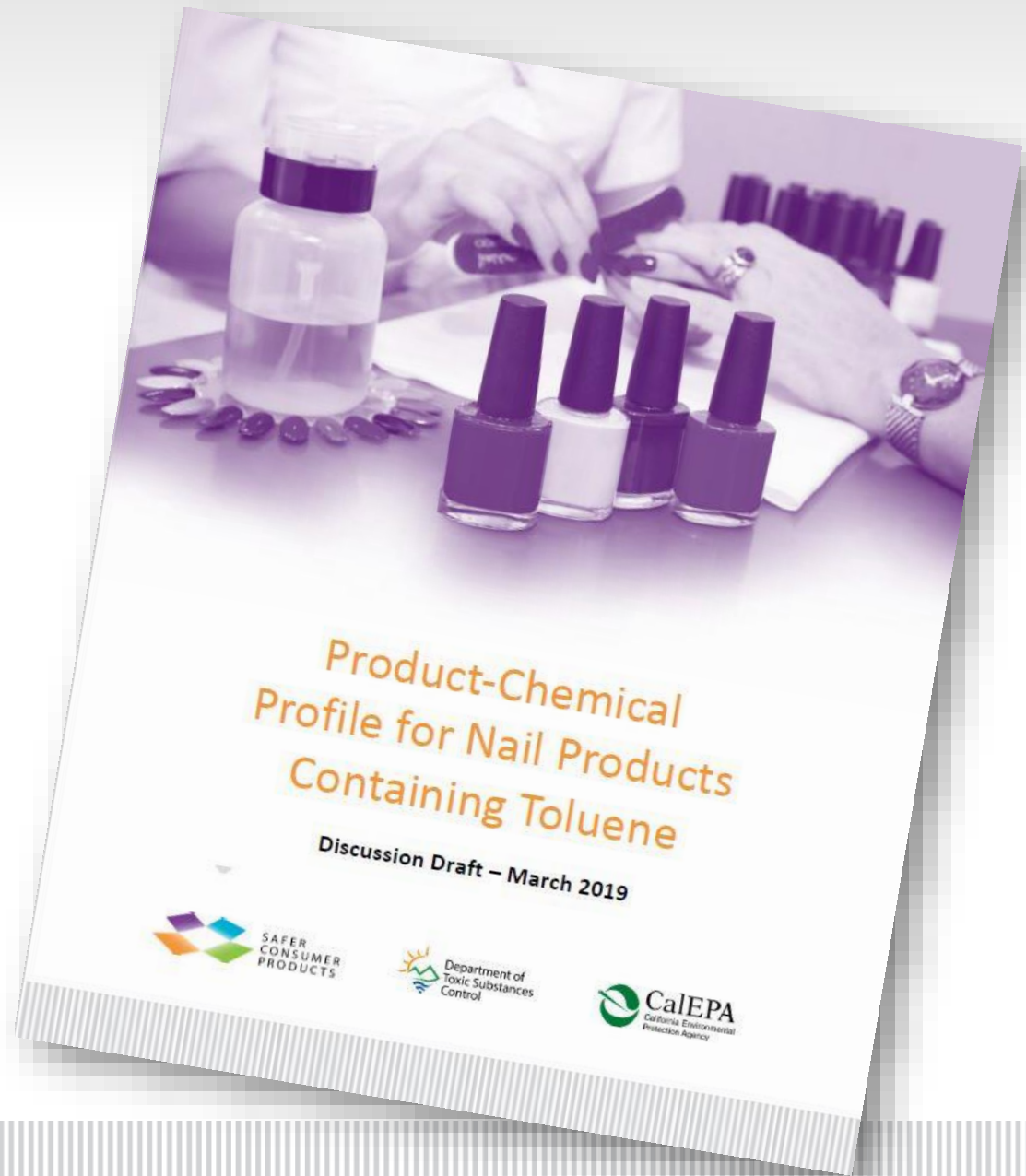


Presentation Overview

- Toluene in Nail Products
 - Scope of product/chemical definitions
 - Hazard traits
 - Exposure potential
- DTSC Nail Product Efforts Overview
 - Additional chemicals in nail products
 - Lab study
 - Information call in



The Technical Basis for this Proposal



Scope of Product: Nail Coatings

- Nail polish
- Lacquer
- Enamel
- Base coat
- Top coat
- Gel polish
- Hard gel
- Shellac
- Nail art
- Airbrush nail art paint



