# Mortuaries
## Product Selector

## Background

The risk of infection is a serious issue for all workers in mortuary and post-mortem rooms as well as staff involved in the collection, transportation and processing of pathological samples. There are a number of situations specific to mortuaries and workers involved in dealing with human remains where they could potentially be exposed to hazards which require the use of protection.

## Legislative Overview

A need to comply with health and safety legislation coupled with an increase in antibiotic resistant micro-organisms and infectious diseases such as tuberculosis, has created the need to better protect workers in mortuaries and those involved in dealing with human remains. The employer is duty bound by law to take all reasonable steps to safeguard the employee from the risk of exposure to potentially harmful substances in the workplace. Likewise, the employee is duty bound to co-operate with the employer towards the common objective of reducing the risk of exposure to harmful substances by whatever suitable control methods are implemented, for example, correctly wearing Personal Protective Equipment (PPE).

Less than 1% of UK deaths are linked with a known or suspected infection, and fewer still relate to known Blood Borne Virus (BBV) infection (HPA data – 2006). Safety measures, however, are always crucial for those handling cadavers and other human remains, mainly when one considers that 70% of these will be treated with some level of embalming, which involves the embalmer handling the cadaver. Some BBVs are known to survive for weeks within body fluids, and since final burial of the body is usually just 7-10 days after death, then a BBV exposure risk does exist for such workers. This is particularly so where body fluids are present outside of the cadaver, as would be the case for those performing invasive post-mortem procedures, managing trauma fatalities or preparing cadavers for burial. The exposure hazard is further increased by the required use of sharp equipments during such procedures.[1]

## HSE suggests the steps to evaluate risks are:

### Identify the hazard

Apart from hazards posed by biological agents* in mortuaries there may also be a need to control levels of formaldehyde (formaldehyde is a Category 3 carcinogen).

### Assess the risks

**Work out the following:**

- Who is or could be exposed
- How likely is it that they will be exposed
- Take steps to control the risk

### Control the risk

The COSHH regulations stipulate a hierarchy of control approach i.e. to prevent exposure first. If prevention cannot be achieved by reasonably practicable measures then controls have to be considered.

HSE has composed publicly available documents detailing control measures. PPE is the last resort and if required the following sections are designed as a guide. [2,3]

*COSHH defines a biological agent as "any micro-organism, parasite, microscopic infectious form or larger parasite, cell culture or human endoparasite, including any which have been genetically modified, which may cause any infection, allergy, toxicity or otherwise create a hazard to human health."

[1] HSE - Appendix 3, sector specific practical guidance
[2] HSE - Safe working and prevention of infection in the mortuary and post-mortem room
[3] HSE - Controlling the risks of infection at work from human remains

3M

# Respiratory Protective Equipment (RPE)

## Respiratory Protection Equipment Selection Guide*

| Hazard | 3M™ 1863 Respirator | 3M™ 1873V, 8835, 8833 Respirators | 3M™ 7500 Series Half Mask + 6075 Filters | 3M™ 7500 Series Half Mask + 6059 Filters | 3M™ 7500 Series Half Mask + 6035 Filters | 3M™ Jupiter™+ P3 Filters** | 3M™ Jupiter™+ A2BEK1P Filters** | 3M™ Eye Protection |
|---|---|---|---|---|---|---|---|---|
| Particulate- Micro-organisms inhalation | ✔ | ✔ | | | ✔ | | ✔ | ✔ |
| Organic vapours etc- Formaldehyde | | | ✔ | | | | ✔ | ✔ |
| Particulate- Biological waste inhalation | | | | | ✔ | ✔ | ✔ | ✔ |
| Laboratory-Inorganic, acid gases and ammonia | ✔ | ✔ | | ✔ | | | ✔ | |

* This guide is only an outline. It is designed to help focus on the most appropriate products in the 3M range for various applications and hazards. It should not be used as the only means of selecting products. Details regarding performance and limitations are set out on packaging and fact sheets.
**Powered Air Respirator

# Disposable respirators

Guidance suggests the use of FFP3 respirators as they are the highest performance class of disposable respirator, offering an Assigned Protection Factor of 20. 3M offers a range of FFP3 disposable respirators as detailed below.

