CORPUS CHRISTI TECHNICAL CENTER ESHA PROCEDURE NO.: SA-3

SECTION: SAFETY DATE: 7-14-88

SUBJECT: RESPIRATORY PROTECTION PAGE: 1 OF 5

I. PURPOSE:

The purpose of the respiratory protection policy and procedure as outlined herein is to provide proper protection for employees from airborne health hazards and oxygen deficient atmospheres. The program includes provisions for proper evaluation, selection, training, use, and maintenance of respiratory protective equipment. The contents of this procedure comply with requirements contained in OSHA 29 CFR 1910.134, Respiratory Protection.

II. POLICY:

It is the policy of the CC Tech Center to prevent employee exposure to atmospheric contaminants such as fumes, gasses, mists, dusts, and vapors. If feasible, this will be accomplished by accepted administrative or engineering controls, including enclosure or confinement of the operation or general or local ventilation. When effective engineering or administrative controls are not feasible, or while such controls are being implemented, respiratory protective equipment will be used to protect the health of the employees. Any employee required to wear a respirator will be properly trained and tested prior to wearing the respirator in the work environment.

The requirements of this policy apply equally to Celanese and Non-Celanese employees. Each employee has the responsibility to know and adhere to this policy.

III. PROCEDURE:

A. TYPES OF RESPIRATORS AND THEIR USES

1. Disposable dust and mist respirator (#8710)

- The disposable dust and mist respirator may be used when exposed to non-toxic, nuisance dusts and mists. (As disignated by the American conference of Governmental Industrial Hygienists).

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EXHIBIT
CEL-646

008903

2. Cartridge-Type Respirators (half mask and full-face mask

   - Cartridge type respirators may be used for toxic dust or low-level concentrations of chemicals with definite warning properties (i.e. - odor, irritation, color, etc.). Cartridge-type respirators should be used only when use of a supplied-air respirator is impractical. Cartridge-type respirators will not be worn in oxygen-deficient atmospheres.

3. Air-supplied pressure-demand respirators (i.e. airline respirators and self-contained breathing apparatus).

   - Air-supplied pressure-demand respirators are used for protection against chemicals with poor warning properties and in areas where concentrations of contaminants may preclude the use of other types of respirators (this may include areas where contaminant concentrations are unknown or are life-threatening). Air-supplied respirators should be the first choice when selecting respiratory protective equipment.

     Air-supplied breathing apparatus will always be worn in oxygen deficient atmospheres. Persons will not knowingly enter an oxygen-deficient atmosphere without first notifying the Safety Supervisor (or Emergency Director in the event of an emergency).

4. Hansen Quick Connect Couplings will be used on all air line respiratory protective equipment. To comply with OSHA Standard CFR 1910.134, Hansen Quick Connect Couplings will not be used for any other service on site.

B. SELECTION OF RESPIRATORS

The following requirements are necessary considerations for the proper selection of respiratory protective equipment:

1. Oxygen content of the atmosphere.

2. Ambient concentrations, toxicity, and warning properties of contaminants.

3. Work requirements and conditions.

4. Characteristics and limitations of approved respirators.

5. Wearers' comfort and acceptance.

6. Approval of respirator by the National Institute of Occupational Safety and Health (NIOSH).

In all cases, the evaluation to determine what respiratory protection is needed will be conducted by Safety with the aid of the CC Tech Center Industrial Hygienist.

C. QUALITATIVE FIT TESTING AND WEARING A RESPIRATOR

1. - Each employee who must wear a respirator to do his/her job, or who might be required to wear a respirator in an emergency, must take and pass a qualitative fit test. The test will be performed with the appropriate respirator using irritant smoke or Iso-Amyl Acetate while simulating body movements associated with normal work activities. Records will be kept of the type(s) of respirator(s) each employee tested is qualified to wear. (See Attachment I for recording form).

2. - Fit-testing will be performed annually for each employee required to wear a respirator. Testing will be conducted by the Safety Department.

3. - The following requirements must be observed when wearing a respirator:

- Wearer must be clean-shaven in facial areas forming a seal with the respirator.

- Eye glasses shall not be worn with full-face respirators except where they have been properly installed with approved adaptors that do not interfere with the face-to-respirator seal. Employees who need corrective lenses should not wear full-face respirators without the adaptor and glasses. Contact lenses will not be worn with respiratory protective equipment.

- Respirator wearers will check respirators for leaks before entering a contaminated atmosphere. This is done by first covering the inhalation valve and breathing in, pulling a vacuum in the respirator.

Next, the exhalation valve will be covered and the wearer will exhale, creating a positive pressure in the respirator. If any leaks are detected, the respirator will not be used but twill be returned to the Safety Department for inspection.

D. TRAINING AND EDUCATION

Training and education of employees in the use of respiratory protection will be the responsibility of the Safety Department and will include:

- Instructions in the nature of the applicable atmospheric contaminants.
- A discussion of the reasons for selecting a respirator type for a particular use.
- A discussion of respirator capabilities and limitations.
- Instruction and hands-on training in use of respirators.
- Instruction in recognizing and responding to emergency situations.
- Special training for special uses.

