



Public Workshop on Chemicals in Nail Products

July 27, 2022

Call In: (669) 900-6833

Webinar ID: 828 4591 6115

The meeting will begin shortly.

Today's meeting is being recorded.



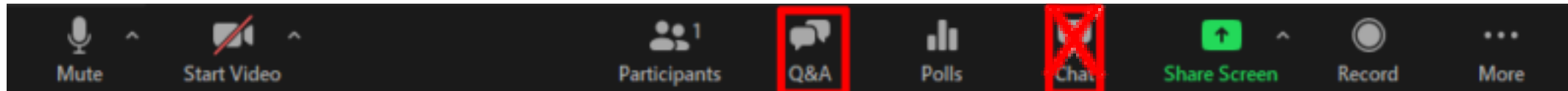
Department of Toxic Substances Control



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Webinar Instructions

- You are in a listen and view only role
- If you have a question or comments



- Use Q&A feature (bottom of the screen)
- Chat function is disabled
- Email: SaferConsumerProducts@dtsc.ca.gov
- We will respond during Q&A sessions



Agenda

Part 1

- Screening Research on Nail Products
- Question and Answer

(BREAK)

Part 2

- Information Call-in Request
- Question and Answer

(BREAK)

Part 3

- Nail Products Laboratory Study
- Question and Answer
- General Discussion – All Presentations





