

# STRICTLY PRIVATE

## WORKPLACE EXPOSURE ASSESSMENT FORM

BUILDING: 331

ROOM: [REDACTED]

DATE: 03-31-00

DESCRIBE THE WORK AREA BEING EVALUATED: Laboratory work space is [REDACTED]. This space is typical to wet chemistry labs containing chemicals. An eye wash station is located in the lab. Safety shower is located in the public corridor in close proximity to the lab.

DESCRIBE THE OPERATION/EXPERIMENT BEING EVALUATED: An approved procedure outlines the activity and is to be used in conjunction with this assessment form. This procedure is being conducted to ensure the stability of the chemical ether. The work activity will involve removing a 4-liter amber glass bottle from the flammable liquid storage cabinet to a fume hood located in close proximity. The 4-liter bottle is labeled (manufacturer label) as containing 1-2 liters of 100% ethyl ether dated as received on 1-16-89. Due to the amount of chemical remaining in the bottle indicates minimal exposure to oxygen further reducing the potential for peroxide formation. The 4-liter bottle is amber, minimizing exposure to light, and has been stored in a flammable liquid storage cabinet, further minimizing exposure to light. Minimizing exposure to light greatly reduces the probability of peroxide formation. The bottle is in good condition. No visible crystals have been observed. If the liquid appears viscous or crystals are noted during the activity, the work activity will be stopped for further evaluation. The bottle will be inverted and placed in a 5% ferrous sulfate solution. If copious amounts of gas formation is noted, work activity will stop and further evaluation will be conducted. This hydration process will reduce or neutralize crystal formations on the inside cap of the bottle. The absence of peroxides will be verified.

LIST STAFF ASSOCIATED WITH THIS OPERATION: Gregg [REDACTED] and [REDACTED]

LIST THE HAZARDOUS CHEMICALS, EQUIPMENT, AND PHYSICAL HAZARDS TO WHICH THE STAFF MAY BE EXPOSED:

OSHA LISTED CHEMICALS: None

EQUIPMENT: 5% Ferrous Sulfate solution

CHEMICALS WITH PELs or TLVs: Ethyl Ether

PHYSICAL HAZARD: Potential for explosion and fire if energy release occurs; estimated to be 1 in 10 million.

TOXIC CHEMICALS: None

IS THERE POTENTIAL FOR STAFF EXPOSURE: No. 4-liter bottle will remain capped when not being tested or treated. The opening to the bottle is small, minimizing surface area for vaporization. Staff are aware that the odor threshold is low (0.3 ppm). The regulatory exposure limit is 400 ppm. The work will be conducted in a fume hood with the sash lowered to a height that will still allow work but will provide some protection to staff.

ENGINEERING CONTROLS: fume hood

CHEMICAL PHASE: Liquid

ROUTE OF EXPOSURE: Inhalation, skin contact

RATE OF EXPOSURE: Rapid if energy release occurs, none otherwise.

WORK PRACTICES: The glass bottle will be handled carefully and in a manner that will eliminate or reduce exposure to pressurization of the container. At no time will staff place their face over the bucket or 4-liter bottle.

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IS POTENTIAL EXPOSURE LIKELY TO EXCEED THE ACTION LEVEL: No.

QUANTITY: 1-2 liters DURATION: NA

UNANTICIPATED HAZARDS: Chemical exposure if energy release occurs.

CONCENTRATION: 100% PREVIOUS MONITORING: no

PPE REQUIREMENTS: Silver Shield gloves, lab coat, face shield, safety glasses with side shields.

NO EXPOSURE MONITORING REQUIRED.

COMMENTS: Staff should review locations of safety showers and emergency procedure prior to operation. No personnel unrelated to operation should be allowed in the lab space during the operation

REVIEWED BY:

\_\_\_\_\_  
[REDACTED] Manager ES&H

REVIEWED BY:

\_\_\_\_\_  
[REDACTED] Chemist

PREPARED BY:

\_\_\_\_\_  
[REDACTED] IH