Contaminants of Emerging Concern Initiative
RANKING RESULTS AND PRELIMINARY FY2021 WORKPLAN

June 2020

Slide 1

Slide Title
Contaminants of Emerging Concern Initiative: Ranking Results and Preliminary FY2021 Workplan

Slide Text and Image Description
Department of Health logo and Clean Water, Land and Legacy Logo
Health Risk Assessment Unit

Summary
Welcome to the Minnesota Department of Health’s Contaminants of Emerging Concern Initiative’s annual workplan stakeholder discussion.

Unfortunately, the Health Risk Assessment Unit was unable to host the June 3rd face-to-face meeting, which had to be cancelled. We are glad that you have been able to join us for this online virtual presentation.
This presentation is the second of a two part series and provides the results of this year’s screening and ranking as well as a preliminary workplan for the next fiscal year. The first presentation of the series provided an overview of the process for nominating, screening and ranking nominated contaminants.

Throughout the presentation, the abbreviation MDH will be used for the Minnesota Department of Health, and CEC will be used for Contaminants of Emerging Concern.

Slide 2

Topics covered in this presentation

- Ranking results
- Preliminary 2021 Workplan

Slide Title

Topics covered in this presentation

Slide Text

- Ranking results
- Preliminary 2021 Workplan

Narrative

This presentation will cover two main topics:
First - the results of the ranking of screened nominated contaminants; and
Second - MDH’s preliminary list of candidates for the 2021 workplan.
Reference to various web-based resources will be made throughout the presentation. A list of these references will be provided at the end of the presentation.

Slide 3

Game tokens on stacked wooden blocks of various heights

Narrative
The previous Part 1 presentation outlined 4 steps of the process: Nomination, Eligibility, Screening and Ranking
This slide, showing small building blocks, introduces the section which focuses on the nominations received this year and the results of this year’s ranking of eligible screened contaminants.

**Slide 4**

**Slide Title**

Eligible Nominations received April, 2019 to March, 2020

**Slide Text**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>CASRN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Androsterone</td>
<td>53-41-8</td>
</tr>
<tr>
<td>Colchicine</td>
<td>64-86-8</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>54910-89-3</td>
</tr>
<tr>
<td>Oxybenzone</td>
<td>131-57-7</td>
</tr>
<tr>
<td>6:2 Fluorotelomer sulfonic acid</td>
<td>425670-75-3</td>
</tr>
<tr>
<td>Perfluorohexanoic acid (PFHxA)</td>
<td>307-24-4</td>
</tr>
<tr>
<td>Perfluoroheptanoic acid (PFHpA)</td>
<td>375-85-9</td>
</tr>
<tr>
<td>Perfluoropentanesulfonate (PFPeS)</td>
<td>175905-36-9</td>
</tr>
<tr>
<td>Perfluoropentanoic acid (PFPeA)</td>
<td>2706-90-3</td>
</tr>
<tr>
<td>Perfluorononanoic acid (PFNA)</td>
<td>375-95-1</td>
</tr>
<tr>
<td>Perfluorodecanoic acid (PFDA)</td>
<td>335-76-2</td>
</tr>
<tr>
<td>Perfluorodecanesulfonate (PFDS)</td>
<td>126105-34-8</td>
</tr>
<tr>
<td>Perfluorooctanesulfonamide (PFOSA)</td>
<td>754-91-6</td>
</tr>
<tr>
<td>Piperonyl butoxide</td>
<td>51-03-6</td>
</tr>
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<td>CASRN</td>
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<td>51-03-6</td>
</tr>
</tbody>
</table>

**Narrative**

Listed on this slide are the 14 CEC eligible contaminants that were nominated since the ranking for last year’s workplan. Two additional nominations were also made, but were determined to be ineligible for the CEC initiative. The two ineligible contaminants were 1,2-Dichloroethene and PFAS.

1,2-Dichloroethene has an MDH health-based value and was already under re-evaluation when it was nominated. This re-evaluation has now been completed.