Nail Products Screening Research

July 27, 2022

Alicia Taylor, PhD
Staff Toxicologist

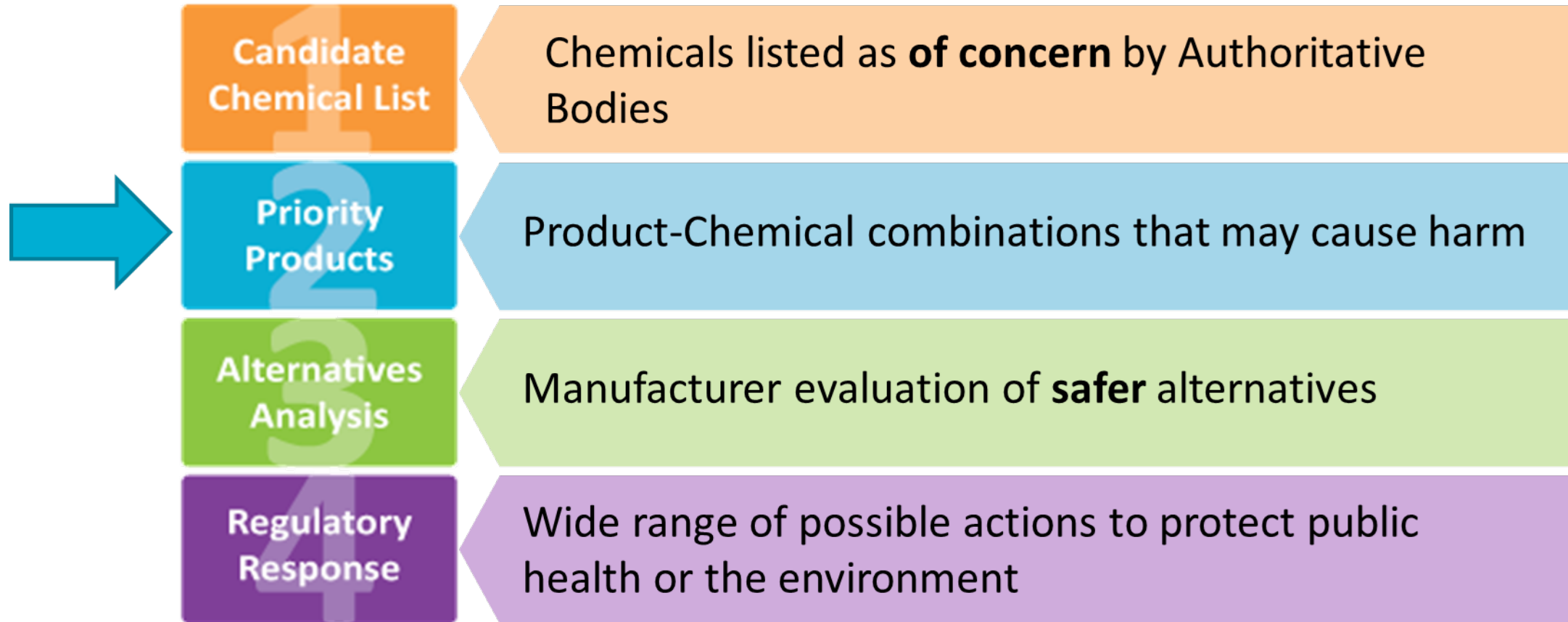


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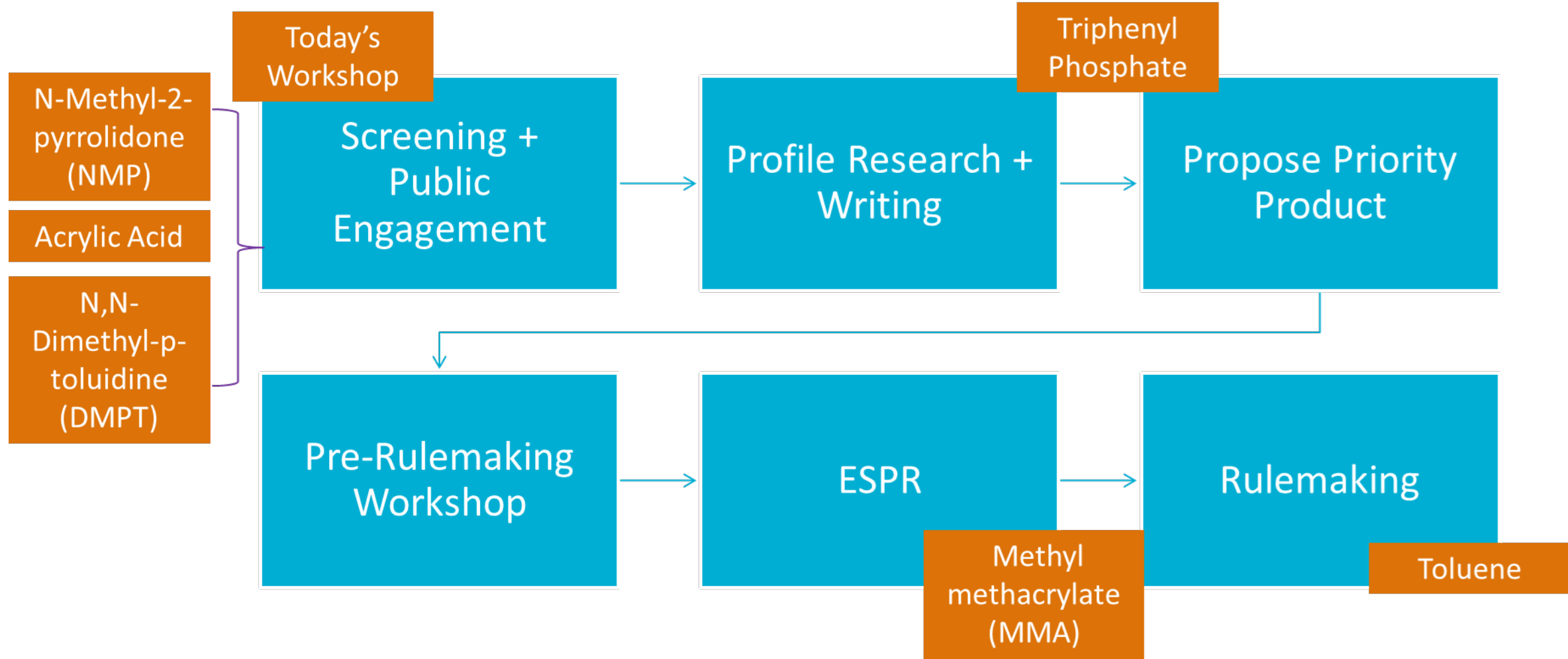
The Safer Consumer Products (SCP) Framework



