



Implementing Respirators in the Field

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NC Agromedicine Institute
The Pesticide Stewardship Alliance Conference
Savannah, Georgia
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Step 1

- Determine which chemicals are being used that require respiratory protection
- Determine what type(s) of respirators are needed and under what conditions they will be used

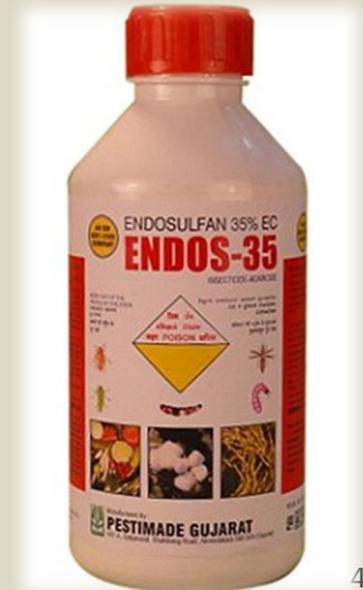




Growers may need education & technical assistance to understand what respiratory protection is needed until label language is resolved.



Chemical inventory for respirators is a good time to dispose of unused products



Step 2

Identify handlers for chemicals requiring respiratory protection





Handlers may not
always be the
most obvious
people

Handlers...



- Mix, load, transfer, or apply pesticides
- Handle opened containers of pesticides
- Act as a flagger
- Clean, handle, adjust, or repair the parts of mixing, loading, or application equipment that may contain pesticide residues
- Assist with the application of pesticides, including incorporating the pesticide into the soil after the application has occurred

Handlers...

- Enter a greenhouse or other enclosed area after application before the inhalation exposure level listed on the product labeling has been reached or one of the WPS ventilation criteria has been met to operate ventilation equipment, adjust or remove coverings, such as tarps, used in fumigation or check air concentration levels, entering a treated area outdoors after application of any soil fumigant to adjust or remove soil coverings, such as tarpaulins
- Perform tasks as a crop advisor during any pesticide application, and before any inhalation exposure level or ventilation criteria listed in the labeling has been reached or one of the WPS ventilation criteria has been met during any restricted-entry interval
- **Dispose of pesticides or pesticide containers**



Step 3

Review handler files for:

- Medical clearance
- Respirator fit test
- Training





Records must be kept for 2 years

Medical Clearance Providers

- Private physician
- Occupational health company (may have mobile services)
- Occupational health clinic associated with a hospital
- Urgent Care
- On-line provider



Physicians or other licensed healthcare providers may need guidance



COMPLETION & REVIEW of OSHA RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

Questionnaire Completion

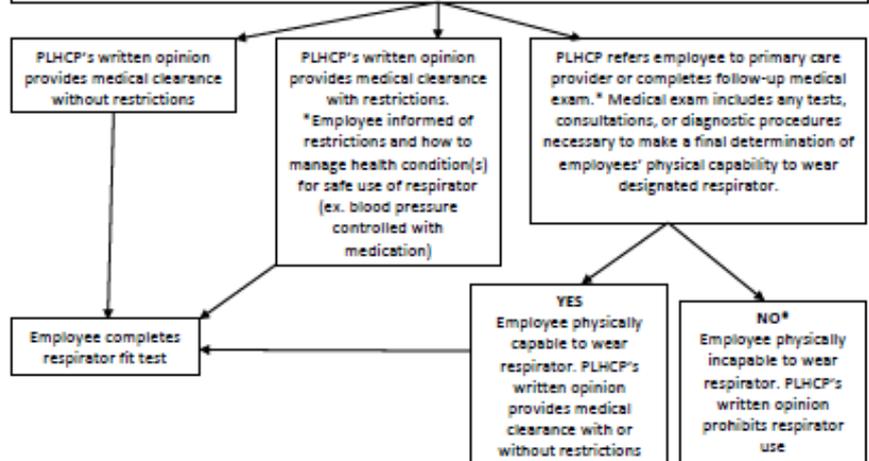
Part A. Section 1: Must be completed by all respirator users

Part A. Section 2, Questions 1-9: Must be completed by all respirator users

Part A. Section 2, Questions 10-15: Must be completed by every employee who has been selected to use either a full-face respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

Questionnaire Review

Physician or other Licensed Healthcare Professional (PLHCP) reviews completed questionnaire to determine whether employee is medically cleared to wear designated respirator. Specific attention should be given to any 'yes' answer on the questionnaire.