Disposable respirators offer a convenient choice, with no maintenance or decontamination factors to consider.

**3M™ 1873V Respirator**
EN149:2001 FFP3
- Foldable valved

**3M™ 8833H Respirator**
EN149:2001 FFP3
- Cup Shape valved
- Soft face seal

**3M™ 1863 Respirator**
EN149:2001 FFP3
- Foldable unvalved

**3M™ 8835H Respirator**
EN149:2001 FFP3
- Soft face seal valved

# Reusable Half Masks

Alternatively, a reusable half mask respirator fitted with P3R filters (e.g. 3M™ 7500 Series Reusable Half Mask Respirator fitted with 3M™ 6035 P3R Encapsulated Filters) provide the same level of protection as FFP3 disposable respirators i.e. an Assigned Protection Factor of 20. This product can have a combination of a number of benefits over traditional disposable respirators such as reduced product costs, reduced storage costs and reduced fit testing resources. This option is for particulate protection only. This is a reusable product so decontamination procedures will be required.

Other filter combinations which provide protection against gas and vapour are also available that can be fitted on 3M™ 7500 Series Half Masks. EN141, the European standard for gas filters, classifies gases and vapours into groups, each of which are designated a standard colour coding. There are coloured bands on 3M™ 6000 Series Filters using this coding to denote the nature of the protection that each product provides.

The most commonly used gas/vapour filter in mortuaries is the 3M™ 6075 Filters as this combines A1 (Class 1 organic) protection with specific protection against formaldehyde (up to 10ppm). If particulate protection is also required (dust/ biological agents) an additional particulate filter can be added. (3M™ 5935 Filter + 3M™ 501 Retainer)

**3M™ 7500 + 6035 P3R filters**
- Twin side mounted filters give balanced feel and improved field of vision
- Filter media protected by plastic case
- Same assigned protection factor (APF) as FFP3 respirators i.e. 20

| 3M™ 6000 Series Filter Range | | | | | |
|---|---|---|---|---|---|
| Product Code | A1* | A2* | B1* | E1* | K1* |
| 3M™ 6059 Filter | X | | X | X | X |
| 3M™ 6075 Filter | X | +Formaldehyde | | | |

- Lightweight for optimal weight distribution
- Unique low profile trapezoidal shape gives unobstructed field of vision

*1 or 2 - 1 after the letter denotes Class 1
- 2 after the letter denotes Class 2
Class 2 has higher gas capacity than Class 1

