

Principal Investigator:

Date Approved:

This document covers basic chemical safety information for acrylonitrile and supplements the laboratory Chemical Hygiene Plan as appropriate. The use of acrylonitrile is subject to pre-approval by the Principal Investigator (PI) and/or designated Laboratory Responsible Safety Person. DO NOT USE ACRYLONITRILE UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.

Acrylonitrile

Acrylonitrile (also called vinyl cyanide) is a highly flammable chemical. It is toxic if inhaled, ingested, or absorbed through skin. It can undergo explosive polymerization when exposed to heat, light, strong acids, or strong bases. Acrylonitrile is also carcinogenic and a reproductive toxicant.



Personal Protective Equipment & Personnel Monitoring



Lab Coat

Flame-resistant lab coat.



Gloves

Chloroprene gloves when handling small quantities. Use thicker butyl-rubber gloves for larger volumes.



Eye Protection

ANSI Z87.1-compliant safety goggles, or face shield if a splash hazard is present.

Labeling & Storage

Keep container tightly closed in a cool, dry, and well-ventilated place. Store away from direct sunlight since light encourages polymerization. Isolate from incompatible materials such as strong oxidizers, strong acids and bases. Store away from heat sources and in a flameproof area. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Apply labeling as necessary to identify flammability, toxicity, and cancer hazards on the bottles, secondary containers, and external location.

Engineering Controls, Equipment & Materials

Fume Hood

Use fume hood to keep exposure to acrylonitrile as low as possible. If your protocol does not permit the handling of acrylonitrile in a fume hood, contact the Department of Environmental Health, Safety and Sustainability (EHSS) to determine whether additional respiratory protection is warranted.

Housekeeping

Spills

Notify others in the area of the spill, including your PI/Responsible Safety Person. If it is a small spill that you can easily handle, use the contents of your lab spill kit to clean it up. If it is a large spill, then evacuate the area where the spill occurred. Call Vanderbilt University Public Safety (VUPS) at 615-421-1911 (mobile) 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 EHSS of the incident. Remain on site at a safe distance to provide detailed information to first responders.

Decontamination

Wearing proper PPE, decontaminate equipment and bench tops using soap and water. Dispose of the used chemical and contaminated disposables as hazardous waste following the guidelines in the CHP.

Waste

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

First Aid & Emergencies

Skin or Eye Contact

Remove contaminated clothing and accessories, flush affected area with water. If symptoms persist, get medical attention.

Inhalation

Move person into fresh air. If symptoms persist, get medical attention.

Ingestion

Rinse mouth with water. If symptoms persist, get medical attention.