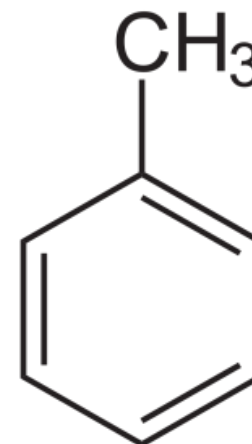
Scope of Product: Nail Polish Thinner

- Reduces viscosity of nail coatings
- Increases the fluidity
- Restores the consistency of nail coatings



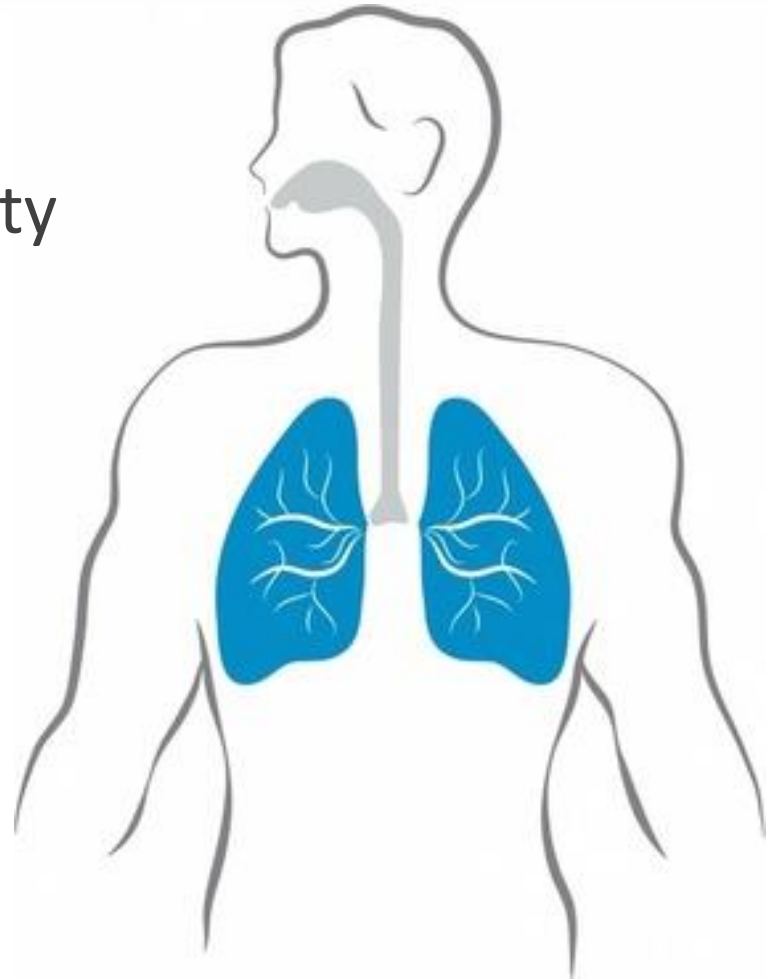
Scope of Candidate Chemical: Toluene

- Clear, colorless liquid
- Volatile solvent
- On 9 of the 23 authoritative source lists
 - TAC by CARB
 - CDC 4th Natl Report
 - OEHHA REL
 - Prop 65 Dev
 - CA MCL
 - CWA 303c
 - CWA 303d
 - ATSDR
 - US EPA IRIS



Hazard Traits of Toluene

- Neurotoxicity
- Developmental toxicity
- Respiratory toxicity
- Dermal toxicity



Toluene Hazard Traits

- Neurotoxicity
 - Principal hazard trait for five authoritative lists
 - Well demonstrated in human exposures and animal models
 - OEHHA chronic REL $300 \mu\text{g}/\text{m}^3$ (0.07 ppm)
 - The concentration threshold at or below which no adverse health effects are anticipated
 - Dizziness, fatigue, headache, decreased manual dexterity



Toluene Hazard Traits

- Developmental toxicity
 - Three authoritative sources
 - Low birth weight
 - *Higher risk for cosmetologists compared to other sectors or the general population*
 - Observed effects in studies from intentional abuse
 - Shown in animal models



Toluene Hazard Traits

- Respiratory toxicity
 - Two authoritative sources
 - Respiratory tract irritation
 - Seen in human and animal studies
- Dermal Toxicity
 - Skin irritation



