

3M is an innovative, global science-based company that is focused on developing products that improve people's lives in a multitude of ways. 3M technologies developed can be found all around you. From in your home and office to in hospitals, doctor and dentist offices, your computer, your car and even in your phone, 3M helps people and business in hundreds of ways every day. Our inventions can be found in the roads, trains, and airplanes.

Our company is centered around a culture of innovation. We foster an atmosphere that provides our employees the freedom to create, the responsibility to deliver and the opportunity to connect ideas and technologies in unexpected ways. From concept to creation, we manufacture our products to exacting quality standards, while looking after our people, our communities and our planet.

Founded in 1902, we have a proud history as a company that strives to be ethical and innovative. From science that works behind the scenes in products you use every day and technology embedded in processes that help industries thrive to tangible products we use every day, the science provided by 3M can be found in many aspects of our lives.

We live our motto every day. 3M. Science. Applied to life.

#### **Services**

We believe that with a quality product, it is important that the customer also receives quality services. Not only do we provide different varieties of training and education, but we also have many other tools available to our customers.

#### Fit testing is key

In order to be fully protected, it is essential that PPE fits correctly. We provide fit testing for respirators (and fit testing guidelines online) as well as E-A-Rfit Validation testing for earplugs and earmuffs. We know that everyone is different and in order to get the best protection it is crucial that they know how to correctly fit and wear their personal protective equipment.

#### 3M™ Respiratory Fit Testing System

3M Respiratory Protection offers a wide range of disposable and reusable respirators, as well as Powered and Supplied Air Respiratory Systems. However, even high quality products need a secure fit in order to protect the wearer. One model of respirator may not fit everyone. When choosing a respirator users should be fit tested in accordance with national requirements. For information on fit testing procedures, contact your safety officer or 3M. Even after a user has had a fit test, a fit check should be carried out before each use. A Respiratory Fit Check guide is available on page 23 of this catalogue.



#### 3M™ E-A-Rfit Dual-Ear Validation System

As the leader in hearing protection, 3M offers a complete solution, with dual-ear and earmuff testing capabilities plus a user-friendly interface. The 3M™ E-A-Rfit Dual-Ear Validation System is the fast and easy way to find your employees' PAR, because we know how important it is to make your hearing conservation program fit seamlessly into your operation.

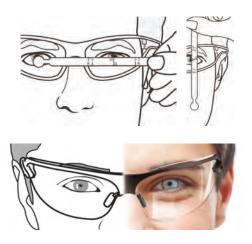
Get results you can trust. The 3M™ E-A-Rfit Dual-Ear Validation System measure the effectiveness of the earplug or earmuff inside the employee's ear providing accurate, quantitative results. Because you can simultaneously test both ears, you have more to focus on education including the importance of fit and protection.



#### 3M™ Eyewear Fit System

When it comes to eyewear, a comfortable, well-fitted workforce is likely to be more effective. Current standards suggest careful consideration should be given to eyewear fit, however there is no specific guidance on how to evaluate eyewear fit on an individual. In view of this, 3M have developed the Eyewear Fit System, a simple 6 step method, designed to help select the best fitting eyewear for an individual.

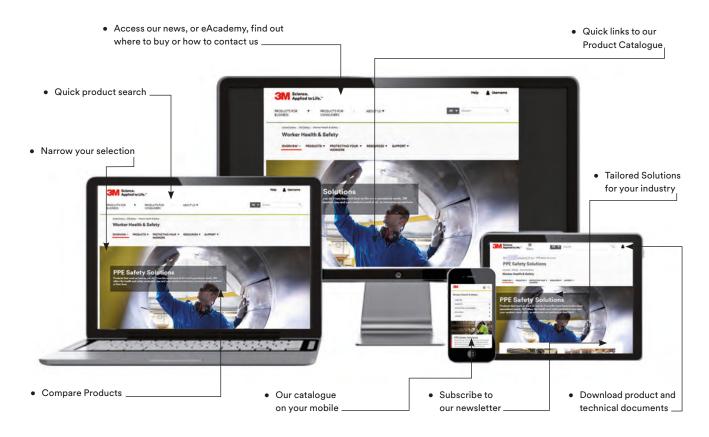
Find out more by contacting your 3M Personal Safety Sales Representative.



