

Personal Protective Equipment

is exhausted, the user will usually know by odor, taste, or irritation of eye, nose, or throat, and should immediately return to fresh air.

If the canister is used up, it should not be left attached, but removed, and a new one should be selected and fastened in place. When a respirator is worn in a gas or vapor that has little or no warning properties, like carbon monoxide, it is recommended that a fresh canister be used each time a man enters the toxic atmosphere.

Gas masks that offer respiratory protection against carbon monoxide must have an indicator or timer which shows when the canister should be changed for protection against that gas. This is needed because water vapor renders useless the chemical (used for carbon monoxide removal), whether or not carbon monoxide is present. Be especially careful when using nonwindow-type canisters. Bureau of Mines tests on non-window-type canisters that had been unsealed for some time showed they had lost their ability to remove carbon monoxide, even though the inhalation resistance of most canisters was the same as for fresh canisters.

Canisters are usually supplied with seals to prevent air from entering them until they are to be used. These seals should be removed when the canister is installed in the mask.

Storage Although a year is usually given as the maximum effective life of a canister, it is possible for an unused canister to deteriorate in less than a year to the point where it becomes unusable. Canisters should be replaced, therefore, not less than one year after the date when the seal is initially removed. Canisters stored with seals intact should be replaced on or before the recommended "use before" date stamped on each canister.

A suggested safe storage life for nonwindow-indicator universal masks canisters stored in a dry place is 5 years, even sealed canisters take up some moisture during storage.

Bureau of Mines tests show that a sealed canister loses much of its effectiveness against carbon monoxide after it has gained 45 grams (16 oz) in weight. It is recommended, therefore, that sealed canisters (except the window indicator types) be weighed as soon as received from the manufacturer. This weight should be marked in-



FIG 38-24 — Single cartridge chemical respirator. Twin-cartridge units are also available and give longer life and less breathing resistance.

delibly on each canister. Stored canisters should be reweighed from time to time—when the weight increases 45 grams, discard the canister even though the seal remains unbroken.

If a universal type N canister having an indicating window is used for protection against carbon monoxide, it should be discarded as soon as the color change in the window indicates that the canister will no longer convert carbon monoxide to carbon dioxide.

A card should be set up for each mask to indicate the date of the latest inspection and replacement of the canister, and the amount of use which the canister has had. If the mask is for emergencies only, it is wise to replace the canister after each use.

Gas masks should be kept easily available for emergencies. For instance, in an ice plant anticipating an ammonia leak, the mask should be placed just inside or outside one of the exit doors so that it can be reached quickly without disabling exposure to the gas. It