PFAS are a large class of per- and polyfluorinated substances that potentially contains 1,000s of chemicals. This nomination did not contain sufficiently clear contaminant specific identification to be considered eligible for consideration. MDH has reviewed and developed guidance for several individual PFAS chemicals that are prevalent in Minnesota’s environment and still considers individual PFAS that are nominated.

**Slide 5**
Slide Title
Feasibility of Toxicological Review

Slide Text
100 contaminants screened
70 with sufficient information (9 DBPs) + 30 insufficient information (4 DBPs)
DBPs for special review project.
61 eligible candidates for full review

Narrative
The screening and scoring results for the 14 recently nominated contaminants were added to the existing pool of previously screened nominated contaminants, creating a pool of 100 contaminants for consideration. A complete list of the 100 screened contaminants and their preliminary ranking was posted in the updated Nomination Status Table earlier in June (2020). A link to the Nomination Status Table will be provided at the end of this presentation.

30 of the 100 contaminants, including 4 disinfection byproducts, were considered to have insufficient information for a full review. The remaining 70 screened contaminants were considered to have sufficient information for an in-depth toxicological review. Nine of the 70 are disinfection byproducts (DBPs).
Exposure to DBPs result from the necessary health protective process of disinfection. You may recall from last year that because the standard risk assessment process focuses only on health risks and does not consider health benefits, the DBPs were removed as candidates for the standard full review workplan. However, these DBPs, will be evaluated through a Special Project. Details of this project are provided on the DBP Special Project webpage, and a link to this page will be provided at the end of the presentation.

Removal of the DBPs left 61 screened chemicals with sufficient information for a full review. It is this group of 61 that were considered eligible candidates for the 2021 workplan and that underwent ranking.

**Slide 6**

Contaminants Not Feasible for Full Review

| Androsterone* | Iodoacetamide | Nonylphenol monoethoxylate |
| Bromoacetic acid | Iodoacetamide | 4-Nonylphenol triethoxyacarbamate |
| Chloraanil | Iodoform | Perfluorodecanesulfonate (PFDS)* |
| Colchicine* | Iopamidol | Perfluorooctanoic acid (PFHpA)* |
| Colloidal silver | Lidocaine | Perfluorooctanesulfonamide (PFOSA)* |
| Cotinine | Meprobamate | Perfluoropentanesulfonate (PFPeS)* |
| Dichlorodimethane | Nanosilver | Perfluoropentanoic acid (PFPeA)* |
| Estrone | Nodularin | Polydiallyl dimethyl ammonium chloride |
| 6:2 Fluorotelomer sulfonic acid* | Nonylphenol diethoxylate | Skatol |
| Germanium | 4-Nonylphenol diethoxyxycarbamide | Tribromoacetic acid |

*April 2019-March 2020 nominations
Contaminants are determined to be not feasible for full review when toxicity data are either not available or extremely limited.
Cotinine
Dichloroiodomethane
Estrone
6:2 Fluorotelomer sulfonic acid*
Germanium
Iodoacetamide
Iodoacetic acid
Iodoform
Iopamidol
Lidocaine
Meprobromate
Nanosilver
Nodularin
Nonylphenol diethoxylate
4-Nonylphenol diethoxyxycarboxylate
Nonylphenol monoethoxylate
4-Nonylphenol triethoxyxycarboxylate
Perfluorodecanesulfonate (PFDS)*
Perfluoroheptanoic acid (PFHpA)*
Perfluoroctanesulfonamide (PFOSA)*
Perfluoropentanesulfonate (PFPeS)*
Perfluoropentanoic acid (PFPeA)*
Polydiallyl dimethyl ammonium chloride
Skatol
Tribromoacetic acid

*April 2019-March 2020 nominations
Contaminants are determined to be not feasible for full review when toxicity data are either not available or extremely limited.

Narrative

The 30 nominated contaminants that were considered to have insufficient information for a full review and guidance development are presented in this slide.

