The Avon GPCF50 Filter is a CBRN filter canister designed to meet the relevant criteria specified in the NATO Triptych for protection against chemical and biological warfare agents in aerosol, liquid and vapour form, and NIOSH 42 CFR84 for effectiveness in the removal of riot control agents in aerosol form.

The canister also provides protection against a range of toxic industrial chemicals, and exceeds the capacity requirements of A1B1E1 in European standard EN14387:2004.

The Avon GPCF50 Filter has a unique conformal shape providing a low profile close fit with the mask.

When combined with an appropriate chemical protective mask, the GPCF50 filter canister protects the face, eyes and gastro-intestinal tract of the wearer against chemical and biological agents in aerosol, liquid and vapour form including:

### EFFECTIVENESS

#### Against Chemical and Biological Agents

The canister will meet the efficiency and adsorption capacity for CW agents as specified by NATO in A/C 225 (panel VII) D/103 (para IV.6-11).

Whilst the actual performance data achieved is classified, the following data gives a good indication of its performance against the classical test agents.

<table>
<thead>
<tr>
<th>Threat</th>
<th>Protection Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nerve Agent</td>
<td>&gt;175 mins</td>
</tr>
<tr>
<td>Hydrogen Cyanide</td>
<td>&gt;40 mins</td>
</tr>
<tr>
<td>Cyanogen Chloride</td>
<td>&gt;20 mins</td>
</tr>
</tbody>
</table>

The filter canister protection against particulate aerosols in accordance with NATO A/C 225 (Panel VII) D/103 para IV.4, using a salt aerosol method will be less than 1 in 10⁵ for the particulate filter, and typically as low as 1 in 10⁶ (the canister is designed to achieve not greater than 0.003% penetration of dioctylphthalate aerosol when challenged at 85 l/min airflow rate).

The performance of the canister is, of course, dependent upon the actual concentration encountered. However, the GPCF50 will, in a typical NBC scenario, give a multi attack capability.

Protection against riot control agents exceeds US NIOSH 42 CFR84 requirements for CS and CN.

Protection against certain Toxic Industrial Chemicals (TICs) is also provided, including organic vapours with a boiling point over 65°C, chlorine, hydrogen sulphide, sulphur dioxide, and low level ammonia protection.

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**SUMMARY DATA SHEET**

**AVON GPCF50 CBRN FILTER CANISTER**

**AVON PART NUMBER: 72601/70/2 (PACK OF 4)**

**ISSUE DATE: JULY 2010**

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**G** Series

**“G” Series**

**“V” Series**

**Any thickened form of agent**

**a. Nerve Agents**

**b. Blister Agents**

**Mustard**

**Lewisite**

**Any thickened form of agent**

**c. Blood Agents**

**Hydrogen Cyanide**

**Cyanogen Chloride**

**Chloropicrin**

**d. Riot Control Agents**

**CS**

**CN**

**OC (Pepper Spray)**

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DESCRIPTION

Construction materials
a) The canister body is made of Noryl, a polyphenyloxide co-polymer, which is a high quality engineering construction polymer. It provides a very robust product which is extremely durable against shock and impact in operational use. The canister body is black in colour.
b) Gas adsorption is by activated charcoal granules impregnated with metallic salts of copper, zinc molybdenum and silver to react chemically with hydrogen cyanide and cyanogen chloride. Protection against physically adsorbed gases such as the nerve agents (“G” and “V” series), mustard gases, phosgene and chloropicrin is fully effective (see overleaf).
c) The high efficiency filter element is made of PTFE, PET/PE fibres.
d) The GPCF50 is entirely non-ferrous and non-magnetic.

Specification
Dimensions: 113 mm diameter x 58mm height
Weight: <280 g
Thread: 40 mm to NATO STANAG 4155 and EN148-1

PACKAGING
Each canister is packed to MIL-B131H Type 1 Class 1 in a foil bag. The filter is packed into boxes containing 4 filters.

ADDITIONAL OPERATIONAL CONSIDERATIONS
The external surface of the GPCF50 is easily decontaminated. The filter canister can be changed under all operational conditions in 9 seconds.

PERFORMANCE
Breathing resistance
45mm of water @ 85 l/min

Environmental
The materials used and the method of construction of the filter canister were designed for operation and storage in accordance with NATO Document AC 225 (panel VII)/D103. The filter canister retains its operational effectiveness and efficiency with no degradation to its performance under the following environmental conditions:
a) Temperature –15°C to 55°C
   Tested in a wide range of environmental conditions by military forces. The filters have been exposed to high ambient temperatures as part of a long running materials evaluation programme, without harmful effects.
b) Humidity range – 0% to 95% RH
   The filter has been tested in high humidity environments and has found to be effective both in the laboratory and on human subjects under operational conditions.
c) Rain
   The filter will retain its effectiveness in heavy rainfall conditions and it is not prone to water ingress.
d) Salt Breeze
   The filter will not deteriorate with exposure to salt breezes for 24 hours.
e) Sand and Dust
   The filter will not deteriorate when exposed to 24 hours of wind driven sand and dust conditions.

Shelf life
The predicted shelf life of the filter canister (sealed and packaged) is 5 years.

The export of the commodities described herein may be subject to U.S export laws and regulations including but not limited to the Arms Export Control Act or the Export Administration Act.