

Principal Investigator: \_\_\_\_\_

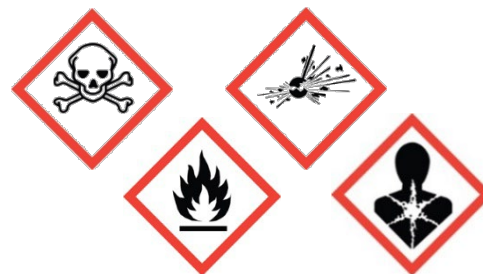
Date Approved: \_\_\_\_\_

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

## Nitromethane

Nitromethane ( $\text{CH}_3\text{NO}_2$ ) is a clear liquid often used as a solvent or reagent in organic synthesis. It is a suspected carcinogen and flammable. Nitromethane is also toxic by inhalation and ingestion.

When heated, nitromethane may cause an explosion due to the energetic nitro functional group and low carbon count. Nitromethane can also become shock-sensitive if contaminated with incompatible materials such as amines, acids or bases.



## Personal Protective Equipment & Personnel Monitoring

**Lab Coat**

Flame resistant lab coat

**Gloves**

Neoprene, polyvinyl alcohol, viton, or butyl gloves. Heavy-duty nitrile gloves are also acceptable. **Do not wear disposable nitrile gloves.**

**Eye Protection**

ANSI Z87.1-compliant safety glasses or safety goggles if a splash hazard is present. If heating use a blast shield for extra protection.

## Labeling & Storage

Store under inert gas and in an approved flammable cabinet or a refrigerator rated for flammable storage. Keep container tightly closed in a dry and well-ventilated area away from sunlight. Store at or, if possible, below room temperature. Keep away from incompatible materials such as: amines, strong acids, strong bases, strong oxidizing agents, strong reducing agents, and copper. Store away from heat sources and in a flame proof area. Do not store in copper or copper alloy storage vessels.

## Engineering Controls, Equipment & Materials

**Fume Hood**

Handle using a chemical fume hood with good ventilation and electrically grounded lines and equipment. Vapors may form explosive mixtures with air. Avoid mechanical friction or shock.

## 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.

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**Decontamination**

Clean contaminated surfaces with soap and water. Dispose of the paper towels as hazardous waste.

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**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**

Do not induce vomiting or give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

