

# NORTON COMPANY

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TO: Users Of Air-Purifying Respirators In Asbestos Environments

FROM: John C. Gillespie, Product Manager

SUBJECT: Use of Non-Powered Air-Purifying Respirators in Asbestos Environments

During the past twenty years, few substances have generated as much controversy as asbestos. It is known now that inhalation of asbestos fibers may result in potentially fatal fibrosis diseases such as pneumoconiosis and asbestosis, or potentially fatal cancers such as mesothelioma and lung cancer.

Medical evidence indicates that the fibrosis-type diseases result from inhalation of significant quantities of asbestos fibers. More recent evidence indicates that mesothelioma and lung cancer may result from inhalation of only minute quantities of asbestos fibers. It appears also that smoking increases these risks substantially.

Some experts feel that there is no level below which exposure to asbestos would be safe. Considering this, in the latter part of 1980 NIOSH raised questions about the use of air-purifying respirators by workers in asbestos environments. As you know, NIOSH has approved a wide variety of air-purifying respirators for protection against asbestos fibers; and, to limit exposure to a maximum of two fibers per cubic centimeter, OSHA permits use of approved non-powered air-purifying respirators when the eight-hour time weighted average (TWA) airborne concentration of asbestos fiber is less than 20 fibers per cubic centimeter.

However, because the NIOSH test procedures utilize silica dust, silica mist, and test media other than asbestos fibers, NIOSH is questioning whether its approval tests effectively predict the performance of respirators for protection against asbestos. Furthermore, the NIOSH tests only deal with the performance of the filtering material and do not take into account the effects of leakage due to poor fit.

Although studies are underway to resolve these questions, Norton feels that respirator users and their employers should be aware that no non-powered air-purifying respirator totally eliminates asbestos fibers from the breathing zone, so that even with the best respirators, some asbestos fibers will be inhaled. To obtain the greatest degree of protection where the TWA concentration is less than 20 fibers per cubic centimeter, Norton recommends the use of an elastomeric half-masks or full-facepiece respirator

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properly fitted as required by OSHA and specified in the ANSI Z88.2-1980 Standard.

It must be noted that, while questioning the effectiveness of air-purifying respirators for protection against asbestos, NIOSH has not revoked any of its respirator approvals, nor has OSHA sought to modify its standards for exposure or respirator use. Therefore, since the Norton 7170 and 7406L respirators, and 7500-6 filters meet or exceed NIOSH approval and performance requirements for protection against asbestos, their use for that purpose complies with OSHA's requirements. However, Norton believes that these respirators do not provide the best protection against asbestos available from air-purifying respirators and therefore, no longer recommends them for asbestos applications.

To implement its recommendations, Norton is taking the following actions, effective immediately:

1. All Norton non-high-efficiency respirators and filters certified by NIOSH for asbestos will be shipped with warning notices or labels which advise that these products are not recommended for respiratory protection in an asbestos environment, together with a recommendation that Norton 7580 or 7680 respirators be used instead.
2. All Norton high-efficiency respirators in the 7580 and 7680 Series and high-efficiency filters 7500-8, -81, -82, -83, and -84 will be shipped with a warning label advising that:
  - (1) Mesothelioma and lung cancer may result from breathing even small quantities of asbestos fibers, and that smoking may increase this risk substantially;
  - (ii) No non-powered air-purifying respirator totally removes asbestos fibers from the breathing zone; and
  - (iii) Respirators having elastomeric facepieces and high-efficiency filters (such as Norton's 7580 and 7680 respirators), properly fitted as required by OSHA and specified in ANSI Standard Z88.2-1980, provide the best protection against asbestos available from non-powered air-purifying respirators at concentrations where they are permitted for use.

We reiterate that, while you are technically in full compliance with present OSHA Standards if you continue to use the Norton 7170 and 7406L respirators or the 7500-6 filters under the use conditions specified in current OSHA standards, Norton recommends against this practice and recommends that you switch to the Norton respirators in the 7580 and 7680 Series.

If you have any questions, please contact a Norton Product Manager for Respiratory Protection.

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