Exposure to Toluene from Nail Products

- Nail products and salon services are popular
 - ~\$8.5 billion spent on nail services in the U.S. in 2016
 - >100 million women in the U.S. use nail products annually
 - *This number continues to increase*
 - In California > 9,000 nail salons and ~ 130,000 licensed manicurists and ~300,000 cosmetologists



Exposure to Toluene from Nail Products

- Toluene is found in nail products
 - A recent FDA study in 2016 detected toluene in 26 out of 34 nail products
 - DTSC discovered toluene in products in 2012 study
 - Reported as an ingredient in > 40 nail coatings and one nail polish thinner in the California Safe Cosmetics Program Product Database



Exposure to Toluene from Nail Products

- Toluene is found in nail products
 - Mintel's Global New Products Database identified 43 nail coating products introduced to the U.S. retail market, and 930 worldwide, since 2006
 - Environmental Working Group's (EWG) Skin Deep cosmetics database lists 5 nail products

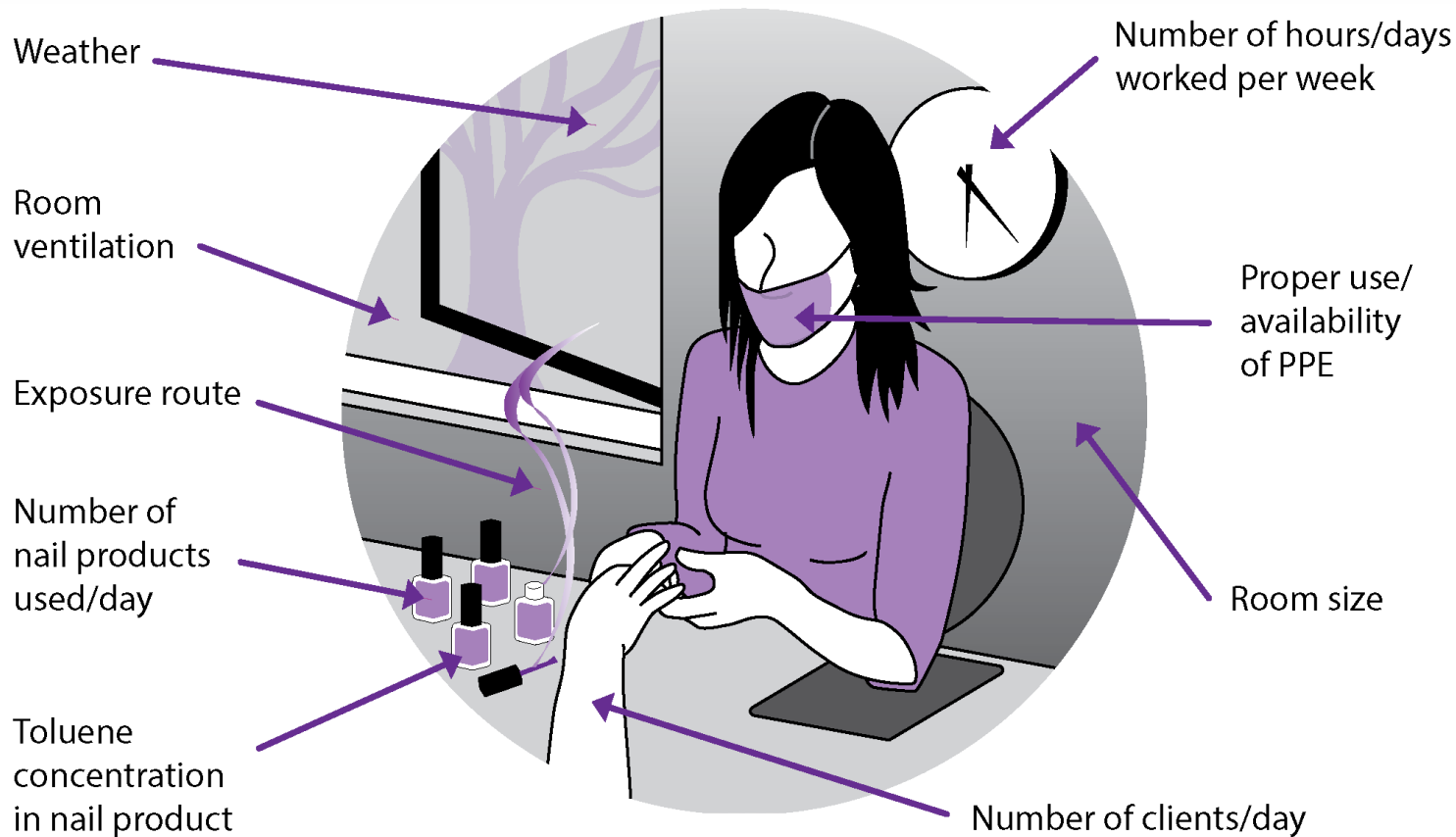


Exposure to Toluene from Nail Products

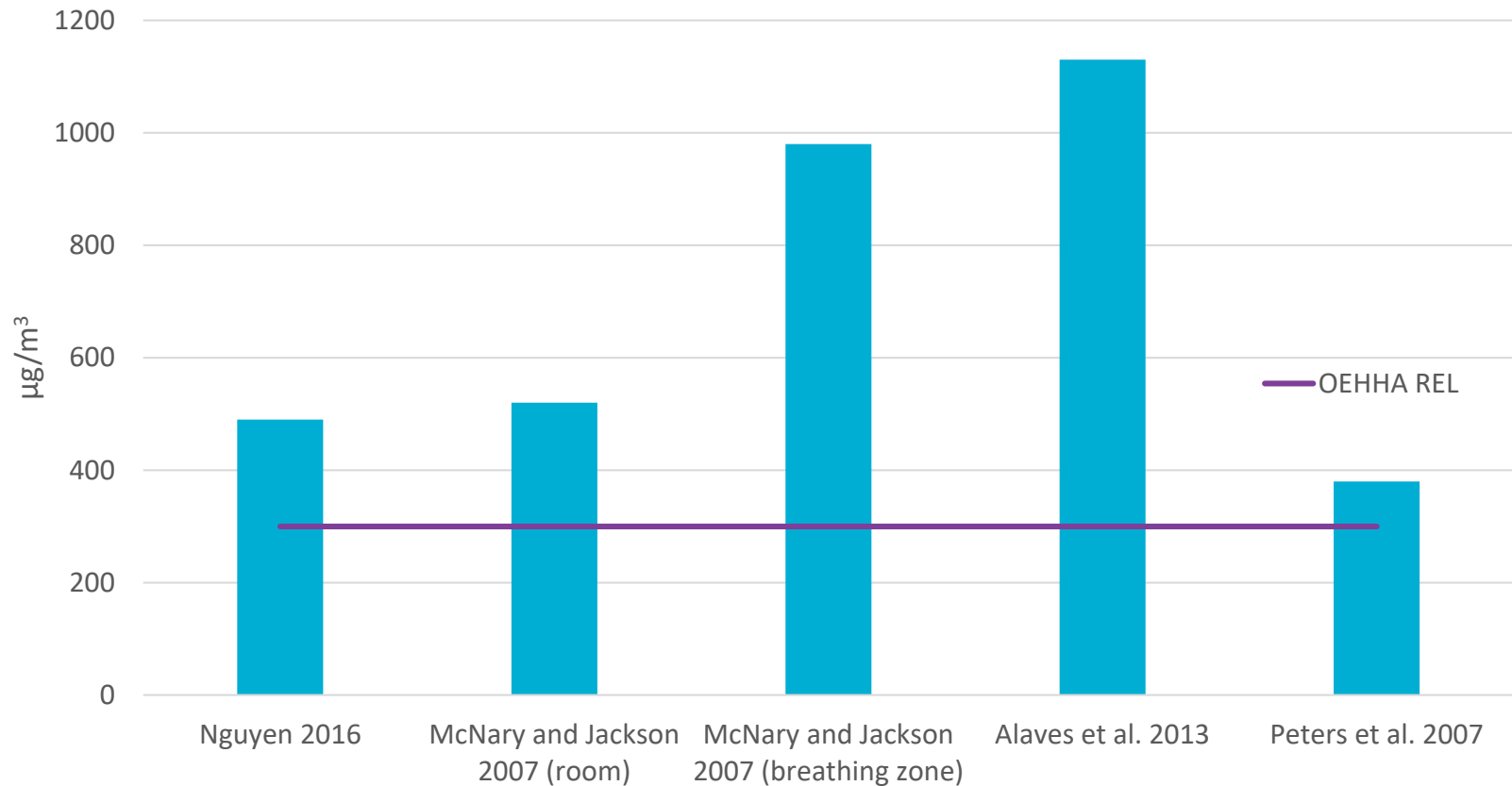
- Inhalation of indoor air
- Populations that may be exposed
 - Nail salon workers, nail salon patrons, nail product consumers, children, pregnant women and their fetuses
 - 97% of U.S. nail technicians are female and a majority are of childbearing age
 - Nail technicians in California
 - *Up to 80% of workers are of Vietnamese descent*
 - *Sensitive subpopulation for exposure*
 - *Often work extended work hours*
 - *Children that accompany them to work are more sensitive*



