SAFETY BULLETIN

King Abdullah University of Science and Technology

جامعة الملك عبدالله للعلوم والتقنية

Risk Anticipation and Risk Mitigation

Purpose of the safety bulletin: To inform the research community about an incident that happened in KAUST, which could have been prevented through a risk assessment and following safe work practices.

What happened?

On Thursday May 25th 2017 a lab user was conducting an extraction procedure using Dichloromethane, Sodium Bicarbonate, and a reaction mixture. While the lab user was releasing CO2, an unexpected amount of CO2 was released from the reaction mixture inside the separating funnel, causing the separating funnel stopper to "pop." As a result, a chemical splash occurred. The lab user immediately followed the correct emergency procedures (removing contaminated clothing, flushing eyes and washing skin), and informed the LSR of the incident. No personal injury occurred.

Why did it happen?

- Familiarity with the procedure led to overconfidence in conducting the experiment. Therefore there was a failure to assess the potential risk and follow safe work practices.
- Poor housekeeping inside the fume hood prevented the lab user from using it.
- Because the procedure was conducted outside of the fume hood, there was no protection against a possible chemical splash.
- There was no SOP available for the safe use of separating funnels.

Lessons Learned:

- Never underestimate the potential hazards associated with an experiment.
- Determine the potential hazards and appropriate safety precautions before starting an experiment.
- Avoid becoming too familiar with procedures. Ask yourself questions such as "What can go wrong"? and "How can it be prevented"?
- Fume hoods are not storage cabinets. Fume hoods must be maintained and used in a clutter-free state.

Please submit any questions to researchsafety@kaust.edu.sa

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