

Contaminants & Impurities in Ethylene Plants Subcommittee – July 20th, 2023, Meeting Minutes

Team Members

Robert Alvers		Scott Hailey	X	Ross Perchuk	X
Andre Bernard	X	Omar Hamid	X	Matt Pretz	X
Joice G. Boll	X	Dwight Hines		Debby Rossana	X
Jessica Burgin	X	David Hood	X	Yong Wang	X
Mark Davis		Joe Lally		Mark Whitney	
Sherri Elder		Vinay Naik	X	Lisheng Xu	X
Alex Fritz	X	Jennifer Nill			

1. Anti-trust statement

“No activity of the Committee shall involve the exchange, collection or dissemination among competitors of information or be used for the purpose of bringing about or attempting to bring about any understanding or agreement written or oral, formal or informal, express or implied, among competitors, with regard to costs, prices, or pricing methods, terms or conditions of sale, distribution, production quotas or other limitations on either the timing or volume of production or sales, or allocation of territories or customers.”

2. Updates from Main EPC Committee

- No update
- Chair & Co-Chair needs access to confex (Andre to follow up)

3. Key Dates

- Call for abstract is currently open.
- Call for abstracts closes on October 25th, 2023.
- Paper acceptance/rejection -> TBD
- Paper submission/ Presentation -> TBD
- Virtual Dry Run -> 2 to 3 weeks prior to the conference
- The Conference will be between March 24th to 28th 2024, in New Orleans.

4. Tutorial on contaminants

- Debby provided Power Points slides (attached with the minutes) describing the tutorial.

- The tutorial is expected to be schedule on the Wednesday afternoon between 13h00 & 17h25 with break at 15h20 (in alignment with other EPC sessions breaks)
- The tutorial has 3 topics.
 - Adsorbents
 - Filtration
 - Chemistry
- A draft outline for the adsorbents part is already defined.
 - It was suggested to add the following topics.
 - Ammonia removal. Does adsorbents have removal capabilities relative to NOx.
 - Ethylene content in regen gas. H2 content in regen gas.
 - The effect of flow on absorbent performance. Min and Max flow based on composition.
 - Safety aspects such as the use of 3A vs 5A sieves
- Due to time limitations for questions, we will emphasize the use of Slido, such that the speakers can provide answer to questions after the session.
- For consistency, It is suggested to use the AIChE Power Point templates for each topic.
- The chemistry section is still under development.

5. Ideas for 2024

Digital anti-fouling solution suite for ethylene plants – (Optimizing the 5- 10 year run cycle) – Baker Hughes paper. (Lisheng to monitor progress)

- Abstract to be uploaded in confex.
- Concerns about the paper being a sales pitch.
- Will have to focus on the technical aspects.

Advances in Purification of Monomers for Petrochemical and Polymerization Applications

- Honeywell – UOP Abstract submitted to the 2023 session but rejected due to a filled-up session. Honeywell - UOP will re-submit an abstract (Scott to monitor progress)

Potential Contaminant from On Purpose Propylene Catalytic De-Hydrogenation.

- Dow does not plan on sharing information in the public domain at this point and for the next few years. The idea will be removed from the paper idea list.

Feedstock CO2 Capture – Amine Technology. No update (Omar to follow up)

Oxidative coupling of methane to ethylene. No update, low potential. (Jessica to confirm)

Pipeline Contaminants (glycol, drag reducer etc.)

- Joe is trying/ persevering in getting gas company to contribute. (Joe to keep exploring)

C3/C4's Recycle to Furnace This topic is no longer relevant as it was related to the COVID pandemic/ and marketing circumstances during that period. The idea will be removed from the paper idea list.

Impact of higher volume of ethane cracking on Primary Fractionator - Industry Experience/ Impact on CGC.

- Joice indicated that one producer showed interest and could potentially collect good data during their next turnaround for which the schedule would not align with the 2024 EPC. The idea has more potential for 2025 and will be move on the standby list. Joice to keep contact for potential 2025 paper.

MEA & NH3 issues

- Could probably extend the idea to NOx gums. (D. Hood to provide update at the next meeting).

Contaminants Associated with Unusual Feedstock (ex. Ethanol, waste coal, etc.)

- Omar went over the proposed outline that he emailed the team last month.
- The team see's potential in the paper, for which the topic could potentially be a tutorial.
- It is suggested to keep the paper high level at this point and make it a subcommittee paper.
- Volunteer interested in contributing in this paper should reach out to Omar and Ross.

Pye Oil from Plastic Waste

- Potential follow up paper from University of Ghent. Yong touched based with Professor Van Geem at U of G but haven't received any confirmation from U of G yet. (Yong will follow up)
 - Potential Paper on Silicon Removal. Silicon as a contaminant in plastic waste recycling. As communicated by Jennifer by email, CPChem is actively working with vendors to write this paper and are enthusiastic about it. (Jennifer to monitor progress)
 - Naphtha blending with Pyoil from plastic waste – any issues. Joe indicated that the catalyst group at Evonik has done some work, which could be a potential paper with focus on chlorides removal when blending with naphtha. (Joe to follow up)
 - Industry experience in processing Pyoil from plastic waste. Jennifer indicated that CP-Chem is not interested in sharing information in the public domain at this point. Robert indicated that Lyondell could share a limited amount of information/ experience. The relevance and volume of information may however not meet the content of a 20-minute presentation. The idea will be move on the standby list.
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- **Lead oxide arsine alternative for arsine from cracked Gas.** UOP will submit an abstract but to the operation subcommittee.

6. Technical Discussion

Contaminants Database Procedure (Ensure Continuity)

- Andre to develop a first draft procedure and submit to Alex and Ross for review.

7. Other Business

None

8. Schedule Next Meeting

Next Meeting August 24th, 2023, at 15h00 CST