Exposure is Affected by



Toluene Detected in Indoor Air of Nail Salons



Alternatives to Toluene in Nail Products

- Ethyl acetate
- Butyl acetate
- Isopropyl alcohol
- Methyl ethyl ketone
- Water



In Summary

- Potential for exposure to toluene from nail products
- Potential for toluene exposure to cause or contribute to significant or widespread adverse impacts



DTSC Nail Product Efforts Overview

- Research on other chemicals in nail products
- Healthy nail salon recognition program guidance
- DTSC analytical laboratory study
- Information call-in



Chemicals Researched

- Formaldehyde
- Dibutyl phthalate
- Methyl methacrylate
- Triphenyl phosphate
- Methyl ethyl ketone
- N-methylpyrrolidone



Formaldehyde

- Clearly established hazard traits
- Used in nail hardeners
 - At concentrations < 5% (FDA limit)
- Widespread in the environment
 - Many ambient sources
- Not recommending for prioritization at this time
- Following emerging research and findings



Dibutyl Phthalate (DBP)

- Reproductive and developmental toxicant
- Used in nail polish as a plasticizer
- Mostly phased out of nail products
- Mintel database identified no new nail polishes since 2012
- Not recommending for prioritization at this time
- Currently investigating presence in products



Methyl Methacrylate (MMA)

- Respiratory and dermal toxicant
- Used in acrylic nails, polish, and gel products
- FDA and CA BBC prohibit the use of MMA-containing nail products in salons
 - Still detected in salons
 - Sold for consumer use
- Actively researching



Triphenyl Phosphate (TPhP)

- Suspected developmental toxicant, endocrine disruptor, and obesogen
- Only listed by one authoritative source
 - California biomonitoring list
- Widely used in nail polish as a plasticizer
- Known hazard to aquatic organisms
 - Not persistent
 - Low concentrations in aquatic environment
- Still following emerging active area of research



Methyl Ethyl Ketone (MEK)

- Neurological, respiratory and developmental toxicant
 - Adverse impacts observed under high dose exposures
Used in nail polish and thinners
 - Mintel database shows only 1% of products from 2008 – 2017
 - Detections in nail salons well below regulatory thresholds
- Not recommending for prioritization at this time
 - Will continue monitoring the continuing use of the chemical in products and potential increases in exposure



N-Methylpyrrolidone (NMP)

- Carcinogen, reproductive, and developmental toxicant
- Used in polish removers
 - Phased out in the EU
 - Mintel database shows only one product in last 5 years
- Recent FDA study showed it in base coats, gels, and thinners at low concentrations
- Continue additional research
- Determine presence in other nail products



Chemicals Planned for Research

- Acetone
- Isopropyl alcohol
- Tert-butyl alcohol
- Carbon black
- Phosphoric acid
- Aluminum powder
- Diethylhexyl phthalate



Healthy Nail Salon Recognition (HNSR) Program Guidance

- Statewide guidance pursuant to AB2125 in 2018
- Intended for local governmental agencies in CA that create voluntary HNSR programs
- Established to prevent, minimize, or reduce nail salon workers' and their customers' exposure to toxic chemicals in nail products
- Public access to guidance, best practices
- <https://www.dtsc.ca.gov/SCP/upload/AB2125-HNSR-Program-Guidelines.pdf>



Analytical Lab Study of Nail Products

- Determine the presence and concentrations of Candidate Chemicals and other chemicals of interest in retail and professional-use nail products
- Follow up on DTSC's 2012 nail product study and evaluate whether ingredients on labels are misreported
- Support the identification of Priority Products and characterization of chemical ingredients of nail products



Information Call-In

- SCP regulations (§ 69501.4) give DTSC authority to conduct a data or information call-in
 - Applies to all manufacturers, importers, assemblers, and retailers of a specific chemical or product or group of chemicals or products
 - Plan to implement the information call-in
 - *Intention is to fill data gaps related to nail products*
 - *Goal is to improve understanding and reduce research time*