8 of the 30 (denoted with an asterisk) are contaminants that were nominated just this past fiscal year:

Androsterone is a steroid hormone, Colchicine is a pharmaceutical used to treat gout, and the remaining 6 were PFAS chemicals.
The distribution of the toxicity and exposure scores of the 61 contaminants considered eligible for the 2021 workplan are shown in this slide. The Y-axis is the toxicity score as a percentage of the maximum total score and the X-axis is the exposure score as a percentage of the maximum total score. Data points for chemicals in the lower left quadrant are of lower concern and those in the upper right quadrant are of higher concern. The blue triangles represent those at higher concern. The orange circles represent those at medium concern and the green squares represent those of lower concern.
Please remember this ranking is to prioritize the list of eligible contaminants relative to each other.

A complete list of the chemicals and their rank category is provided in Table 1 of the Nominated Contaminant Status Table document.

**Slide 8**

*Focus on Screened Contaminants of Higher Concern*

Image: Graph with Exposure percent of Total Score on the x-axis and Toxicity % of Total Score on the y-axis. Data points from the screened nominated contaminants in the medium and high categories are plotted and labeled on the graph. Along an invisible line sloping downward from the top left to the bottom right of the graph in the center of the graph, high rank chemicals are to the right and low rank chemicals are to the left.

No slide text.
Narrative

This is the same figure but with the medium and higher concern area magnified in size. The data points for each contaminant in the medium or high relative concern category are identified by name.
This slide with a glass of water picture starts the section of the presentation in which the CEC Initiative’s preliminary workplan for fiscal year 2021 will be presented.
Slide 10

**Slide Title**

Preliminary FY2021 Workplan

**Slide Text and Image Description**

Image: Graph with Exposure percent of Total Score on the x-axis and Toxicity % of Total Score on the y-axis. Data points from the screened nominated contaminants in the medium and high categories are plotted and labeled on the graph. Along an invisible line sloping downward from the top left to the bottom right of the graph in the center of the graph, high rank chemical are to the right and low rank chemicals are to the left. The contaminants preliminarily identified by MDH for the 2021 workplan highlighted in yellow and listed to the right of the graph.

**Slide Text**

Anthraquinone
Cobalt
Fluconazole
Lithium
2-Methoxyethanol
Oxyfluorfen
Perfluorodecanoic acid (PFDA)
Perfluorohexanoic acid (PFHx)
Perfluorononanoic acid (PFNA)
α-Toluidine
Tributyl phosphate (TBP)
Perfluorohexanoic acid (PFHxA)
Perfluorononanoic acid (PFNA)
o-Toluidine
Tributyl phosphate (TBP)

Narrative

- This is the same figure in which shows the medium and high relative concern ranking areas. Contaminants proposed by MDH for the preliminary 2021 workplan are highlighted in yellow. The chemicals are also listed on the right side of the graphic.
- The proposed contaminant candidates are:
  - Anthraquinone - used in dye manufacturing, goose repellent, and in the paper pulping process
  - Cobalt – a naturally occurring element used in alloys, in electroplating and in alternative energy (improves performance of rechargeable batteries)
  - Fluconazole – an antifungal agent
  - Lithium – a naturally occurring element, used in batteries and as a pharmaceutical
  - 2-Methoxyethanol - used as a solvent and in deicing solutions
  - Oxyfluorfen – a pesticide
  - 3 PFAS compounds – PFNA, PFHxA, and PFDA
  - O-Toluidine – a semivolatile chemical used in dyes, manufacturing of some pesticides, an accelerator in several glues, and a reagent in some clinical tests
  - Tributyl phosphate – a solvent, anti-foaming agent, and plasticizer
This proposed workplan is preliminary. As indicated in this slide showing a series of check-boxes, stakeholder feedback and input is the final step in developing the workplan that will guide MDH’s chemical review efforts over the next fiscal year. The goal of the CEC Initiative is to complete 10 full toxicological reviews every two years. It is unlikely that all chemicals on the 2021 workplan will be reviewed in the next fiscal year. Those that are not reviewed remain eligible for future review.