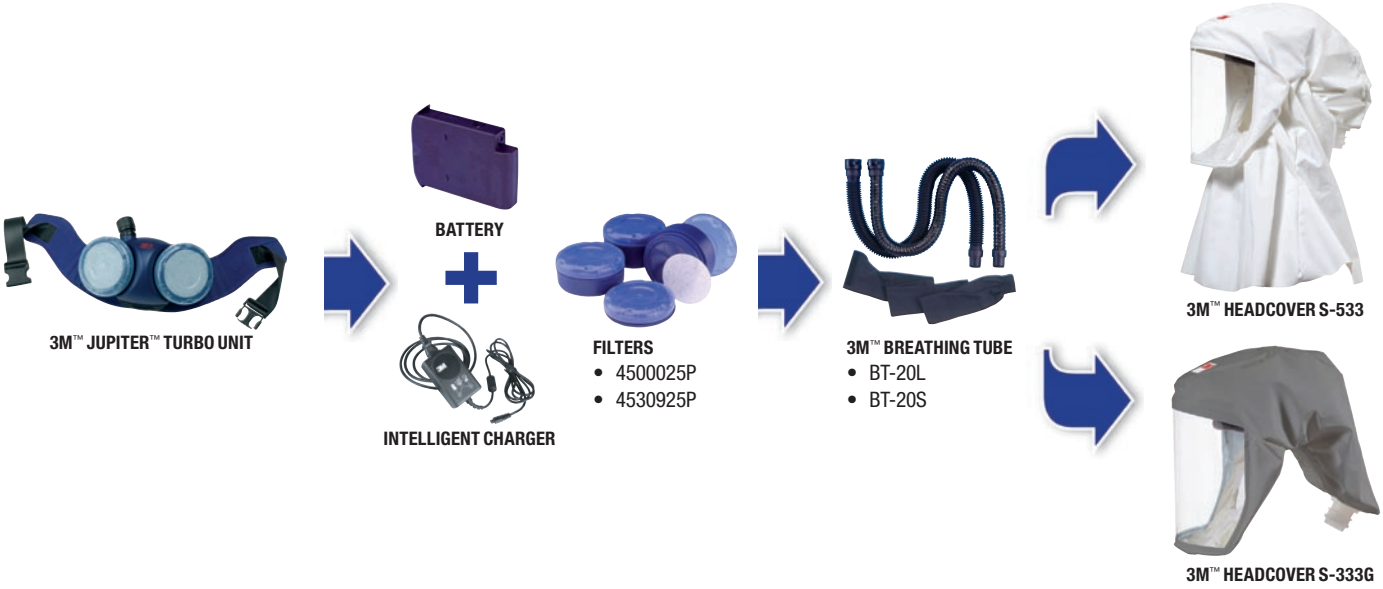
**A** - Organic Vapours (boiling point >65°C). Examples of these include xylene and toluene
**B** - Inorganic Vapours. Examples of these include chlorine and bromine
**E** - Acid gases. Examples of these include sulphuric acid
**K** - Ammonia and its derivatives.
**AX** - Organic Vapours (boiling point <65°C). Examples of these include acetone and bromoethane

# Powered Air Respirators

The 3M™ Jupiter™ Powered Air Respiratory System is an easy-to-use, versatile, respiratory solution. A choice of headtops is available which attach to the turbo unit via a breathing tube and the complete system can provide an Assigned Protection Factor (APF) of 40. Powered air respiratory protective systems provide a supply of filtered air to the user, thus reducing additional breathing effort and providing a refreshing stream of air over the face. The 3M™ S Series Hoods provides a lightweight, loose fitting headtop. It provides a high level of respiratory protection as well as built-in eye and face protection. Some hoods additionally offer neck and shoulder coverage.

### 6 step process to create a Powered Air Respirator System

**STEP 1** Jupiter Turbo Unit → **STEP 2** Battery → **STEP 3** Charger → **STEP 4** Filters → **STEP 5** Breathing Tube → **STEP 6** Head Top




# Protective Eyewear

3M™ Protective Eyewear provides professional protection and various adjustment options for increased security and comfort. 3M Eye Protection can be used if there is a risk of contamination of the eyes from particulate matter, splashes and droplets e.g. blood or body fluid secretions during invasive procedures. All 3M Eyewear is designed to be easily worn with 3M Respirators and Surgical Masks.