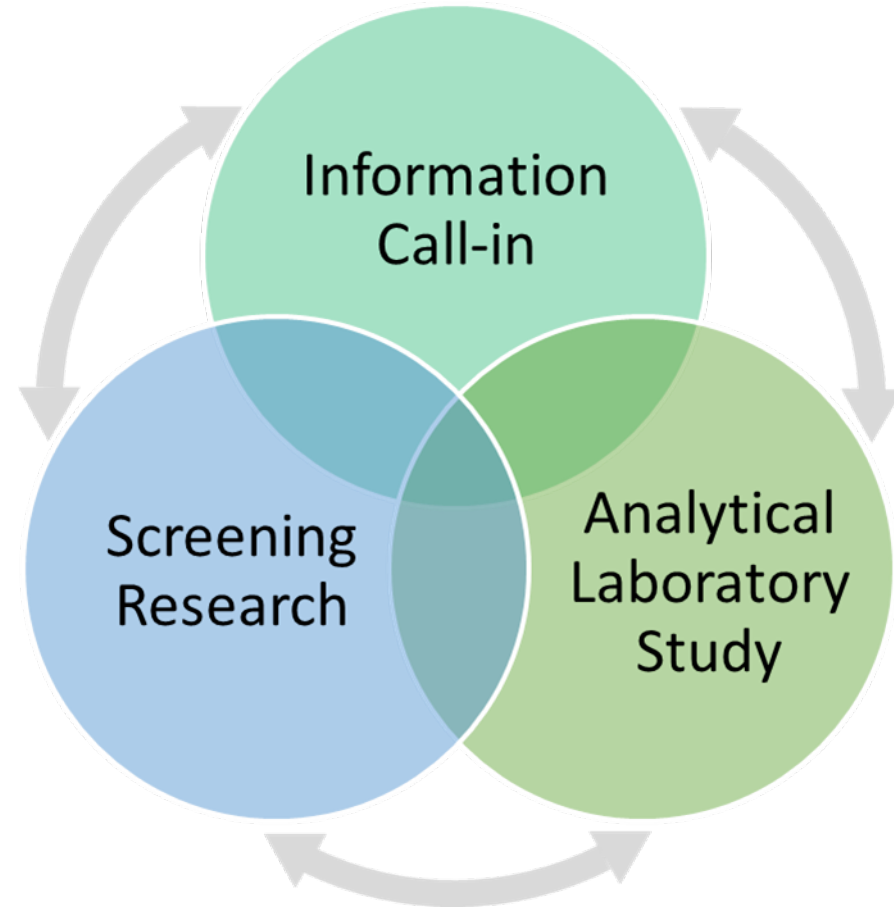
More info at: <https://dtsc.ca.gov/scp/>



The Product-Chemical Prioritization Process



Nail Products Projects



Goals of Today's Workshop

- Share overall findings of the nail product research
- Announce six prioritized chemicals
 - Proposed Priority Products or Additional research
- Opportunity to gather more information and to engage with stakeholders



Background

- Nail products definition
- Nail product sales annually exceed \$1 billion in U.S.
- Nail salon workers have frequent exposure to potentially harmful chemicals
 - Often work > eight hours/day and 40 hours/week
 - Poor ventilation in salons
 - Females of Vietnamese descent, often immigrants of low socioeconomic status
 - Often women of childbearing age



DTSC's Nail Product Efforts

- 2012 [DTSC conducted limited testing of nail products](#)
- 2016 DTSC began conducting screening research on chemicals in nail products
- 2017 [SCP public workshop on chemical in nail products](#)
- 2018 [Healthy Nail Salon Recognition \(HNSR\) Program Guidelines](#)
- 2019 [Nail products containing toluene proposed as a Priority Product](#)
- 2020 [Nail products containing methyl methacrylate \(MMA\) proposed as a Priority Product](#)
- 2017 - 2021 Additional chemical screening research on nail products
- 2020 - 2021 [Information call-in](#) request
- 2020 - 2021 Analytical laboratory study



California Toxic-Free Cosmetic Act

- On January 1, 2025, the bill prohibit any cosmetic product that contains any of several specified intentionally added ingredients
- [Health and Safety Code Section 108980](#)
- Includes formaldehyde and 23 other chemicals
- DTSC to release a decision document on formaldehyde



