

GUIDE TO NEWLY SYNTHESIZED CHEMICALS: Management, Storage, and Retention

HAZARDS OF NEWLY SYNTHESIZED CHEMICALS

Novel chemicals synthesized in the laboratory may not have previously documented hazard information available for these compounds.

PRACTICES FOR CONTROL OF NEWLY SYNTHESIZED CHEMICALS

Responsibility

Principal Investigators are responsible for ensuring that any known hazardous properties (physical and toxicity-related) for newly synthesized chemicals are properly communicated to laboratory personnel. The hazards for particularly hazardous substances (carcinogens, mutagens, highly acute toxins) and handling procedures for shock-sensitive, explosive, highly flammable, and/or highly corrosive compounds are especially important to communicate.

Labeling and Shelf-Life Limitation

Principal Investigators are also responsible for ensuring that newly synthesized chemicals used within their laboratories are **properly labeled** and that the **physical and chemical hazard information associated with these compounds is readily available** to those laboratory personnel that may be handling these materials.

[OSHA Form 174](#) or similar form should be used to communicate hazard information about a newly synthesized chemical and will also serve as documentation of hazard determination for the material, similar to a Safety Data Sheet (SDS).

Storage

The properties of a newly synthesized chemical are unknown and must be assumed to be hazardous. Storage shall be restricted to authorized laboratory personnel with appropriate knowledge and training required to interact with particularly hazardous substances.

Personal Protection and Safety

The compound should be handled as a particularly hazardous substance with standard laboratory personal protective equipment (lab coat, gloves, safety glasses), ventilation controls (chemical fume hood, glove box, etc.) or other means to limit exposure to the compound.

Domestic Shipment of Newly Synthesized Chemicals

Shipments of newly synthesized chemicals that have not been classified for regulation by the United States Department of Transportation (USDOT) and/or the International Air Transport Association (IATA) to locations within the U.S. Customs Territory must be accompanied with information that informs the receiver of potential or actual hazards. The TSCA Domestic Shipment Form should be included with each shipment along with any other required documentation as required by the shipment carrier.

Procedures:

1. For all domestic shipments of chemicals or samples within the US Customs Territory, complete

- the [VU TSCA Domestic Shipment Form](#) and include a signed copy with the shipment.
2. Mark the words "Contents To Be Used For Research And Development Purposes Only. Not Regulated by DOT or IATA." on the outside of the shipping package.
 3. Maintain copies of this Form in your laboratory records for next three years. EPA inspectors may ask to see these forms during a regulatory inspection as proof of compliance.

Questions and Disposal of chemical and containers

Contact Vanderbilt University EHS via email at ehs@vanderbilt.edu for guide questions or to have the container and contents disposed of properly.