***Examples of medical conditions that may warrant clearance with restrictions, follow-up medical exam or denial of clearance:**

- Cardiovascular: hypertension, myocardial infarction, angina, cerebrovascular accident, dysrhythmias
- Respiratory: chronic obstructive pulmonary disease, asthma, emphysema, decreased pulmonary function, smoker, tuberculosis, lung cancer
- Neurological: ringing in ears, impaired sense of smell, seizure disorder, perforated ear drum, low back pain
- Psychological: claustrophobia, severe anxiety
- Musculoskeletal: arthritis, lack of dexterity in hands, upper extremity amputation



Although OSHA & EPA say that medical clearance is only required once unless there are extenuating circumstances, healthcare providers may only grant clearance for a limited time period



Medical clearance statements may not all look the same



PIEDMONT HEALTH SERVICES, INC.

PROSPECT HILL COMMUNITY HEALTH CENTER

140 MAIN ST., PROSPECT HILL, NC 27314

PHONE: 336-562-3311 • FAX: 336-562-3223



T. Meyers, M.D., DEA #BM1223281, UPIN #E17720

A. Pancaldo, M.D., DEA #BP2301808, UPIN #B52827

W. Selvidge, M.D., DEA #BS1148685, UPIN #E29364

B. Steiner, M.D., DEA #BS7502948, UPIN #F17494

L. Brown, FNP, DEA #MB1236454, NC #200687

UPIN #S50041

J. Mako, FNP, DEA #MM1539081, NC #005002633

PATIENT'S NAME: _____

DOB: _____

ADDRESS: _____

PT is medically cleared to use a
respirator.

Use Spanish Language

M. Steiner

Product selection permitted

Dispense as written

09/07



HENDERSON & ASSOCIATES, INC.
Dr. Steven Manuli, MD
Manuli Internal Medicine

RESPIRATOR CLEARANCE
PHYSICIANS WRITTEN OPINION

COMPANY _____ HENDERSON & ASSOCIATES, INC. – ELIZABETH CITY, NC _____

EMPLOYEE _____ JOE DOE _____ ID# _____

Based on the medical evaluation for fitness to wear a respirator, the above referenced employee has been determined to have:

_____ NO RESTRICTIONS ON WEARING A RESPIRATOR

_____ NO RESPIRATOR USE PERMITTED

_____ SOME SPECIFIC USE RESTRICTIONS AS FOLLOWS

_____ EMPLOYEE NEEDS MEDICAL EVALUATION PRIOR TO CLEARANCE

_____ EMPLOYEE REQUESTS TO TALK WITH THE HEALTH CARE PROFESSIONAL
REVIEWING THE MEDICAL QUESTIONNAIRE

_____ EMPLOYEE NEEDS A PULMONARY FUNCTION TEST

RESTRICTIONS: _____

COMMENTS: _____

DATE

SIGNATURE OF PHYSICIAN M.D.

***Test result valid for one year from date of test.**

EMPLOYEE INFO

Name: _____
Company: _____ Plant: _____
Job: _____ Shift: _____
Date: 4/11/2012 9:06:08 PM Dept: _____

CLEARED RESPIRATORS

The OSHA Respiratory Protection Standard requires that your employer provide you with a medical evaluation to determine if you can wear the respirator type listed below as identified by the employer in the *Type Respirator and Conditions of Use Questionnaire*. It will be the employer's responsibility to see that the respirator type you wear is the same as listed below:

- Filtering Facepiece ('dust mask', single use, disposable, particulate)

MEDICAL DETERMINATION

The determination listed below was based on the above information reported by your employer in the *Type Respirator and Conditions of Use Questionnaire*, the information reported by you in the *Medical Evaluation Questionnaire* and any other additional medical tests or information received.

Note: All employees must be allowed to wear glasses while wearing the respirator if they need to do so. Steps should be taken to ensure that glasses can be safely worn when wearing the respirator in these instances.

Medically eligible with the following limitations:

- The employee must keep medical condition(s) under control.

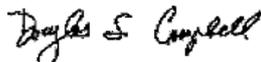
The employee has been notified of the specifics of the limitations on their personal respirator medical clearance notification report.

NOTES

The employer has a responsibility to train the employee in the use and care of the respirator and to ensure that the employee only uses the above listed respirator. The standard requires the employer to have the employee reevaluated for respirator use if one of the following criteria apply: 1) the employee reports having any medical signs or symptoms that are related to wearing the respirator, 2) upon the advise of the physician or licensed healthcare professional, 3) if there is a significant change in the workplace conditions, or 4) if there is either information from management involved in the program or from elements of the program that indicates the employee had a medical problem while using the respirator.

