

Principal Investigator: _____

Date Approved: _____

This Chemical Safety Protocol (CSP) covers basic chemical safety information for novel chemicals with unknown hazards and supplements the laboratory Chemical Hygiene Plan as appropriate. Additional lab-specific safety operating procedures for novel chemicals with unknown hazards may also be required. The use of novel chemicals with unknown hazards is subject to pre-approval by the Principal Investigator (PI) and/or the designated Laboratory Responsible Safety Person. DO NOT USE NOVEL CHEMICALS WITH UNKNOWN HAZARDS UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL AND TRAINING.

Novel Chemicals with Unknown Hazards

Cutting-edge research may often involve the creation and/or use of novel chemicals and materials. In many cases, the hazards of these novel materials can be anticipated based on what is known about similar, established materials. In such cases it's prudent to presume that a derivative is at least as hazardous as its parent compound, and to take similar precautions when storing and/or handling it.

In all cases, a material with unknown hazards should be presumed to be hazardous until reasonably foreseeable health and/or physical hazards can be ruled out experimentally.



Personal Protective Equipment & Personnel Monitoring

**Lab Coat**

Traditional lab coat or flame-resistant lab coat when working with materials believed to be flammable.

**Gloves**

Nitrile or neoprene gloves typically provide adequate protection against minor splashes. Consult with your PI or supervisor to determine whether any materials involved in your process require alternative hand protection.

**Eye Protection**

ANSI Z87.1-compliant safety glasses or safety goggles if a splash hazard is present. A face shield and blast shield may be advisable if the material is reasonably anticipated to be potentially explosive.

Labeling & Storage

Store in secondary containment in a cool, dry place away from other materials that are reasonably anticipated to be chemically incompatible. If the material is reasonably anticipated to be a potential explosive, it must be stored away from light in an explosion-proof refrigerator/freezer or an explosion-proof cabinet. Each container's label must include any appropriate pictograms and identify the material as hazardous. Containers of these materials should be stored in leak-proof secondary containment. If the material is reasonably anticipated to be acutely toxic, carcinogenic, or a reproductive toxicant, it must also be stored within a designated area. The secondary container's label must include any appropriate pictograms and identify the material as hazardous. Also, if not plainly visible (e.g.

through a cabinet window), labeling must be applied to storage locations where these are stored to avoid an inadvertent encounter.

Engineering Controls, Equipment & Materials

Fume Hood

It is advisable to use a fume hood when working with these materials. If your protocol does not permit the handling of such materials in a fume hood, contact the Office of Environment, Health, Safety, and Sustainability (EHSS) to determine whether additional respiratory protection is warranted.

Blast Shield

When working with novel compounds which may be potentially-explosive, the use of a portable blast shield inside the fume hood is highly recommended.

Housekeeping

Releases

Immediately notify others in the area of the release and evacuate the location where the release occurred. Notify your PI/Responsible Safety Person and call Vanderbilt University Public Safety (VUPS) at 615-421-1911 or use the Vandysafe app on your smart phone. Report any exposure through Risk and Insurance Management's Origami portal and mark that it occurred in research when prompted. Both VUPS and the Origami system will notify EHS of the incident. Remain on-site at a safe distance to provide detailed information to first responders.

Decontamination

Decontamination methods will vary based on the materials handled and equipment being used. Please review the chemical Safety Data Sheet for guidance on cleaning materials.

Waste

Refer to the laboratory *Chemical Hygiene Plan* (Section 6.7) for information on proper chemical waste disposal procedures.

First Aid & Emergencies

Skin Contact

Immediately remove contaminated clothing and shoes; flush skin with water for at least 15 minutes. Get medical attention immediately.

Eye Contact

Check for and remove contact lenses. Immediately flush eyes with water for at least 15 minutes. Get medical attention immediately.

Inhalation

Move person into fresh air. Get medical attention immediately.

Ingestion

Get medical attention immediately.

