

**New Mexico State University
College of Engineering**

Hydrazine SOP

Standard Operating Procedures for Chemicals or Processes	
Classification	Hazardous Substance? Yes <u>xx</u> No <u> </u>
#1 Process (if applicable)	Experimental work using hydrazine hydrate as solvent or reactant, non-process specific.
#2 Chemicals	Hydrazine Hydrate (CAS 302-01-2)
#3 Personal Protective Equipment (PPE)	Nitrile gloves double layer , chemical splash goggles, face shield, lab coat, and rubber apron.
#4 Handling/ Environmental / Ventilation Controls	Hydrazine containing solutions should be dispensed and used only in a properly operating fume hood. Transferring Material <ol style="list-style-type: none"> 1. When moving from storage to fume hood, all appropriate PPE must be worn. 2. To minimize potential spills of hydrazine, Use ONLY a pipet to transfer material from chemical bottle to beaker. DO NOT POUR. 3. Also, any beaker which hydrazine is expected to be injected, must be covered using parafilm.
#5 Special Handling Procedures & Storage Requirements	Per U.S Department of Transportation regulation DOT-SP 7891 (191h revision), the material may be packaged by one of the following means: <ol style="list-style-type: none"> 1. Placed in a tightly closed/sealed plastic inner packaging not exceeding 1.2 liters. 2. Inner packaging should be surrounded by non-reactive absorbent material 3. Inner and non-reactive absorbent shall be in a hermetically sealed barrier bag 4. Inner shall be in a hermetically sealed barrier bag surrounded by non-reactive absorbent and placed in a metal can with non-reactive filler to immobilize the inner packaging and fill all void space Unpacking Material Upon Arrival <ol style="list-style-type: none"> 1. Put on nitrile gloves, double layer, and a lab coat in case any leakage occurred during shipping 2. Carefully break the packing seal on box with a box cutter. 3. If there is a barrier bag first, take it out making sure to keep it in upright position 4. If there is absorbent surrounding the barrier bag, carefully adjust the absorbent in the packing box to make room to pull out the barrier bag. Leave the absorbent in the box. 5. If there is absorbent in the barrier and the chemical bottle is in a sealed plastic liner, then the barrier bag can be slit carefully using scissors. Leave the absorbent in the barrier bag. 6. The sealed chemical bottle in a plastic liner may be placed in the flammable cabinet until first use. 7. If any leakage occurred, treat ALL containers as hazardous waste. Storage <ol style="list-style-type: none"> 1. Hydrazine hydrate shall be tightly sealed in a standard 50mL glass bottle and placed in flammables cabinet. 2. Before the first use, the bottle shall be inside a plastic liner. After it has been initially opened, it will just be in the standard glass bottle.
#6 Spill and Accident Procedures	Spill and Accident Procedures: <ol style="list-style-type: none"> 1. Try to stop the spill if it is growing. Use absorbent pads or kitty litter to clean up small spills or absorbent socks to dike larger spills. 2. Remove all sources of ignition from the spill area. 3. If exposure occurs, follow procedures shown below in Decontamination #10 or refer to the SDS. Call 911 in the event of a spill beyond lab staff capabilities. 4. For emergency response call 911 or EH&S at 646-3327
#7 Waste Disposal	Hazardous Waste Disposal <ol style="list-style-type: none"> 1. If the waste generated during this experiment is a stable, flammable, solution (verify during ESP review), this solution will be disposed of by placing the waste in a standard 4 liter plastic waste container with a vent cap for temporary storage. 2. If the waste is non-stable, flammable solution then the solution will be collected and stored in a similar way as shown in #5 Special Handling Procedures & Storage Requirements above.

	3. The solid hazardous waste generated during this experiment will be gloves, protectant suit, pipet tips and contaminated packing. These will be disposed by placing in a solid hazardous waste bin.
#8 Special Precautions	Chemical Hazards (http://www.cdc.gov/niosh/npg/npgd0329.html)
#9 Approval Required	<ol style="list-style-type: none"> 1. Completion, review and approval of Experimental Safety Plan (ESP) required before research start 2. Changes documented using a revision to the ESP
#10 Decontamination (SDS Information)	<ul style="list-style-type: none"> • Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes). • Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Discard contaminated clothing in a manner which limits further exposure. • Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. • Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask. • Notes to Physician: Treat symptomatically and supportively.
#11 Process Procedure – Define Steps	Not Applicable
Revision: A	Date: 09/23/15