Records of all training sessions will be kept by the Safety Department.

E. BREATHING AIR CYLINDERS FOR SUPPLIED AIR RESPIRATORS.

- Breathing air cylinders are owned by the Safety Department and are dedicated for breathing air use only. The Safety Department must be notified before any changes are made in the use of these cylinders. The Safety Department is responsible for refilling and maintaining all air cylinders in the laboratory and maintenance areas. Cylinders in the pilot plant area are maintained by Operations personnel.

F. CLEANING AND STORAGE OF RESPIRATORS

1. - A regularly scheduled cleaning, inspection, and maintenance program will be administered by the Safety Department for all respirators.

2. - Each respirator issued is engraved with a number for record-keeping purposes. When the respirator wearer no longer needs a respirator, it will be returned to the Safety Department for cleaning and storage.

G. PERSONNEL RESPONSIBILITY

1. - Personnel required to wear respiratory protection will be responsible for maintaining and caring for respirators in their possession. A respirator must be inspected before each use and again after use to insure it is in good condition. After each use, a respirator must be cleaned and stored in a clean, uncontaminated, cool area.

2. - Each employee should return his/her respirator to the Safety Department when it is no longer required for his/her job function.

H. INSPECTION

1. - Personnel assigned a respirator will inspect the respirator before and after each use.

2. - All personal respirators will be collected, cleaned, inspected, and repaired (if needed) on a semi-annual basis. This will be coordinated by Safety.

3. - Self-contained breathing apparatus for emergency use are located in the B-130 lab areas, the pilot plant areas, and the CCTC emergency van. All emergency breathing air equipment (including 5-minute escape paks) will be inspected on a monthly basis. The inspections will be performed by a representative of the owning department (i.e. - Operations, Research, and Development). Findings of the inspections will be recorded (See Attachment II for inspection forms) and forwarded to the Safety Department.

F. MEDICAL SURVEILLANCE

- Medical surveillance will be provided for all employees using respirators. A physician will judge whether or not a person is physically able to wear a respirator. The physician's opinion will be recorded on the "Physical Fitness Certification for Employees Required to Wear a Respirator" form (Attachment III). The completed form will be kept in the employee's medical file.

Attachment I
Respiratory Protection
Fit Testing and Training

Name:_____ Plant Location:_____ Date:_____

Respirator:	1	2	3	4
Type:				
Manufacturer:				
Comfortable?:				
Results:	Fail Pass	Fail Pass	Fail Pass	Fail Pass
Irritant Smoke:				
Iso-Amyl Acetate:				

Training Provided: (Check all applicable items)

____Inspection
____Donning
____Positive and Negative Pressure Check
____Limitations of Respirators
____Care and Storage

Does wearer use prescription glasses? _____
Does wearer use dentures? _____

Does wearer have any medical problem that may interfere with wearing a respirator? (ie Stoma, Emphysema, Perforated Eardrum, Claustrophobia, Irregular Facial Feature) _____

Test Performed by:_____

NAME	TYPE	NO.	WORK AREA	CHEMICAL	DATE RECEIVED	DATE INSPECTED	DATE RETURNED	COMMENTS

008911

ATTACHMENT II

SCOTT AIR PAK INSPECTION FORM Date_____ Inspected By_____

Air Pak#	Cylinder F	Cylinder E	Condition	Abnormal Condition, If any	Action Taken
#1 Basement by Corrosion Lab					
#2 Basement by Reproduction					
#3 1st Floor Hallway by Lab 281					
#4 1st Floor Hallway by Stairway					
#5 1st Floor Hallway by Lab 111					
#6 1st Floor Hallway by Lab 103					
#7 1st Floor Hallway by Lab 71					
#8 1st Floor Hallway by Lab 66					
#9 New Lab by 403					
#10 New Lab by 408					
#11 South High Pressure Lab					
#12 North High Pressure Lab					
Escape Pak (2) Lab 400					
Escape Pak (2) Lab 410					
Escape Pak (2) Lab 285					

008912

Please forward to the Safety Department.

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ATTACHMENT II CONT.

SCOTT AIR PAK INSPECTION FORM Date_____ Inspected By_____

Air Pak#		Cylinder F E	Condition	Abnormal Condition, If any	Action Taken
#13	North Control Room				
#14	South Control Room				
#15	East Control Room				
#16	West Control Room				
#17	Emergency Van				
#18	Emergency Van				
(2)	60 Minute Paks in S.S. Office				

008913

ATTACHMENT III

Physical Fitness Certification for Employees Required to Use Respirators

This certification of physical fitness is required by OSHA under 29 CFR 1910 Paragraphs 1910.134(b)(10) for the purpose of protecting the well-being of employees who may be subjected to above average physiological stress on the job.

Users of respirators, including the cartridge types, full-face fresh air breathing masks, and scott air paks, will be subject to reduced air intake at times and the accompanying physiological stress.

In my opinion _____ may participate in tasks requiring the routine use of respirators.

If no reason _____

_____

Date_____ Examining M.D. _____