#### 3M Online

A selection of downloadable and printable documents are available online, such as selection tools, fit test guides, and guidance on the importance of protection. From our website you will be able to access product information, with market area specifications, to help select the right personal protective equipment for the right environment. You will also be able to discover webinars by experts concerning health and safety in the workplace as well as our own eAcademy.

Everything in one place, on your computer, laptop, tablet or mobile.



#### **3M PPE Safety Solutions**

Subscribe to our channel on YouTube to watch customer testimonials, technical support or product information videos.

Visit www.youtube.com/user/3MPPESafetySolutions

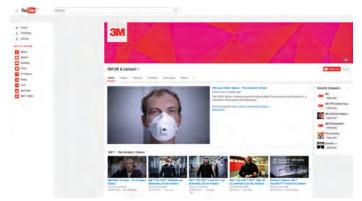
You can also:

Find us on Facebook



or Follow us on Twitter





## **Science of Safety**

3M's new Science of Safety approach can support you with guidance on:



3M delivers consistent quality around the world helping you select the correct PPE for your workers, helping to ensure your workers are educated on the correct use of PPE and raising awareness of how important fit and comfort are to the health and wellbeing of your workforce.

For more information visit www.3M.eu/SoS

# 40% †††††††

## of employees incorrectly select or use PPE

Source: HSE Research Report RR720 'Real world use and performance of hearing protection'



Why partner with 3M for your health and safety?

3M can deliver consistent quality around the world

Our industry-leading approach embraces best practice on a global level





## 3M PPE equipment

industry-leading breadth and depth, helping to optimise protection and fit.



3M can give local support and advice wherever you do business

www.3M.eu/SoS

#3MScienceOfSafety

## **Productivity**

We don't only aim to improve the safety of our customers, we also want to help them keep costs down. Our products are designed to last and to provide more efficient protection, but they can bring efficiencies in other ways.

#### **PELTOR**<sup>™</sup>

As many supervisors know, efficient on-site communication can save a lot of time throughout the duration of a project. Recently, a study by Lund University Faculty of Engineering in Sweden showed that downtime and interruptions were reduced by 19% when two-way radio communication headsets were used. A single construction worker gained 380 minutes of productive time per week.

The study was conducted by Victoria Joang and Aidin Sakikovic, two researchers from Lund's graduate program in civil engineering. They compared two work weeks on one of Skanska's major water main projects in Sweden, analysing similar work activities during each week. In the first week, the workers did not use two-way radios. In the second week, they were equipped with 3M™ PELTOR™ WS™ LiteCom Headsets, which have a built-in two-way radio and a Bluetooth® wireless technology mobile phone connection.

Detailed follow-up interviews showed that the big advantage was being able to quickly relay and receive messages on the job, especially on large construction sites where eye contact is not possible. Improved team spirit was another reported benefit.

## **■** Speedglas<sup>™</sup>

Another example of efficiency can be seen in our Welding portfolio, where, by using a 3M™ Speedglas™ Welding Helmet with auto-darkening filters, companies can save up to 1€ per hour.

We have created a Return on Investment calculator for the welding portfolio, where you can input all your numbers to see how much your company would save by using these auto-darkening filters. From this we have calculated that a company with low salary costs who have previously not used an auto-darkening filter, would be able to save 75 euro cents per hour per worker by using almost any auto-darkening filter. So if they had 100 workers, all wearing an auto-darkening filter, 5 days a week, for 8 hours they would make a weekly company saving of 3000 euros.





# **Body Protection**





## **Protective Apparel**

Differential Permeation. Applied to returning you home safely.

At 3M we have a select and high quality range of CE Certified products from CE simple coveralls to PPE Directive Category III Coveralls, which provide protection against many hazards.

The range of 3M<sup>™</sup> Protective Apparel offers a variety of features, from the use of fabrics with specialist treatments for enhanced wear and added protection, to breathable back panels for increased comfort. Our experts can work closely with you, to help you identify hazards and best protect your workers against them.

