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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

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Webcast attendees,
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SaferConsumerProducts@dtsc.ca.gov

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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

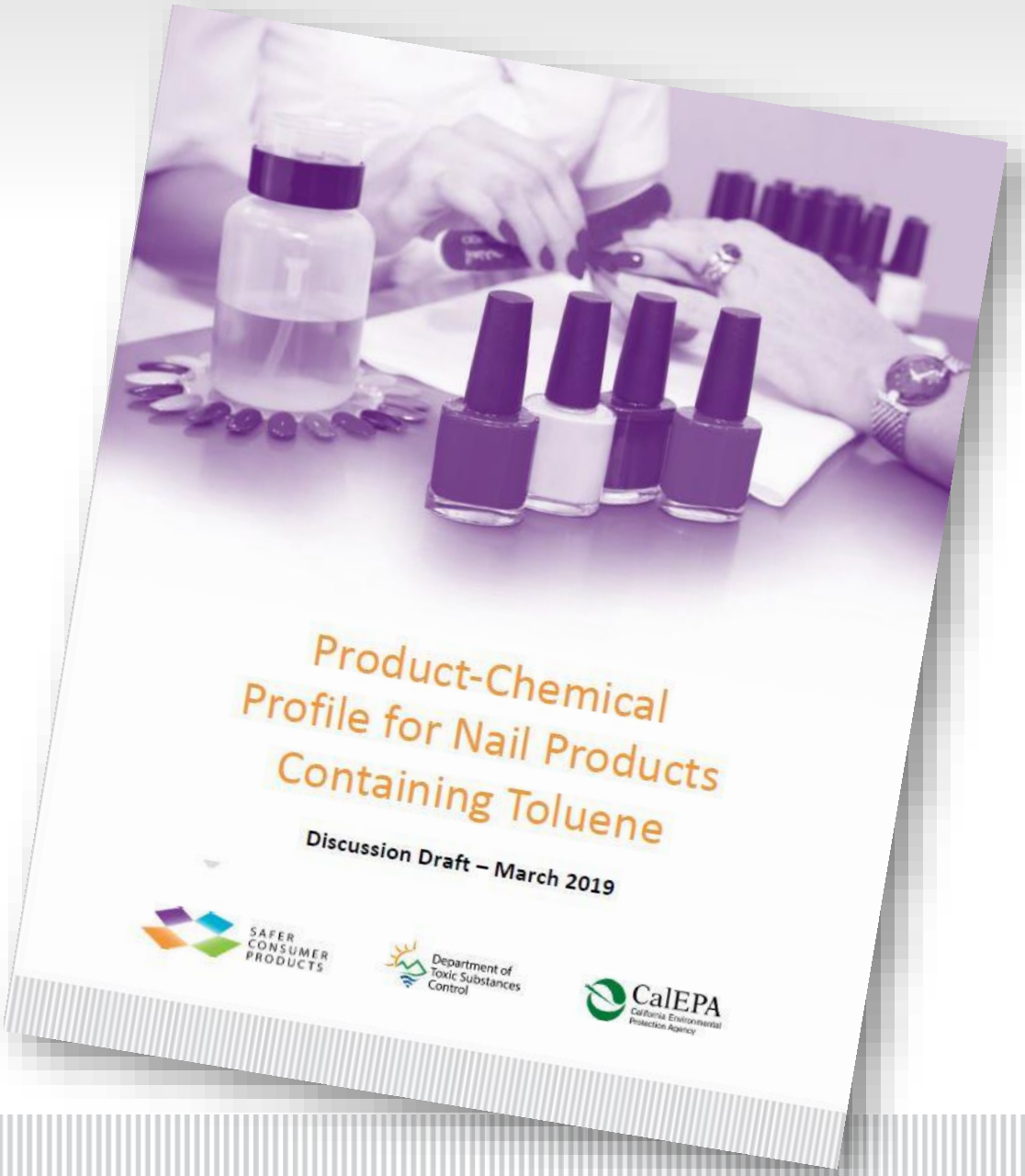
AND

- 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

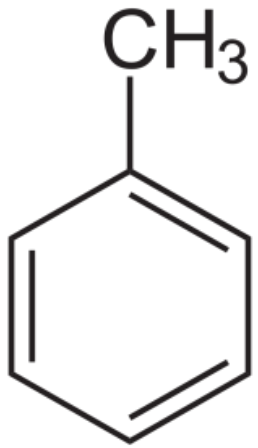
- Nail polish
- Lacquer
- Enamel
- Base coat
- Top coat
- Gel polish
- Hard gel
- Shellac
- Nail art
- Airbrush nail art paint

