
 <b>EHS</b>	<b>Document Owner: EHS</b>	<b>Release Date:4/29/2005</b>
<b>Document Title: FDC Chemical Handling and Personal Protective Equipment</b>	<b>Document No:</b>	<b>Document Rev: 01</b>

1. **Purpose** – To define chemical operations in the FDC Fab, and address Personal Protective Equipment
2. **Applicable Regulations**
  - a. OSHA 290CFR 1910.132-1910.138 (Subpart I – Personal Protective Equipment)
  - b. ANSI Z87.1-2003
3. **Reference Documents**
  - a. **ASU Prescription Safety Glasses**
4. **Equipment Ordering Information**
  - a. Safety Glasses – ANSI Z87.1
    - i. See Prescription Safety Glasses Document
  - b. Faceshields – ANSI Z87.1
5. **Definitions**
  - a. Spin/Twist Method
    - i. Hold glove open with both hands, “fingers of glove” dangle downwards
    - ii. With both hands, flip the “fingers of glove” over the opening of the glove to capture air pressure inside the glove
    - iii. Hold the air pressure in the glove, and place next to your ear
    - iv. Listen for a leak, or visually see glove shrink to identify leaks
    - v. If leak in glove, glove must be discarded
6. **Equipment – Materials**
  - a. Personal Protective Equipment(PPE)
    - i. Racks for storage of PPE
    - ii. Chemical Gloves
    - iii. Safety Glasses
    - iv. Faceshield
    - v. Gowns
    - vi. Spats
    - vii. Safety Squeeze Bottles (Labeled)

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## 7. Responsibility

- a. Management is responsible for ensuring employees are trained and follow procedures
- b. Employees are responsible for adhering to procedures
- c. Air Products employees must minimally meet the requirements of this specification
- d. Air Products is responsible for delivering chemicals to the chemical storage cabinets
- e. Air Products is responsible for the delivery and hook up of all gas cylinders
- f. Air Products is responsible for filling liquid all nitrogen containers

## 8. Requirements


- a. All Chemicals MUST be labeled
- b. Acids chemicals stored in Acid Cabinets
- c. Solvent chemicals stored in Solvent Cabinets
- d. Base Chemicals stored in Base Cabinets
- e. Peroxide stored in Oxidizer Cabinets

## 9. Procedures

- a. Air Products will supply chemicals to chemical cabinets in the Fab
- b. Air Products will do daily rounds to ensure inventory levels
- c. If for some reason you need excess chemical stock or are planning to increase the load of chemicals used, please contact Air Products in advance to ensure inventories

### d. Acid Pour Requirements (gallon containers)

- i. Employee dons the following personal protective equipment
  1. Safety Glasses
  2. Faceshield
  3. Acid Gloves and employee performs leak check of gloves by the spin/twist method, never blow into a glove to check for leaks
  4. Acid Spats
  5. Acid Gown
- ii. Employee retrieves chemical cart (secondary containment)
- iii. Employee loads chemicals onto chemical cart, no stacking or overloading
- iv. Employee transports cart to area of work
- v. Employee insures work area is neat and orderly, and ensures no other people are working in area
- vi. Employee pours one gallon at a time into bath/container
- vii. Employee places cap on empty bottle and cleans outside of container
- viii. Empty container is placed back on cart
- ix. Cart with empties are brought back to the Acid Cabinet and the empties are placed back in the cabinet for Air Products to pick up
- x. Employee cleans PPE and puts back on the PPE rack


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**e. Solvent Pour Requirements (gallon containers)**

- i. Employee dons the following personal protective equipment
  - 1. Safety Glasses
  - 2. Faceshield
  - 3. Solvent Gloves and employee performs leak check of gloves by the spin/twist method, never blow into a glove to check for leaks
  - 4. Solvent Spats
  - 5. Solvent Gown
- ii. Employee retrieves chemical cart (secondary containment)
- iii. Employee loads chemicals onto chemical cart, no stacking or overloading
- iv. Employee transports chart to area of work
- v. Employee insures work area is neat and orderly, and ensures no other people are working in area
- vi. Employee pours one gallon at a time into bath/container
- vii. Employee places cap on empty bottle and cleans outside of container
- viii. Empty container is placed back on cart
- ix. Cart with empties are brought back to the Solvent Cabinet and the empties are placed back in the cabinet for Air Products to pick up
- x. Employee cleans PPE and puts back on the PPE rack

**f. Base Pour Requirements (gallon containers)**

- i. Employee dons the following personal protective equipment
  - 1. Safety Glasses
  - 2. Faceshield
  - 3. Base Gloves and employee performs leak check of gloves by the spin/twist method, never blow into a glove to check for leaks
  - 4. Base Spats
  - 5. Base Gowns
- ii. Employee retrieves chemical cart (secondary containment)
- iii. Employee loads chemicals onto chemical cart, no stacking or overloading
- iv. Employee transports chart to area of work
- v. Employee insures work area is neat and orderly, and ensures no other people are working in area
- vi. Employee pours one gallon at a time into bath/container
- vii. Employee places cap on empty bottle and cleans outside of container
- viii. Empty container is placed back on cart
- ix. Cart with empties are brought back to the Base Cabinet and the empties are placed back in the cabinet for Air Products to pick up
- x. Employee cleans PPE and puts back on the PPE rack

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**g. Liquid Nitrogen Handling (for container size less than 3 gallons)**

- i. Employee dons the following personal protective equipment
  - 1. Safety Glasses
  - 2. Faceshield
  - 3. Cryogenic Gloves
  - 4. Bunny Suit (no shorts,skirts,etc., pants only)
- ii. Employee retrieves chemical cart (secondary containment)
- iii. Employee loads liquid Nitrogen onto chemical cart, no stacking or overloading
- iv. Employee transports cart to area of work
- v. Employee insures work area is neat and orderly, and ensures no other people are working in area
- vi. Employee pours liquid Nitrogen slowly into container
- vii. Liquid Nitrogen is placed back on cart
- viii. Cart is brought back to the storage location.
- ix. Employee ensures PPE is not damaged and puts back on the PPE rack

**h. PPE changeout**

- i. If PPE is damaged or defective, dispose of PPE and get new PPE
- ii. Ensure to clean PPE after each use
- iii. PPE is changed out as needed

i.

**10. Records**

**11. Revision Update**

- a. Document created by James Kotonias on 4-6-05