#### **Standards**

There are many tests and standards that apply to protective coveralls and selection can be a daunting task. The following section outlines the different options available to help you select the right product for your employees. For more information on how the tests are done, and what they mean practically to you, review the technical bulletins and guides within our 3M protective apparel literature.

#### **Protection Types**

Depending on the materials and construction protective coveralls can be designed for either hazardous applications (certified to CE Category III) or non-hazardous applications (approved as CE Simple Category 1). Products for hazardous applications can be tested and certified to any of six different "Type" standards providing guidance on suitability of use:

Category	Symbol	Protection Type	Standard	3M Products
CE Category III		1 – Gas Tight	EN 943-1	N/A
		2 – Non-gas tight	EN 943-1	N/A
		3 – Liquid Jet Protection	EN 14605 + A1	4570
		4 – Liquid Spray Protection	EN 14605 + A1	4570, 4565
		5 – Hazardous Particulate Protection	EN ISO 13982	4570, 4565, 4545, 4540+, 4575, 4530, 4530, 4530
		6 – Liquid Splash Protection	EN 13034 + A1	- 4535, 4532+, 4530, 4520, 4515, 4510
CE Category I	<b>(€</b>	CE Simple		4500

#### **Additional Standards**

Some 3M™ Protective Coveralls and their materials are approved to additional standards for specialist applications.

Symbol/Standard	Protection Type				
	Protection against micro-organisms or infective agents (EN 14126:2003)				
	Protection against nuclear particles (EN 1073-2:2002)				
4	Anti-static (EN 1149-5:2008)				
ISO 15025 / ISO 14116	Limited Flame Spread Resistance				
$\triangle$	Where added to the above symbols please refer to the appropriate user instructions for further information on the compliance of this product				

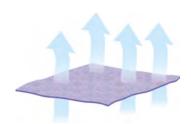


#### **Materials**

The following is a guide that offers a brief description and comparison of the materials used in 3M's protective coverall range. Base materials can be treated, for instance, with an anti-static treatment, to enhance the total protection offered.

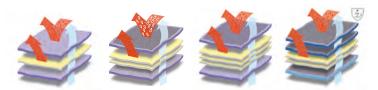
#### Non-woven Polypropylene

Offers comfortable light-duty protection against nonhazardous liquids and dust.



#### Spunbond-Meltblown Polypropylene (SMS)

'SMS' can be layered differently to adjust the protective and physical properties of the material. Standard SMS-material is very breathable and offers a good barrier against dusts and limited liquid splashes. If treated materials can achieve an enhanced level of splash protection, such as the 3M™ Protective Coverall 4532+.



#### **Microporous Laminates**

'Microporous laminates' offer a higher level of liquid splash protection, while the micropores allow for some breathability.



#### **Non-microporous Laminates**

'Non-microporous laminates' can offer an even higher level of liquid protection. Adding multiple layers of the laminate can also increase robustness and chemical holdout.





#### **Design Features**

3M™ Protective Coveralls can offer a variety of features depending on your needs. The illustration below highlights some of the features available:



#### 3M<sup>™</sup> Protective Coverall 4515



#### Low cost hazardous dust protection

The 3M™ Protective Coverall 4515 is an economic solution to protect from hazardous dusts such as asbestos fibres exposed to during site inspection. While protecting on the outside, the breathable material allows air to escape from the inside to reduce heat build-up and discomfort. Available in white, blue and orange, the range is certified to PPE Directive Category III, Type 5/6 protection for both hazardous dusts and liquid splashes.

#### **Typical Applications**

#### Popular Choice

- Asbestos inspection
- Site preparation, insulation
- Construction

#### Suitable for Consideration

- · Cement manufacturing
- Grinding & polishing
- Light industrial cleaning
- Machine maintenance



#### 3M<sup>™</sup> Protective Coverall 4565



Offering CE Category III, Type 4/5/6 protection, the 3M™ Protective Coverall 4565 has an impressive level of liquid barrier protection whilst maintaining its unique soft feel and well-fitting drape. With tape applied over the seams a greater level of total protection and seam durability is offered versus Type 5/6 products.

