# ICCVAM Public Meeting: Update from US EPA/OCSPP/OPPT

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# Topics Covered

- TSCA Section 4 (h) – Reduction of Testing on Vertebrates
- Implementing the 2018 Strategic Plan: Progress in the Following Areas
  - Skin Sensitization
  - Lung Categories
  - ATAEPI (**A**nalysis of **T**SCA **A**vailable, **E**xpected, and **P**otentially Useful **I**nformation)
  - IT Platform

# Amended TSCA: Section 4(h)

Section 4(h)(1) - “The Administrator shall reduce and replace, to the extent practicable, scientifically justified, and consistent with the policies of this title, the use of vertebrate animals in the testing of chemical substances or mixtures…”

***And, for voluntary testing is regulated by 4(h)(3):***

Section 4(h)(3)(A) – "Any person developing information for submission under this title on a voluntary basis and not pursuant to any request or requirement by the Administrator shall first attempt to develop the information by means of an alternative test method or strategy identified by the Administrator pursuant to paragraph (2)(C)*, if the Administrator has identified such a test method or strategy for the development of such information, before conducting new vertebrate animal testing.“

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**Paragraph (2) refers to the Strategic Plan posted in June 2018 and (2)(C) refers to the list of acceptable New Approach Methodologies, or NAMs*

# Implementing the TSCA Strategic Plan:

- Today will focus on:
  - Review of TSCA-specific skin sensitization information received
  - Progress on development of lung effect categories
  - Progress on building/analyzing the TSCA foundation of information (*i.e.*, ATAEPI and IT Platform)

# Skin Sensitization: Replacement of Laboratory Animal Testing

*Draft Interim Science Policy: Use of Alternative Approaches for Skin Sensitization as a Replacement for Laboratory Animal Testing* (LINK)

- Announced April 10, 2018 & describes the science that supports a policy to accept alternative (*in silico*, *in chemico, and in vitro*) approaches for identifying skin sensitization hazard in place of animal studies.
  - Multiple non-animal testing strategies - *in silico, in chemico*, and *in vitro* inputs demonstrate comparable or superior performance to one of the mostly used laboratory animal studies for this endpoint (LLNA).
- The draft interim policy is the result of collaboration between ICCVAM, NICEATM, ECVAM, and Canada PMRA
- Joint policy for EPA OPP & OPPT

# Overview of Information OPPT Has Received Since October 1, 2015 (All Information Claimed CBI; Only Non-CBI Information is Presented)

- OPPT has received 49 submissions with skin sensitization NAMs between October of 2015 and April of 2020
- The submissions were received from 24 different companies
- The work was performed by 16 different laboratories

# Overview of Information OPPT Has Received Since October 1, 2015 (All Information Claimed CBI; Only Non-CBI Information is Presented)

| Fiscal Year | Sub. with NAMs Only | Sub. with NAMs Plus *in vivo* | Sub. with NAMs plus RIPT* | Sub. with NAMs, *in vivo* and RIPT | TOTAL Submissions |
|---|---|---|---|---|---|
| 2015 | 2 | 2 | 3 | 1 | 6 |
| 2016 | 5 | 2 | 5 | 2 | 10 |
| 2017 | 1 | - | 1 | - | 2 |
| 2018 | 3 | 6 | 2 | 1 | 10 |
| 2019 | 9 | - | 1 | - | 10 |
| 2020 | 7 | 4 | 1 | 1 | 11 |
| **TOTALS** | **27** | | | | **49** |

*Human repeated insult patch test

# Next Steps: Road to Finalizing Policy

1. Public comments received
2. NICEATM TSCA Specific Data
3. Review of information received (OPPT and OPP)
4. Recognize and incorporate appropriate recent OECD activity

1 + 2 + 3 + 4 = Finalize OCSPP Skin Sensitization Policy

# Progress on Development of Lung Effect Categories: The Use of Tiered Testing to Reduce Animal Testing

- Categories have been used in the EPA new chemicals program for decades (Link to New Chemicals Category Document)
- Inhalation toxicity data is rarely available in new chemical submissions, but it is sometimes requested to evaluate exposures to workers (and sometimes consumers and the general population)
- The lung effect category documents are intended to aid EPA/OPPT with evaluating new chemical substances that lack test data but fit within the boundaries for chemical substances with identified hazard concerns (*e.g.*, cationic binding, lung surfactancy, and lung overload).

# Lung Effect Project Categories

**Short-term reactive process; chemicals disrupt or bind to lung membranes**

- Polycationic Substances (Cationic Binding)
- General Surfactants

**Longer-term physical process; insoluble polymers may persist in the lungs, leading to lung overload, sustained inflammation, and secondary effects**

- Insoluble Polymer Lung Overload

- OPPT has utilized various NAMs to exclude chemical substances from specific chemical categories (*e.g.*, polymer lung overload)
  - On April 1, 2020, EPA issued a proposed rule to revoke a significant new use rule (SNUR) for a new chemical substance, based on the results of a biosolubility study. See: https://www.govinfo.gov/content/pkg/FR-2020-04-01/pdf/2020-06442.pdf
  - The original SNUR would have required a subchronic inhalation toxicity study in order to use the chemical substance in a manner inconsistent with the original new chemical substance submission

# Progress on Building/Analyzing the TSCA Foundation of Information

OR

# ATAEPI - Analysis of TSCA Available, Expected, and Potentially Useful Information

# ATAEPI Overview

- Information is captured on the human health, ecological toxicity, environmental fate, and physical-chemical properties of chemicals
- Analysis includes all new chemical submissions since the first one in 1979
- We are doing QC of the early findings

# Developing an IT Platform

- Deploying IUCLID 6.3 for managing chemical data.
- Deployed QSAR Toolbox 4.3 on CBI LAN environment to enable OPPT to better characterize hazard in the new chemicals program
- Collaborating with ECHA and Canada to:
  - Exchange public chemical data via IUCLID cloud instance
  - Identify approaches to enhance data exchange across jurisdictions
  - Identify opportunities to extend and enhance IUCLID and OECD Harmonization Templates
- Developed "sandbox" system on CBI LAN to test/use new tools for new (and existing) chemical assessments

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**THANK YOU!**

**QUESTIONS?**