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

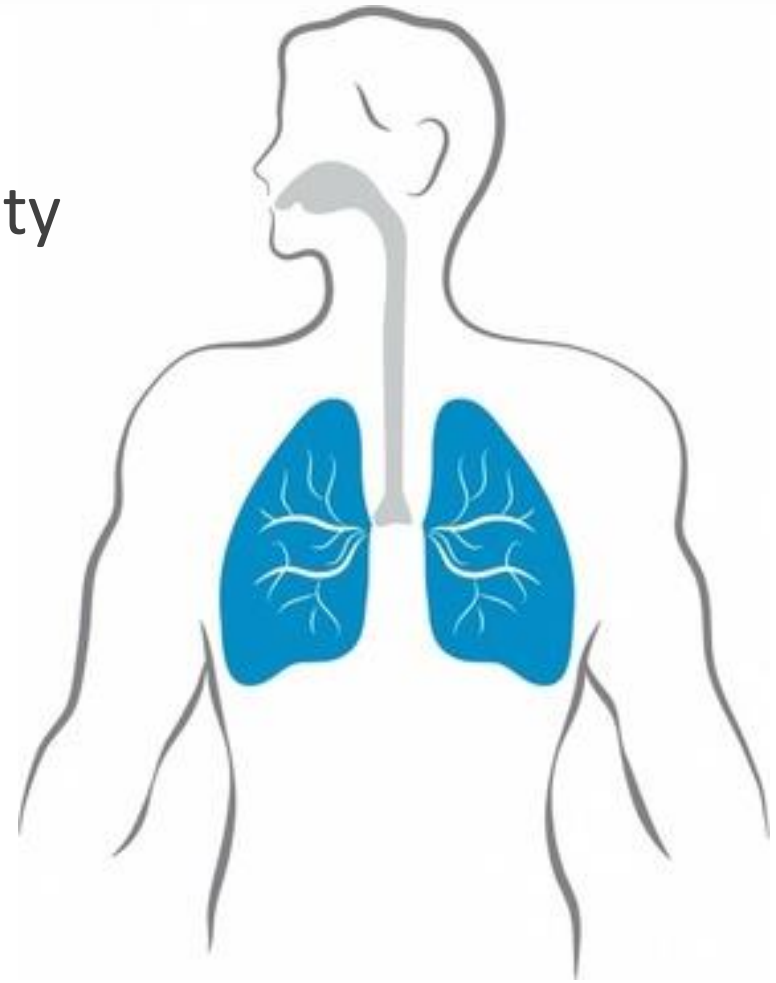
- Clear, colorless liquid
- Volatile solvent
- On 9 of the 23 authoritative source lists



- 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 µg/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