#### **Typical Applications**

#### Popular Choice

- Asbestos removal
- Pharmaceutical processing
- Handling toxic powders
- Cleanrooms
- · Pesticide spraying

#### Suitable for Consideration

- Asbestos inspection
- Site preparation, insulation
- Cement manufacturing
- Grinding & polishing
- · Industrial cleaning and maintenance
- Painting & coating, resins

#### **Features and Benefits:**

- Excellent barrier against dry particles, liquid certain chemical splash and spray (CE Type 4/5/6)
- Taped seams across the suit for better protection and increased durability
- Soft, well-draping laminated material
- Biological protection tested to EN 14126
- 2-way zipper with fully sealable storm flap for added on-off convenience and extra protection
- 3-panel hood design for enhanced compatability with complimentary PPE
- Knitted cuffs and elasticated waist and ankles for increased comfort and freedom of movement.
- Anti-static treatment to EN 1149 to reduce charge build up
- Super low-linting
- Supplied in space saving vacuum packaging
- Meets inward leakage requirements of EN 1073-2 for protection against nuclear particles

#### CE Type 4:

Testing to Type 4 standards requires the coverall material to be put through additional testing. A whole body suit test is conducted with a higher volume of liquid than the equivalent Type 6 test. More importantly, the material and the seams have permeation tests conducted with a minimum of one chemical to assess whether the chemical/s can get through the material at a molecular level. The construction of the laminate used in the 3M protective coverall 4565 offers a superior performance in this area compared to many other Type 4 products.



#### Colour: White with red taped seams







20% lighter than previous 3M polyethylene laminate materials, the 3M protective coverall 4565 combines a composite base of nonwoven fibres and a polyethylene film giving good barrier efficiency against many hazardous liquids. The laminate is also ultra-low linting and anti-static treated making it suitable for a wide variety of potentially hazardous applications.



red protective tape to offer increased seam strength and an effective barrier to liquids



#### 3M<sup>™</sup> Protective Coverall 4570



The 3M™ Protective Coverall 4570 is a high performance chemical protective suit, certified to PPE Directive Category III, Type 3/4/5/6 levels of protection, making it suitable to protect against a range of chemical jets and sprays. With additional design features including an enlarged zip and finger loops, a double-closing storm flap system and chin flap, convenience of use can be offered without compromising the high level of protection given.

#### **Typical Applications**

#### Popular Choice

- Chemical mixing and handling
- Chemical/oil spills and clean up
- Metal Refining
- Metal Etching
- Hazardous waste remediation
- Decontamination/Site Decommissioning
- Tank cleaning
- Infective agents/Biological Hazards
- Handling Toxic Powders

#### Suitable for Consideration

- Light industrial cleaning
- Machine maintenance
- Pharmaceutical processing
- Handling toxic powders
- Resin applications

#### **Features and Benefits:**

- Excellent barrier for jet spray and liquid tight chemical protection (CE Type 3/4)
- Biological / infective agent protection (EN 14126) to the maximum class
- Seams are taped with a multi layer coextruded clear tape, giving a discreet finish and a consistent seal and barrier
- 3-panel hood design for enhanced compatibility with complimentary PPE
- Two stormflaps combined with double colour coded zips to create a double seal for added convenience and extra protection
- Larger easy grab ring pulls for ease of use
- Elasticated cuffs with thumb loops for secure fit during overhead work
- Elasticated waist and ankles for increased comfort and freedom of movement
- Glued in waist elastic and seam free shoulders to minimise entry points for confidence of wearer
- Adhesive chin flap
- Super low-linting
- Anti-static treatment to EN 1149 to reduce charge build up
- Meets inward leakage requirements of EN 1073-2 for protection against nuclear particles





For technical information and chemical permeation data, please request a Technical Datasheet.















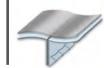
#### Fabric Material

The 3M protective coverall 4570 uses a heavy-duty material blending a soft inner layer of spun bond fibres with layers of a high performance anti-static treated polyethylene laminate, to offer a high level of liquid protection.



