Industrial gas masks often feature detachable filter

A gas mask is a mask put on over the face to protect the wearer from inhaling "airborne pollutants" and toxic gases. The mask forms a sealed cover over the nose and mouth, but may also cover the eyes and other vulnerable soft tissues of the face. Some gas masks are also respirators, though the word gas mask is often used to refer to military equipment (e.g. Field Protective Mask, etc.) (The user of the gas mask is not protected from gas that the skin can absorb.)

The most common use of gas masks is as part of industrial PPE supplies. Industrial Hygienists will evaluate a site or industrial process and may recommend specific types of respiratory protection. This protection may include simple particle-blocking face masks, respirators (half-masks covering the nose and mouth only) with filters, full-face gas masks or even self-contained or externally supplied air and mask systems.

Unlike military applications where the threat is not clearly defined, industrial PPE is tailored for a specific environment. As a result, industrial PPE may use both particle and fume filters and include neutralizing compounds to make them more effective or last longer. Color-coded replaceable filters are common for industrial use and identify whether the filter is to be used in acid environments, fine-particle environments or other cases.

Survivalist Uses for Gas Masks

Many survivalist catalogs and and suppliers offer gas masks as part of their inventory. These are most often military surplus items. These gas masks are offered for use by civilians against the event of a terrorist attack.

Fashion Uses of Gas Masks

Some patrons use gas masks as part of a fashion statement.

Due to the smoky environment (cigarette smoke and chemical smoke) of many dance clubs, patrons with smoke allergies are often forced to use gas masks. These are often simple particulate filters, but may include neutralizing filters as well. Basic industrial respirators are produced in designer colors and decorated with Gothic or other symbols to turn PPE into a fashion accessory.

Law Enforcement Uses of Gas Masks

Police departments issue gas masks for S.W.A.T., riot and other special uses.

Police units using tear gas or other irritants will use gas masks to protect themselves against the effects of their gas. This includes Special Weapons and Tactics (SWAT) teams and riot police.

In an era of terrorist attacks on the homeland, many police departments (NYPD and others) issue military-grade gas masks as part of their response plans regarding chemical or biological terror attacks against cities. As with military gas masks, these filters are general-purpose since the specific threat is unknown.

What are Gas Masks Used For?

Gas masks are face-fitted Personal Protective Equipment (PPE) designed to protect the mouth and nose (some include eye protection) from hazardous fumes and particles.

The mask is held in place over the mouth and nose, or the entire face. Any air drawn into the mask by the wearer's breathing must first pass through the filter.

Military Uses for Gas Masks

Gas masks are part of the modern soldier's battle kit.

Although the use of poison gas in military operations is forbidden by international law, modern armies must be prepared for the use of those gases by enemy armies or terrorists. As a result, most modern armies issue full-face gas masks to both combat and support troops.

Donning a gas mask will protect the soldier's eyes, nose and mouth from poison gas, irritating particles and many other biological agents. While wearing the gas mask, the soldier's combat efficiency will be reduced, but he will not become a casualty from direct contact. In some tactical situations, forcing enemy troops to operate less effectively while using gas masks is considered a goal in itself.

Most armies have special decontamination companies. These troops are trained to detect and decontaminate soldiers, civilians and equipment in the event that chemical and some biological weapons are used.

As a deterrent to enemy forces using poison gas, modern armies keep a retaliatory capability available. The first side to use chemical weapons will be flagged as being the initiator and can expect to be attacked by similar weapons, losing any long-term advantage.

Industrial Uses for Gas Masks

Safety of old gas masks

Gas masks have a limited useful lifespan that is related to the absorbent capacity of the filter. Once the filter has been saturated with hazardous chemicals, it ceases to provide protection and the user may be injured. Most gas masks use sealing caps over the air intake to prevent the filter from degrading before use, but the protective abilities also degrade as the filter ages or if it is exposed to moisture and heat. Very old unused gas mask filters from World War II may not be effective at all in protecting the user, and can potentially cause harm to the user due to long-term changes in the filter chemical composition.

Many scare stories have originated from various Russian gas masks and their filters that are now common in surplus stores; the GP-5 was often considered to have an asbestos filter, however like most cold-war masks it only contains activated charcoal.

Modern gas masks are quite safe and do not use asbestos, but it is still important to be careful when using a modern gas mask. Typically masks using 40mm connections are more recent design. Rubber also degrades with time so new in box "Modern type" masks can be cracked and leak.