DTSC Reviewed 38 Chemicals

- Acetone
- Aluminum powder
- **Acrylic acid**
- Benzophenone
- Benzophenone-3
- N-butane
- Butylated hydroxyanisole (BHA)
- Carbon black
- Dibutyl phthalate (DBP)
- Dimethyldimethyl-hydantoin (DMDM hydantoin)
- 1,3-dimethyl-4,5-dihydroxyethyleneurea (imidazolidinyl urea)
- Di(2-ethylhexyl)phthalate (DEHP)
- **N,N-Dimethyl-p-toluidine (DMPT)**
- Ethyl acetate
- Ethyl cyanoacrylate
- Formaldehyde
- Isobutane
- Isopropyl alcohol (IPA)
- Methyl ethyl ketone (MEK)
- **Methyl methacrylate (MMA)**
- **N-Methyl-2-pyrrolidone (NMP)**
- N,N'-bis(hydroxymethyl)urea (diazolidinyl)
- Phosphoric acid
- 2-(perfluoroalkyl) ethanol
- Retinol
- Silica (SiO₂); crystalline
- Silica (SiO₂); dust
- Octamethylcyclotetrasiloxane (D4)
- Decamethylcyclopentasiloxane(D5)
- Dodecamethylcyclohexasiloxane (D6)
- Dimethicone
- Hexamethyldisiloxane (HMDS)
- Tert-butyl alcohol (TBA)
- Tetrahydrofuran
- Titanium dioxide (TiO₂)
- **Toluene**
- Tosylamide/formaldehyde resin (TSFR)
- **Triphenyl phosphate (TPP or TPhP)**



DTSC Reviewed 38 Chemicals

■ Proposed Priority Products – Nails Products Containing:

- Toluene
- Methyl methacrylate (MMA)
- Triphenyl phosphate (TPP or TPhP)

■ Exposure for all Six Chemicals

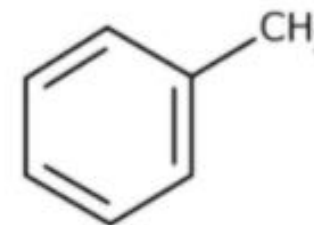
- Inhalation
- Dermal
- Oral

■ Additional Research

- N,N-Dimethyl-p-toluidine (DMPT)
- Acrylic acid
- N-Methyl-2-pyrrolidone (NMP)



Toluene



- [Nail Products Containing Toluene as a Proposed Priority Product in 2019](#)
- **Use:** Solvent in nail products
- **Hazard Traits:** nervous system toxicity, developmental toxicity, and respiratory toxicity
- **Presence in Products:**
 - DTSC information call-in: 11 products as added ingredient; 172 products as a residual or contaminant
 - DTSC lab study: detected in 27 products
- **Current Status:** In the rulemaking process



Alternatives Analysis Threshold (AAT) for Toluene in Nail Products

- DTSC set the AAT at 100 ppm based on
 - Protection from intentionally added toluene in nail products
 - Other states' laws setting toluene threshold of 100 ppm
 - *Oregon Toxic Free Kids Act*
 - *Washington Children's Safe Products Act*
 - *Vermont Chemicals of High Concern to Children Law*
 - Industry stakeholders requested that DTSC set the AAT above contaminant levels

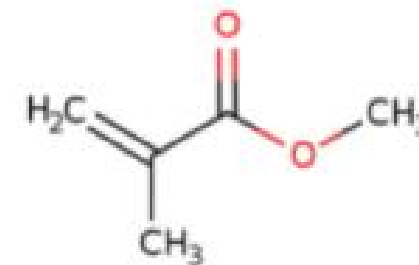


Toluene – Stakeholder Questions

- How does toluene contamination occur in nail products?
 - Is contamination a byproduct that occurs during manufacturing?
 - Is toluene a contaminant from other ingredients added to nail products?
 - What is the difference between residual toluene versus toluene as a contaminant?