#### Seam Technology

Seams are stitched and overtaped with a clear heat applied multi-layer chemically protective tape to offer increased strength and an effective barrier to liquids and particulates.



## **Accessories**

From head to toe, we've got you covered with a full range of add-on options to give your workers the body protection they need.

#### Coats

#### 3M™ Lab Coat 4440

- Made of the same laminated material as the Type 5/6 3M Protective Coverall 4535
- Anti-static treated
- Knitted cuffs
- Zip fastener
- Available in white



#### 3M™ Visitor Coat 4400

- Made of the same material as the 3M Coverall 4500
- 100% soft, breathable and lightweight polypropylene
- Zip fastener
- Internal pocket
- · Available in white



#### **Overboots**

#### 3M™ Overboot 450



Slip Resistant Sole

3M™ Overboot 440



Standard Sole

- Elastic at the calf
- 3M Overboot 440 16inch length with ties for good fit
- 3M Overboot is available in standard 16inch or 11.5inch length, both models with ties
- Made of the same laminated material as the Type 5/6 3M<sup>™</sup> Protective Coverall 4535
- 3M Overboot 450 has a PVC sole to help reduce the risk of slipping
- Laminated material ties to minimise particle shed and contamination in particle restricted environments such as cleanrooms

#### **Overshoes**

#### 3M™ Overshoe 442



- Made of the same laminated material used in the Type 5/6 3M™ Protective Coverall 4535
- Elastic at ankle
- Anti-static treated

#### 3M™ Overshoe 402



- General non-hazardous substance protection
- Sole has printed pattern to help reduce the risk of slipping
- Elastic at ankle

#### **Oversleeves**

#### 3M<sup>™</sup> Oversleeve 444



- Made of the same laminated material as the Type 5/6 3M Protective Coverall 4510
- 16 inch length covering wrist to top of arm
- Elastic finish on top end for secure fit
- Anti-static treated

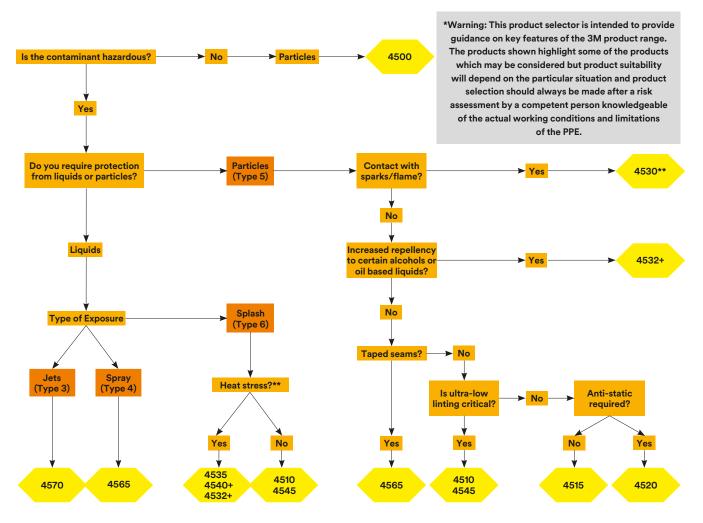
#### **Head Wear**



#### 3M™ Overhood 446

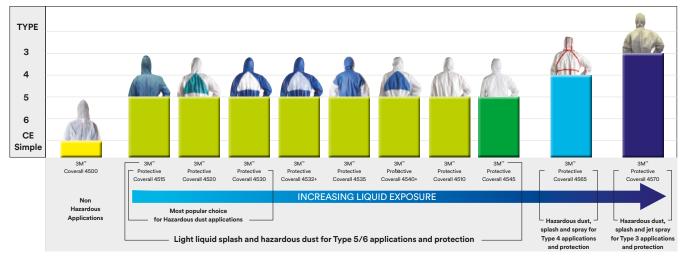
- Made of the same microporous laminated material as the Type 5/6 3M™ Protective Coverall 4510
- Anti-static treated
- Drapes over the shoulders offering excellent coverage

## Product selector diagram\*



 $<sup>{}^{**}</sup> Not \, suitable \, for \, flame \, protection, to \, be \, used \, in \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, and \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, with \, an \, Index \, 2/3 \, garment \, only \, conjunction \, conjun$ 