Please be aware that MDH may review a contaminant not on the workplan should an unforeseen need arise (e.g., a previously unknown contaminant is discovered in a drinking water supply).
Informal Comment Period

Provide comments, questions, or feedback on
- The provided materials and information
- The nomination, screening, & ranking process
- Contaminants identified as eligible for full review
- Contaminants identified in the preliminary workplan

Slide Title
Informal Comment Period

Slide Text
Provide comments, questions, or feedback on
- The provided materials and information
- The nomination, screening, & ranking process
- Contaminants identified as eligible for full review
- Contaminants identified in the preliminary workplan

Narrative
Stakeholders are encouraged to make suggestions for improving:
- the type and format of materials and information provided, and
- the nomination, screening and ranking process
Stakeholders are encouraged to provide feedback on the need and usefulness of guidance development for the contaminants identified as eligible for full review and, specifically those identified in the preliminary workplan.

**Slide 13**

**End of Informal Comment Period – July 31, 2020**

- health.risk@state.mn.us
- Provide comments and feedback
- Ask clarifying questions or request a virtual meeting prior to submission of comments

**Slide Title**
End of Informal Comment Period – July 31, 2020

**Slide Text**
health.risk@state.mn.us

- Provide comments and feedback
- Ask clarifying questions or request a virtual meeting prior to submission of comments
- Contaminants identified in the preliminary workplan

**Narrative**
Many MDH CEC Initiative staff have been reassigned to work full or part time in COVID response roles that have taken priority. Therefore, a specific staff contact is not being provided.
The preferred method for submitting informal comments is via email to health.risk@state.mn.us. Staff are happy to answer clarifying questions or to discuss issues. Please use the health.risk@state.mn.us email address to ask questions or request to set up a meeting as well as to provide written comments during the informal comment period. Informal comments should be submitted by Friday, July 31st.

**Slide 14**

Image: A runner at the starting line for a race poised to start the race.

**Slide Title**

2021 Workplan

**Slide Text and Image Description**

Image: A runner at the starting line for a race poised to start the race.

No slide text
Narrative

This slide, showing a starting line, begins the last section of our presentation, which will discuss the steps following receiving stakeholder comments.
By the end of August, MDH will post on the CEC homepage...

- A Summary of Comments and Feedback Received
- The 2021 Workplan

A GovDelivery announcement will be sent to subscribers

Comments received will be considered and the workplan for fiscal year 2021 (July 1, 2020 to June 30, 2021) will be revised, if needed.

A summary of stakeholder comments and feedback received as well as the 2021 workplan will be posted to CEC website by the end of August. A GovDelivery announcement will be sent to subscribers to alert them that the materials have been posted.

GovDelivery announcements are also sent out to subscribers when a chemical review is begins and when it is completed.
Stay Informed by Getting Email Updates

Image: Screen shot of the Contaminants of Emerging Concern home page with an arrow pointing to Get Email Updates.
No slide text.

Narrative
Just a reminder that it is easy to become a GovDelivery subscriber:
Simply click on the “Get Email Updates” link in the upper right hand corner of MDH’s CEC home page
The MDH CEC homepage is a key resource and is located at www.health.state.mn.us/cec and Nominated Contaminants Status Table document and preliminary ranking results can be found on this page.
Urls for individual additional CEC webpages, including the Disinfection Byproduct Special Project page, are also provided in this slide.

Slide 18

Thank you.

Questions or Comments – send an email to health.risk@state.mn.us

Slide Title
Thank you

Slide Text
Questions or Comments – send an email to health.risk@state.mn.us

Narrative
This concludes the presentation of this year’s ranking and preliminary workplan.
Thank you for participating in the presentation and we hope that it was informative.
If you have questions or comments related to the ranking results or the preliminary workplan please send an email to health.risk@state.mn.us.

Minnesota Department of Health
Health Risk Assessment Unit
To obtain this information in a different format, call: 651-201-4899