



ChemE Cube™ Competition 2025

Dealing with Solid Matrix Adsorbents

Solid Matrix materials designed for the competition may contain various ingredients that actively adsorb/remove CO₂ from air. These 'active ingredients', themselves may have GHS ratings of 1, and thus individually, would not be allowed as part of the ChemE Cube Competition.

Through the solid matrix, these materials have been approved for use. However, this does not negate team's responsibilities regarding the competition.

1. Section 11 of the EDP pertaining to chemical information needs to be completed -- this would include all materials used in fabricating the active solid matrix, i.e., the material team uses to remove CO₂ from air. This would include the matrix itself and any active materials as well as residual compounds (say for example solvents used in prepping the matrix). If there is an SDS of the matrix containing the reactive chemicals, that is best source of info regarding this issue.
 - a. This would include filling about tables 1, 1a, 2 and 3.
2. Section 12 should also be included.

Teams using these types of solid matrixes are required to ship the matrix to the host university (from their home university). If a team intends to ship the matrix back to their home universities after the competition, to ensure regulatory compliance and promote safety, Teams need to provide:

1. Documentation (during the safety review and via email COB on Sunday, November 2nd) from their home university's EHS group stating what classification the materials are being shipped as along with verification the EHS group has reviewed the component SDS's and classified the solid matrix as
 - a. Hazardous Goods
 - b. Non-Hazardous Goods.
2. Please note that Hazardous Goods cannot be returned from the Competition site as students do not have regulatory permitting to package materials and deliver to standard shipping companies (like UPS/FedEx).
3. For non-hazardous goods, it is recommended that the teams work with their EHS group to get instructions on how to properly package the materials (following the competition) and prep the shipping container for return shipment to their home university.
 - a. It is also suggested that the home university provided a return shipping label using the school's shipping account #'s.