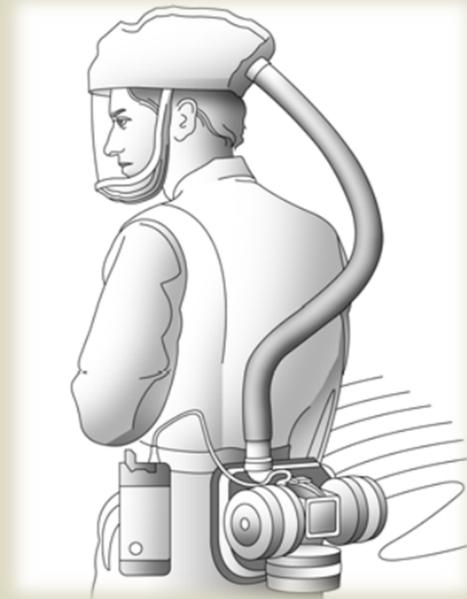
This respirator medical clearance is valid for 12 months from the date of this report.

This determination made by:



Dr. Douglas S. Campbell, MD, MPH
Occupational Health Physician
The EI Group, Inc.

A fit test is required for each type of respirator used unless respirator is loose fitting



Fit Test Providers

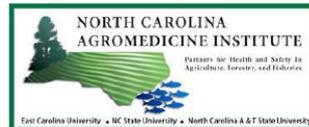
- Occupational health company (may have mobile services)
- Occupational health clinic associated with a hospital
- Urgent Care
- Industrial Hygienist
- Cooperative Extension agents
- Health & Safety professionals
- Individuals

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PROVIDERS OF MEDICAL CLEARANCE &/or RESPIRATOR FIT TESTING

Check with the NC Agromedicine Institute to learn more about medical clearance, respirator fit testing and/or selection, use and care of respirators.

Phone: 252.744.1008 OR CLIFFT@ECU.EDU



*denotes organizations that provide services outside their area code

IN 919 AREA CODE

Concentra Medical Care

4909 Green Road
Raleigh, NC 27616
Phone: (919)790-0288
Hours: 7:30A-6P M-F
Walk-ins welcome
Bring respirator.
Prices: Medical Clearance: \$37.50, In-depth \$74.50; Spirometry: \$56.50
Fit Testing: \$50.00-\$60.00
Spanish Language Assistance: Phone translation service

Concentra Medical Care

4104 Sures Court Suite 11
Durham, NC 27703
Phone: (919) 941-1911
Hours: 7:30A-6P M-F
Walk-ins welcome
Please arrive at least 30 minutes prior to closing; bring respirator.
Prices: Medical Clearance: \$37.50, In-depth \$74.50; Spirometry: \$56.50
Fit Testing: \$55.00
Spanish Language Assistance: Phone translation service



Growers can decide to use one type of face mask and do one fit test or use multiple filtering facepieces &/or face masks and do multiple fit tests



Fit test records
may not all look
the same

CERTIFICATE OF FIT TESTING

THIS IS TO CERTIFY THAT: **JOHN DOE**

In accordance with 29CFR1910.134, Respiratory Protection has successfully completed qualitative fit testing and instructed in the use, limitations and maintenance with the following respirator:

Make: 3M Model: 6300 Size: LARGE

Date: 04-20-2016 Expires: 04-20-2017

Technician:  _____

Henderson & Associates, Inc.

RESPIRATOR FIT TEST RECORD

Company: _____

Address: _____

City: _____

State: _____ Zip: _____ Tel: _____

Date: _____

Fit testing conducted in compliance with OSHA Standard 1910.134(F).

If other local, state or federal regulations apply (such as MSHA), you may list them here:

Name of Fit Tester: _____

Signature: _____

Type of OSHA accepted fit test protocol used: (Qualitative): _____ Saccharin _____ Bitrex™ _____ Isoamyl Acetate _____ Irritant Smoke

(Quantitative): Portacount Model _____ Occupational Health Dynamic Model #: _____

Name (please print)	Signature	Date of Medical Clearance	Respirator Fit Tested (Make, Model, Style, Size) (Ex. 3M 6800, full-face, medium)	Fit Test		Could not be fit tested due to:
		Cleared with limitations (indicate Y=yes or N – no)		Pass	Fail	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	