Methyl Methacrylate (MMA)



- [Nail Products Containing MMA as a Proposed Priority Product in 2020](#)
- **Use:** Monomer in the preparation of artificial nails
- **Hazard Traits:** Dermatotoxicity and respiratory toxicity
- **Presence in Products:**
 - DTSC information call-in: reported in five products including acrylic liquid monomers, acrylic powders, and nail polish.
 - DTSC lab study: detected in 38 products, including acrylic liquid monomer, air brush top coat, anti-nail bite polish, brush cleaner, multi-functional top/base coat, and UV gel polish
- **Current Status:** Entering the rulemaking process soon

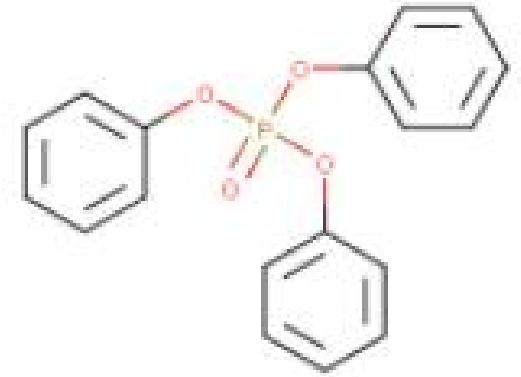


MMA – Stakeholder Questions

- What are the other methacrylates in nail products that contain MMA as a residual or a contaminant?
- Up to what concentration is MMA considered a residual or a contaminant in nail products?
- Is there an effort to reduce the concentration of MMA residuals/contamination in nail products?



Triphenyl Phosphate (TPhP)



- **Use:** Plasticizer to provide strength and flexibility in nail coatings
- **Hazard Traits:** Developmental toxicity, liver and thyroid effects
- **Presence in Products:**
 - DTSC information call in: Reported in 1,154 products including UV gel polish, nail polish, top coats, and other nail products
 - DTSC lab study: 17 samples in various nail products
- **Current Status:** Drafting profile for Priority Product

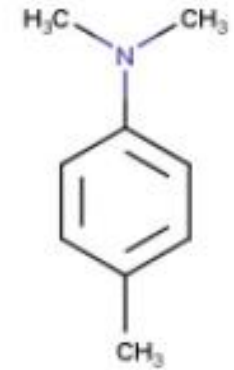


Triphenyl Phosphate (TPhP) – Stakeholder Questions

- Is TPhP used in nail lotions or oils?
- At what concentration is TPhP an intentional ingredient versus a contaminant?
- Are there efforts to remove TPhP from nail products?



N,N-Dimethyl-p-Toluidine (DMPT)



- **Use:** Accelerates polymerization of liquid monomers to form artificial nails
- **Hazard Traits:** Carcinogenicity and allergic contact dermatitis
- **Presence in Products:**
 - DTSC information call-in: reported in 39 products including acrylic liquid monomers, nail glues, primers/bonders, and other nail products.
 - DTSC lab study: detected in 7 acrylic liquids
 - Database search: 8 of 11 acrylic liquid nail products reported DMPT (Verisk 3E 2019)
- **Current Status:** Further evaluation



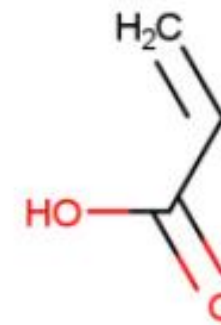
N,N-Dimethyl-p-Toluidine (DMPT) – Stakeholder Questions

- How widely is DMPT used?
 - In which nail products, what functions, as an ingredient or contaminant, and at what concentrations?
- Are there known safer alternatives to DMPT currently in use or proposed? What evidence indicates they are safer?
- Are there exposure studies that have detected DMPT in indoor salon air?