**3M™ 2840 Spectacles**
Lens colour: Clear
Lens material: Polycarbonate

**3M™ Virtua Spectacles**
Lens colour: Clear
Lens material: Polycarbonate

**3M™ 2890S Comfort Safety Goggles**
Lens colour: Clear
Lens material: Polycarbonate

**3M™ 2740 Spectacles**
Lens colour: Clear
Lens material: Polycarbonate

**3M™ Tourgard™ Over Spectacles**
Lens colour: Clear
Lens material: Polycarbonate

# Ordering Information

| 3M Product Code | Description | Product Type | Items per box | Boxes per case | Items per case | NHS Supply Chain (codes in brackets not valid after 1/12/08) | Bunzl Healthcare Code |
|---|---|---|---|---|---|---|---|
| 1863 | Particulate Respirator EN149:2001 FFP3 unvalved | Respirator | 20 | 6 | 120 | BTP006 | MM1863 |
| 1873V | Particulate Respirator EN149:2001 FFP3 valved | Respirator | 10 | 6 | 60 | N/A (BTP011) | MM1873V |
| 8833H | Particulate Respirator EN149:2001 FFP3 valved | Respirator | 8 | 10 | 80 | | MM8833H |
| 8835H | Particulate Respirator EN149:2001 FFP3 valved | Respirator | 5 | 10 | 50 | N/A (BTP051) | MM8835H |
| 7501 | Reusable Half Mask | Small Mask | 10 | 1 | 10 | N/A | MM7501 |
| 7502 | Reusable Half Mask | Medium Mask | 10 | 1 | 10 | N/A | MM7502 |
| 7503 | Reusable Half Mask | Large Mask | 10 | 1 | 10 | N/A | MM7503 |
| 6035 | P3R Encapsulated Filters | Filters | 20 | 4 | 80 | N/A | MM6035 |
| 6059 | ABEK1 Gas & Vapour Filter | Filters | 8 | 8 | 64 | N/A | MM6059 |
| 6075 | Formaldehyde + A1 Gas & Vapour Filter | Filters | 8 | 8 | 64 | N/A | MM6075 |
| 5935 | P3R Paticulate Pre-filter | Filters | 20 | 4 | 80 | N/A | MM5935 |
| 501 | Filter Retainer | Filter Retainer | 2 | 10 | 20 | N/A | MM501 |
| 106 | Respirator Carry Case | Accessory | 1 | 10 | 10 | N/A | MM106 |
| 2740 | Classic Line Spectacles | Eyewear | 20 | 1 | 20 | N/A | MM2740 |
| 2840 | Comfort Line Spectacles | Eyewear | 20 | 1 | 20 | N/A | MM2840 |
| 71500 | Virtua Spectacles | Eyewear | 10 | 10 | 100 | N/A | MM71500 |
| 41176 | Tourgard Clear Over Spectacles | Eyewear | 20 | 5 | 100 | N/A | MM41176 |
| 2890S | Goggles (Polycarbonate) | Eyewear | 10 | 1 | 10 | N/A | MM2890S |

| 3M Product Code | Description | Items per box | Boxes per case | Items per case | Bunzl Healthcare Code |
|---|---|---|---|---|---|
| **STEP 1 - A JUPITER TURBO UNIT** | | | | | |
| 08500010P | Jupiter Turbo (includes comfort belt, calibration tube and airflow indicator tube, battery not included) | 1 | 1 | 1 | MM0850010P |
| **STEP 2 - A BATTERY** | | | | | |
| 0070064P | Jupiter 8 Hour Battery | 1 | 1 | 1 | MM0070064P |
| **STEP 3 - A BATTERY CHARGER** | | | | | |
| 0030058P | Jupiter Intelligent Charger - Single Station | 1 | 1 | 1 | MM0030058P |
| **STEP 4 - A FILTER** | | | | | |
| 4500025P | Jupiter P3 Filters | 1 | 12 | 12 | MM4500025P |
| 4530925P | Jupiter A2BEK1P | 1 | 6 | 6 | MM4530925P |
| **STEP 5 - BREATHING TUBE** | | | | | |
| BT-20L | Breathing Tube for S-Series Hoods and Headcovers, M/L | 1 | 1 | 1 | MMBT-20L |
| BT-20S | Breathing Tube for S-Series Hoods and Headcovers, S/M | 1 | 1 | 1 | MMBT-20S |
| **STEP 6 - HEAD COVER** | | | | | |
| S-333LG | High Durability Headcover with Integrated Head Suspension, Grey, M/L, | 1 | 1 | 1 | MMS-333LG |
| S-533L | High Durability Hood with Integrated Head Suspension and Face Seal, M/L | 1 | 1 | 1 | MMS-533L |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