Comments: _____

Quantitative Fit Test Record

07/05/2015

LAST NAME
FIRST NAME

FIT TEST REPORT

ID NUMBER
LAST NAME
FIRST NAME
COMPANY
LOCATION

TEST DATE 07/05/2015 02:41:44
DUE DATE 08/05/2016

PORTACOUNT S/N
N95 COMPANION

RESPIRATOR 3M 6900 FULL FACE (500)
MANUFACTURER 3M
MODEL 6900
MASK STYLE FULL FACE
MASK SIZE L

PROTOCOL OSHA 29CFR1910.134
PASS LEVEL 500

APPROVAL
EFFICIENCY<99 False

<u>EXERCISE</u>	<u>DURATION</u>	<u>FIT FACTOR</u>	<u>PASS</u>
NORMAL BREATHING	60	10783	Y
DEEP BREATHING	60	4769	Y
HEAD SIDE TO SIDE	60	15057	Y
HEAD UP AND DOWN	60	20994	Y
TALKING	60	19935	Y
GRIMACE	35	Excl.	
BENDING OVER	60	20247	Y
NORMAL BREATHING	60	24603	Y
OVERALL FF		12575	Y

FITTEST OPERATOR _____

DATE _____

NAME _____

DATE _____



Training must be conducted in the handlers' native language



Training must include...

- Why respirator is necessary and how improper fit, usage or maintenance can compromise the protective fit of the respirator
- Limitations and capabilities of respirator
- How to use respirator effectively in emergency situations, including situations in which respirator malfunctions
- How to inspect, put on and remove, use and check the seals of the respirator
- Procedures for maintenance and storage
- How to recognize medical signs and symptoms that may limit or prevent effective use of respirator

Farm: **Respirator Training**

Date:

Training Agenda:

- Why respirator is necessary and how improper fit, usage or maintenance can compromise the protective fit of the respirator
- Limitations and capabilities of respirator
- How to use respirator effectively in emergency situations, including situations in which respirator malfunctions
- How to inspect, put on and remove, use and check the seals of the respirator
- Procedures for maintenance and storage
- How to recognize medical signs and symptoms that may limit or prevent effective use of respirator

Skills Check

Employee	Inspects respirator (v)		Puts respirator on correctly (v)		Conducts positive seal check (v)		Conducts negative seal check (v)		Demonstrates how to clean & store respirator(v)	
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail

Employee Signature

Primary Language (v)

Handouts/Videos Used (if applicable)

English Spanish

English Spanish

English Spanish

English Spanish

Date of Training:

Trainer Signature(s):

Training conducted in: English Spanish

Step 4

Ask about respirator procedures when applying chemicals with an enclosed cab tractor





Enclosed cabs (170.607(e))



Final rule requirements for enclosed cabs:

- Handlers in enclosed cabs may substitute a long-sleeved shirt, long pants, shoes and socks for the labeling-specified PPE for skin and eye protection
- If any type of respirator is required by the pesticide labeling for applicators, other than a particulate filtering respirator (NIOSH approval number prefix TC-84A), the handler must wear the respirator inside the enclosed cab during handling activities

Step 5

Ask for filtering face piece and/or cartridge change procedures





Respirator Change-Out Schedule: 170.507(d) Worker Protection Standard

Replace particulate filtering facepiece respirators:

- When breathing resistance becomes excessive;
- When the filter element has damage or tears;
- According to manufacturer's recommendations or product labeling (more frequent); or
- At the end of **8 hours of cumulative use**.
 - Current: end of each day's work period



Respirator Change-Out Schedule: 170.507(d) Worker Protection Standard 1099

Replace gas- or vapor-removing canisters and cartridges:

- At the first indication of odor, taste, or irritation;
- **When maximum use time is reached as determined by 29 CFR 1910.134(d)(3)(iii)(B)(2);**
- **When breathing resistance becomes excessive;**
- According to manufacturer's recommendations or product labeling (more frequent); or
- At the end of **8 hours of cumulative use**

Step 6

Ask about respirator cleaning & storage procedures





It takes more than a wipe to thoroughly clean a respirator. Use OSHA guidance or manufacturer's recommendations



STEP 1

Gather supplies:

- 5 gallon bucket
- Soft bristle brush
- Mild detergent
- 1 Gallon of water
- ¼ tsp of bleach (ex. ½ tsp + ¼ tsp = ¾ tsp)



STEP 3

Disassemble facepiece: Remove speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.



STEP 2

Remove filters, cartridges, or canisters and put aside in plastic bag. These are not washed.