Acrylic Acid (AA)

- **Use:** Longer-lasting nail coatings, faster drying times, and easier removal of nail products
- **Hazard Traits:** Respiratory toxicity, dermatotoxicity, kidney toxicity, and nervous system toxicity
- **Presence in Products:**
 - DTSC information call-in: reported in 72 UV gel nail products
 - DTSC lab study: cannot be measured using analytical methods
 - Database search: 465 nail products with AA introduced to the U.S. market from 2009 to 2019 (Intel 2019)
- **Current Status:** Further evaluation

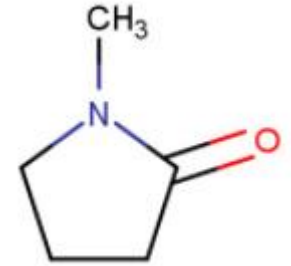


Acrylic Acid (AA) – Stakeholder Questions

- Can acrylic acid form methyl acrylate (a Candidate Chemical) in nail products, and is this reaction spontaneous?
 - How frequently and at what concentrations is methyl acrylate found in nail products?
- Are there safer alternatives to acrylic acid in nail products that are currently used or proposed? What evidence indicates they are safer?
- Are there exposure studies detecting AA in indoor salon air?



N-Methyl Pyrrolidone (NMP)



- **Use:** Solvent and surfactant in cosmetics
- **Hazard Traits:** reproductive toxicity and developmental toxicity
- **Presence in Products:**
 - DTSC information call-in: not reported in any products
 - DTSC lab study: detected in two nail polishes
 - Database search: reported in one bonder and one nail glue (Verisk 3E 2019 and Mintel 2020)
- **Current Status:** Further evaluation



N-Methyl Pyrrolidone (NMP) – Stakeholder Questions

- Is NMP present in other nail products and at what frequency and concentrations?
- How widely is NMP used in nail products and for what functions?
- Are there efforts to remove NMP from nail products and are there known safer alternatives to NMP that are currently used or proposed? What evidence indicates they are safer?



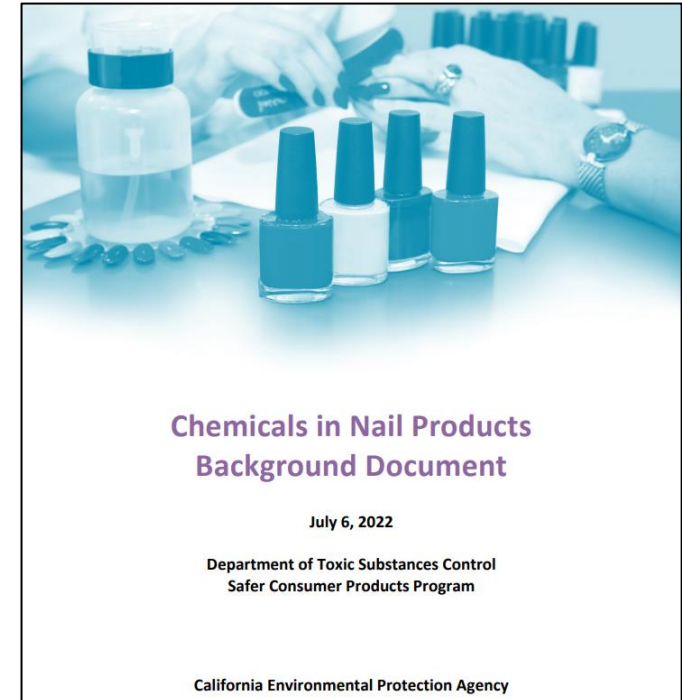
Other Stakeholder Questions

- Background Document – stakeholder questions
 - Prioritized chemicals
 - Non-prioritized chemicals
 - Rationalizations
- Please review the [Background Document](#)
- Visit CalSAFER at calsafer.dtsc.ca.gov



Public Comment Solicitation

- Nails Workshop Announcement and [Background Document](#)
- Submit comments via CalSAFER by Tuesday, August 16, 2021:
calsafer.dtsc.ca.gov
- SCP website: <http://dtsc.ca.gov/scp>
- [SCP Timeline](#)



Team Acknowledgements

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
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- Join our E-list to get updates: bit.ly/scpupdates
- Submit comments: www.calsafer.dtsc.ca.gov



Questions & Answers



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- Click  at the bottom of your screen **to type in your question**
- From the phone, press ***9** to raise your hand and ***6** to unmute
- Please ask only **one (1) question** at a time