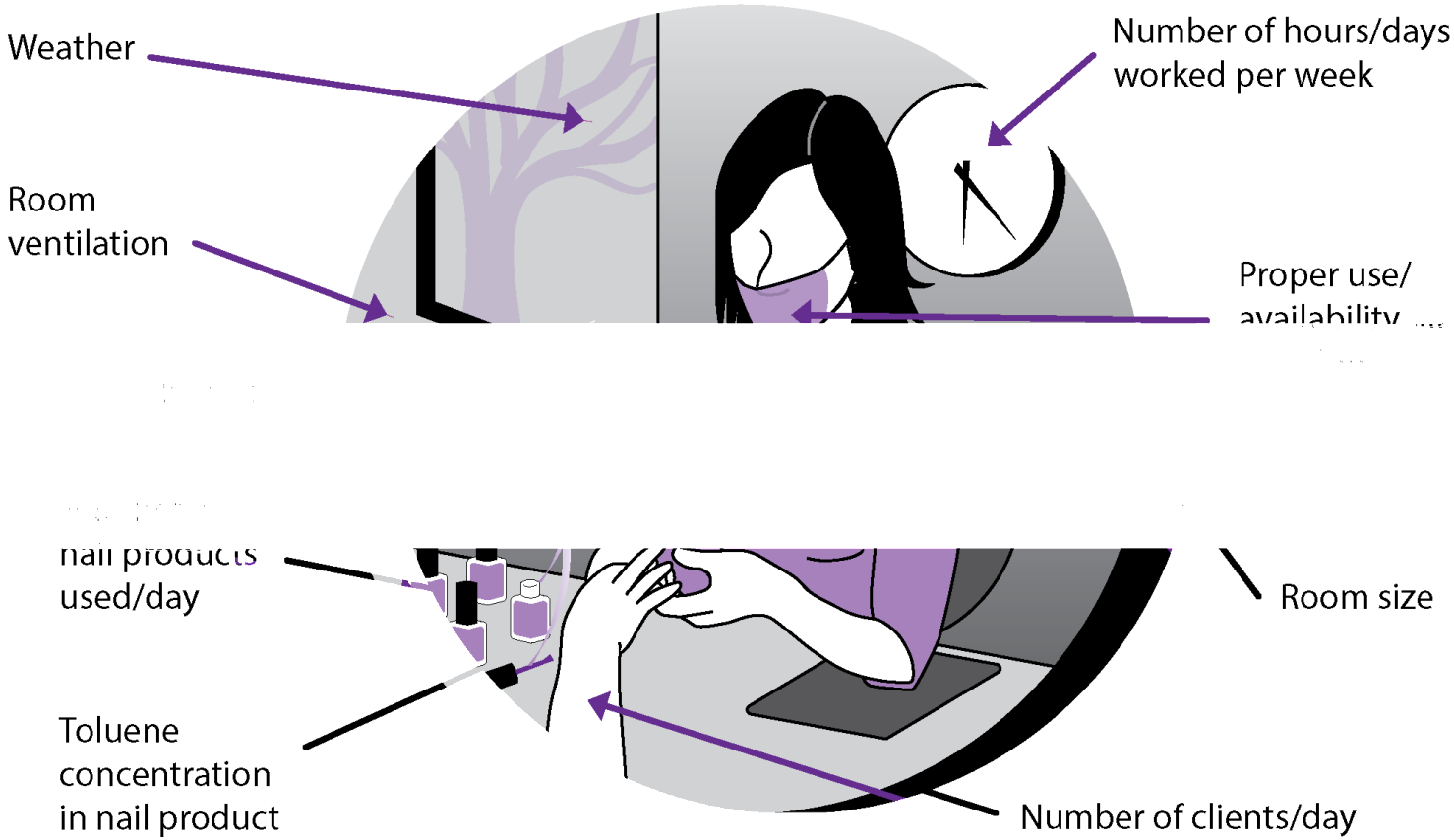
Exposure to Toluene from Nail Products

- 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

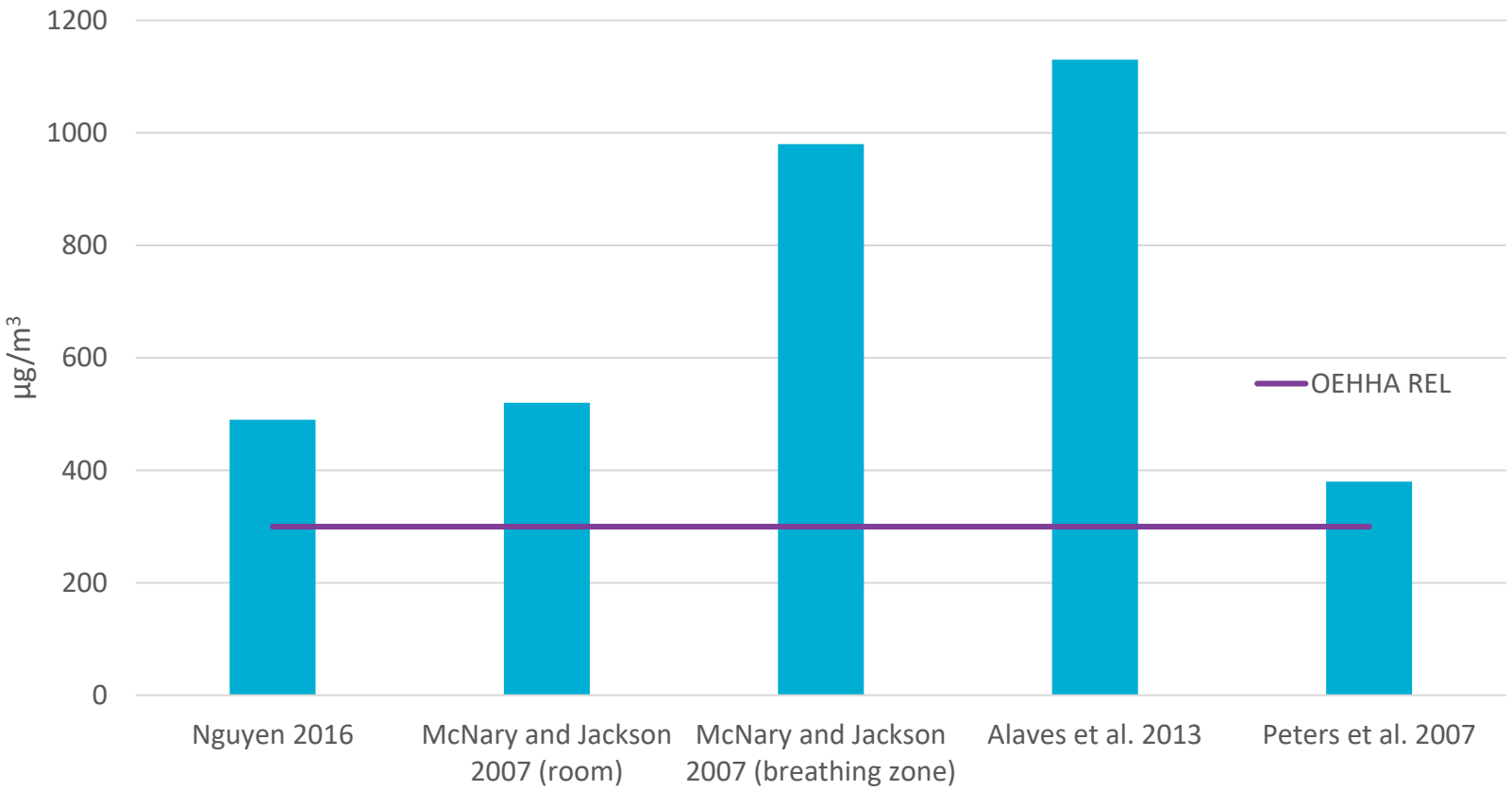
Exposure to Toluene from Nail Products

- 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

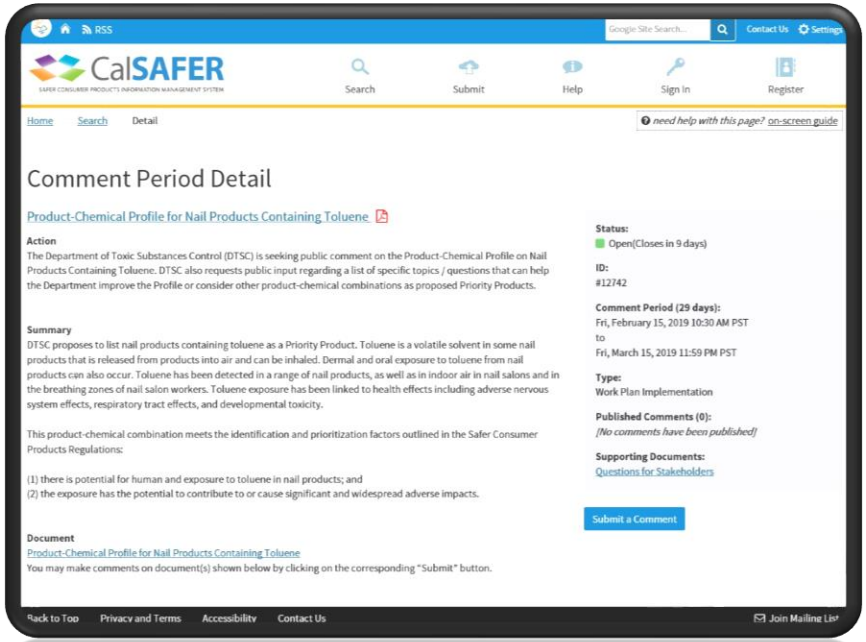
- SCP regulations (§ 69501.4) give DTSC authority to conduct a data or information call-in
  - Applies to all manufacturers, importers, assemblers, and retailers of a specific chemical or product or group of chemicals or products
  - Plan to implement the information call-in
    - *Intention is to fill 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
- calsafer.dtsc.ca.gov/cms/commentpackage/?rid=12742



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