STEP 4

- Wash components in warm 110F/43C water with a mild detergent or with a cleaner recommended by the manufacturer.
- Use a soft bristle brush to remove dirt.

STEP 6

Make bleach dilution-3/4 tsp bleach, 1 gallon water. Immerse respirator in bleach solution or other manufacturer approved disinfecting solution for 2 minutes.



STEP 5

Rinse components thoroughly in clean, warm 110F/43C, preferably running water. Drain.



STEP 7

Rinse components thoroughly in clean, warm 110F/43C, preferably running water. Drain. **The importance of thorough rinsing cannot be overemphasized.**



STEP 8

Components should be hand-dried with a clean lint-free cloth or air-dried.



STEP 9

Reassemble facepiece, replacing filters, cartridges, and canisters where necessary. Store in separate bags. Do not store in extreme heat or direct sunlight.



STEP 10

Reassemble the respirator and test to make sure it is working properly.



Step 7

Verify that the respirators needed for the chemicals in use are on premise and that they match the type of respirators that handlers have been medically cleared, fit tested and trained for



Storage

- Clean respirators are stored according to manufacturer's instructions and so as not to be contaminated.
- Cartridges are stored separately so as not to contaminate clean respirators





Observe respirator
and cartridge
storage; check
condition of
respirators &
cartridges

Step 8

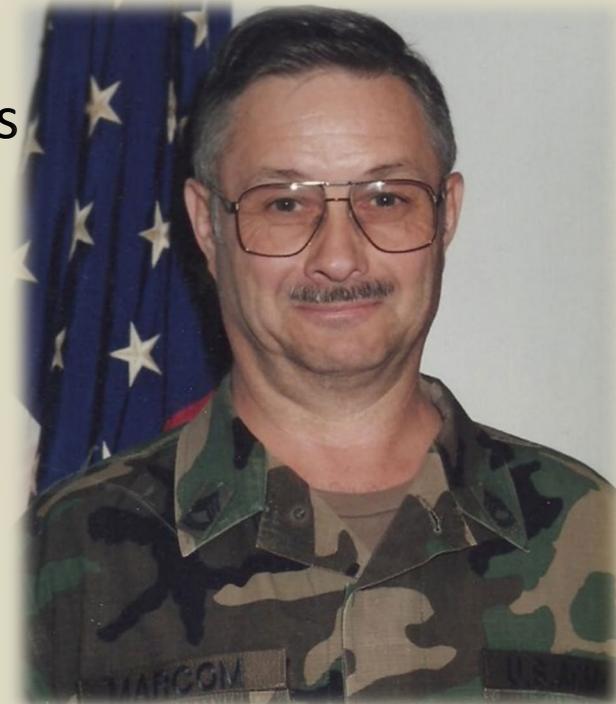
Ask handlers for knowledge and demonstration; observe carefully!





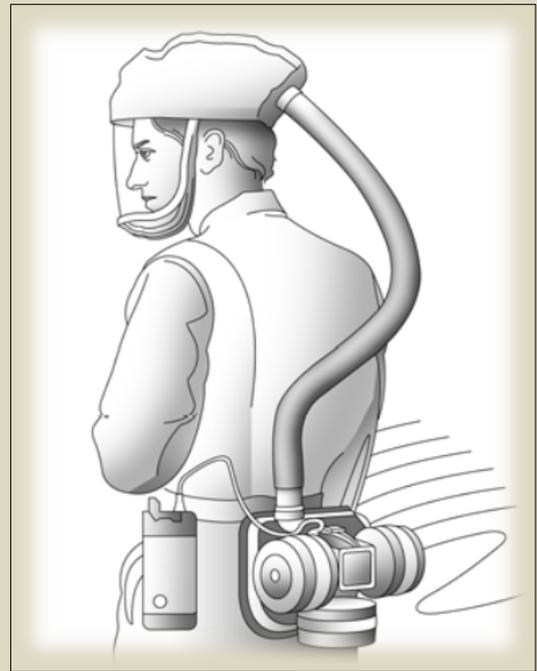
Conformity Assessment Interpretation Notice August, 2018

When a respirator is required, an employer is prohibited from allowing respirators with tight-fitting facepieces to be worn by employees who have “facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function. Facial hair is allowed as long as it does not protrude through the respirator seal, or extend far enough to interfere with the device’s valve function.





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For more information...

<http://www.ncagromedicine.org/program-respiratory.php>



Robin Tutor Marcom, EdD, MPH

Director

252.744.1008

tutorr@ecu.edu