

Feedstock Contaminants Subcommittee – September 23rd, 2021 Meeting Minutes

Team Members

Mark Davis	X	Yong Wang	X	Robert Alvers	X
David Smith		Joe Lally		David Hood	
Sherri Elder	X	Andre Bernard	X	Ross Perchuk	X
Mark Whitney	X	Ali Abbaspour	X		
Dwight Hines		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. AIChE Confex

There are no current abstracts submission in Confex.

3. Updates from Main EPC Committee

No update – next meeting in October.

4. Key Dates

Current focus is on:

Call for Abstracts closes November 1st, 2021

Other key dates below:

Accept/ Rejects Abstracts: December 6th, 2021

Preliminary Acceptance Notices Sent: December 20th, 2021

Final Acceptance/ Rejection Notices Sent: January 24th, 2022

2022 AIChE Spring Meeting: April 10 to 14th, 2022

We will be planning a dry run 2 to 3 weeks prior to the conference.

5. Review Paper Ideas

- **Dihydrodicyclopentadiene found in C9-200/ Wash oil recovery** – Potential for a joint paper. Followed up with KBR & NOVA R&D. NOVA lab data & comparison between plants suggest formation of dihydrodicyclopentadiene (DHDCPD) from partial hydrogenation of DCPD in the aromatic unit hydrotreater. KBR had previously conducted process simulation vs recovery of wash oil in the CGC and demonstrated by process simulation inability to separate DHDCPD from wash oil in the distillation train of the aromatic unit. Understanding the potential fouling propensity of DHDCPD recycled to the CGC would add value to this potential paper. Joe to check potential participation of Evonik relative to the chemistry and potential fouling propensity of DHDCPD. Same status as last month Andre to coordinate abstract submission.
- **CS₂ rise from H₂S scavenger on shale** – Dorf Ketel confirmed interest and commitment in presenting the paper. Sherri to monitor progress and abstract submission.
- **Pipeline Contaminants (glycol, drag reducer)**. We had difficulties in getting commitments from companies that were contacted. Joe will follow up with Enterprise in Kinder Morgan. Same status
- **Plastic Waste:**
Contaminant Treatment – University Ghent agreed to submit a paper for the 2022 session. Yong to monitor progress and abstract submission.

Shell Experience – Shell will submit a paper. The paper will focus on Shell's goal and planned technology to create pyrolysis plastic oil, and feed to cracking furnaces. This work is under patent, so Shell will share information publicly for items covered in the patent. The paper will however be submitted to the Technology or Environmental subcommittee as the content is a better fit for those sessions. No follow up for our subcommittee.

LyondellBasell Experience – Robert indicated potential on the R&D side but with information limited to disclosure of a few contaminants and compositional range. There is concern that the content might be too limited for meeting a typical paper. There is no interest at this point to present data from plant operation. We will re-visit the idea at the next meeting

- **CO2 Capture vs**

- Amine Process ->
 - Shell: Not in a position to submit a paper due to workload and priorities.
 - Dow: Mark to check with Dow for Amine Technology vs contaminants.
 - Celanese: Andre unsuccessful in making contact with Celanese so far.
- Lanzatech -> CO2 to ethanol. Lanzatech confirm their participation. They have a few topics in mind but haven't provided details yet. Yong to monitor progress and ensure abstract submission.
- Oxydative coupling of methane to ethylene – Siluria – Dave S. made a contact at Siluria but has not get any response from multiple requests.
- **Radon.** NOVA Industrial Hygiene – draft abstract under review and expected to be uploaded in Confex soon. Andre to monitor progress
- **Radon:** Potential for Shell involvement. Given the state of the NOVA paper on Radon we may not need to push this one forward.
- **Inhibitor residual/ measuring methods.** Debby Rossana currently working on an abstract. Dave S. to follow up progress and ensure abstract submission.
- **Feedstock Contaminant Database.** Idea of doing a subcommittee paper using the Feedstock Contaminant Database and selected contaminants. Andre to coordinate the effort.

Other Business

- Nothing to report

6. Technical Discussion

Discussion on improving the contaminants database. Allocation of contaminants by process area needs improvement. Certain areas have no contaminant associated with them (ex. Feed System). Other areas might not be complete. Suggest having the team member to review so that we could improve the 2022 version of the database.

The team suggest working by contaminant rather than by area. By taking a specific contaminant and allocating it to the different process areas. This also illustrates the path that a contaminant is following through the process.

Below is a distribution of contaminant per team member.

Ross -> Arsene & Phosphene, NH₃

Robert A -> Hg, MeOH

Sherri -> Cl, F

Mark Davis -> to be determined

Andre -> to be determined

Ross indicated that ethanol is not in the database. Limited information is available on it as a contaminant to the ethylene unit.

Note that the database enhancement is volunteer work, and we are not under a timeline constraint. We should look at it as continuous improvement.

7. Schedule Next Meeting

- Next meeting schedule for October 21st, 15h00 (CT)