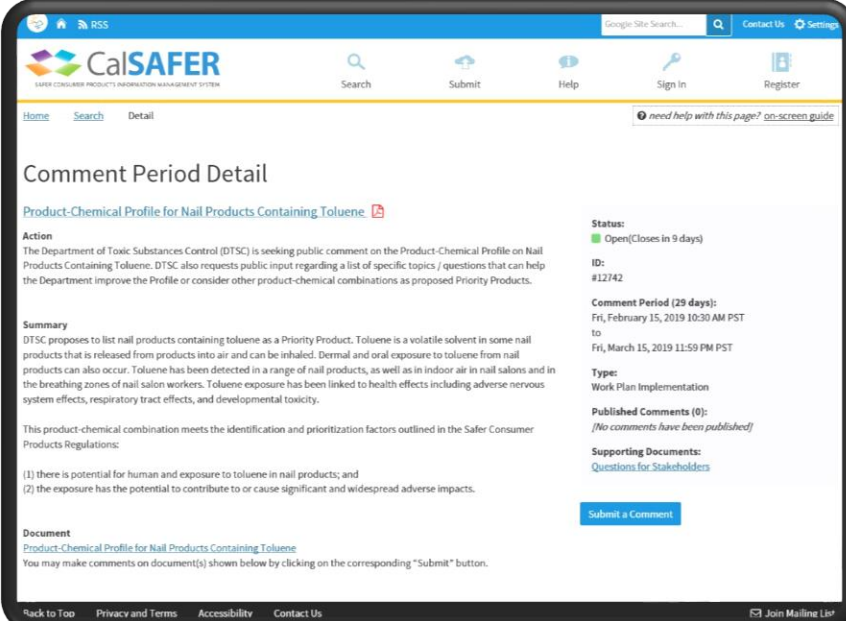
Next Steps

- Receive public comments on Priority Product listing of toluene in nail products
 - Closes April 01, 2019
- Ongoing chemical research
- Analytical lab study
- Information call-in



Questions for Stakeholders

- Public comment period open for toluene profile
- Provide comments at CalSAFER
- Closes April 01, 2019
- [calsafers.dtsc.ca.gov/
cms/commentpackage/
?rid=12742](https://calsafers.dtsc.ca.gov/cms/commentpackage/?rid=12742)



The screenshot displays the CalSAFER website interface. At the top, there is a navigation bar with the CalSAFER logo, search, submit, help, sign in, and register buttons. Below the navigation bar, the page title is 'Comment Period Detail'. The main content area is titled 'Product-Chemical Profile for Nail Products Containing Toluene'. Under the 'Action' section, it states: 'The Department of Toxic Substances Control (DTSC) is seeking public comment on the Product-Chemical Profile on Nail Products Containing Toluene. DTSC also requests public input regarding a list of specific topics / questions that can help the Department improve the Profile or consider other product-chemical combinations as proposed Priority Products.' The 'Summary' section explains that DTSC proposes to list nail products containing toluene as a Priority Product. It notes that toluene is a volatile solvent found in some nail products, which can be inhaled or absorbed through the skin. Toluene has been detected in a range of nail products, as well as in indoor air in nail salons and in the breathing zones of nail salon workers. Toluene exposure has been linked to health effects including adverse nervous system effects, respiratory tract effects, and developmental toxicity. The summary also states that this product-chemical combination meets the identification and prioritization factors outlined in the Safer Consumer Products Regulations. Two specific points are listed: (1) there is potential for human and exposure to toluene in nail products; and (2) the exposure has the potential to contribute to or cause significant and widespread adverse impacts. The 'Document' section lists the 'Product-Chemical Profile for Nail Products Containing Toluene' and notes that users can make comments on the document by clicking on the corresponding 'Submit' button. On the right side of the page, there is a 'Status' section indicating that the comment period is 'Open (Closes in 9 days)' with ID #12742. The 'Comment Period (29 days)' is from Friday, February 15, 2019, 10:30 AM PST to Friday, March 15, 2019, 11:59 PM PST. The 'Type' is 'Work Plan Implementation'. There are 'Published Comments (0)' and a note that 'No comments have been published'. A 'Supporting Documents' section lists 'Questions for Stakeholders'. A 'Submit a Comment' button is located at the bottom right of the main content area. The footer of the page includes links for 'Back to Top', 'Privacy and Terms', 'Accessibility', 'Contact Us', and 'Join Mailing List'.



**Webcast attendees,
submit your comments to:**

SaferConsumerProducts@dtsc.ca.gov