#### 3M™ Protective Coveralls Protection Types



This guide is only an outline. It should not be used as the only means for selecting protective clothing. Always read and follow all user instructions supplied with your 3M. Protective Coveralls in order to ensure correct operation. Final determination as to the suitability of these products for a particular situation is the employers responsibility. If in doubt contact a safety professional. For further information on the performance data of these garments or for any other questions contact your local 3M representative. LIMITATION OF LIABILITY Except as provided above, 3M shall not be liable or responsible for any loss or damage, whether direct, indirect, incidental, special or consequential arising out of the sale, use or misuse of 3M PSD products, or the user's inability to use such products.

<sup>\*\*\*</sup> For more information on the breathability of the 3M protective coveralls line, see the technical bulletin on breathability and our coveralls RET performance

#### **Product selector table\***

Visit 3M Chemical Test library at http://go.3M.com/CHTL to review the chemical protective properties of the fabrics used in our range and see which 3M™ Protective Apparel solution could best meet your needs.



	A								J		
<b>A</b>	FA AN								No AA	A AM	(A)
3M	<b>4500</b> Category 1	<b>4510</b> Category 3	<b>4515</b> Category 3	<b>4520</b> Category 3	<b>4530</b> Category 3	<b>4532+</b> Category 3	<b>4535</b> Category 3	<b>4540+</b> Category 3	<b>4545</b> Category 3	<b>4565</b> Category 3	4570 Category 3
	C€ C€	Category	Category	Category	Category	Category	Category	Category 3	Category 3	Category 3	Category
CE Certification**											
											in the second se
Material Weight (laminate)	45gsm	55gsm	50gsm	43gsm	54gsm	52gsm	55gsm		55gsm	55gsm	92gsm
Material Weight (back panel)							43gsm	43gsm			
Size	S-4XL	S-4XL	S-4XL	S-4XL	S-4XL	S-4XL	S-3XL	S-4XL	S-4XL	S-4XL	S-4XL
Colours			<b>☆</b>		Å						
Light-duty cleaning, warehousing, janitorial	•		•								
Asbestos Inspection, site preparation, insulation		•	•	•	•	•	•	•	•	•	
Asbestos removal										•	
Cement manufacturing, metal grinding & polishing		•	•	•	•	•	•	•	•	•	
Light industrial cleaning, machine maintenance		•	•	•	•	•	•	•	•	•	
Pharmaceutical processing, handling toxic powders		•		•	•	•	•	•	•	•	
Painting & coating, resins		•				•	•	•	•	•	
Cleanrooms		•							•	•	
Pesticide spraying										•	•
Chemical mixing and handling	,						,	'	,	•	•
Chemical spills, emergency response, decontamination, tank cleaning											•

Popular choice Suitable for consideration

In all cases, product selection should be based on a full risk assessment. Always read product user information. Use limitations and performance data should be considered to ascertain the protection required. If in doubt, contact a safety professional. This guide is only an outline. It should not be used as the only means for selecting protective clothing. Details regarding performance and limitations are set out on the packaging and user instructions. Before using any protective clothing, the wearer must read and understand the user instructions for each product. Specific country legislation must be observed. If in doubt, contact a safety professional or 3M – www.3M.eu/safety. Always check the compatibility of the suit material before selection. Please note that the personal protective equipment (PPE) shown highlight some of the products which may be considered. Sections of the most appropriate PPE will depend on the particular situation and should be made only by a competent person knowledgable of the actual working conditions and the limitations of PPE.

<sup>\*\*</sup> See user instructions or technical datasheets for full details.

<sup>\*\*\*</sup>Material meets standard requirements.

#### 3M Belgium BVBA / SPRL

Hermeslaan 7 1831 Diegem België / Belgique

E-mail: 3Msafety.be@mmm.com

www.3Msafety.be

#### 3M Danmark

Hannemanns Allé 53 2300 København S Danmark

E-mail: 3Msikkerhed@mmm.com

www.3Msikkerhed.dk

#### 3M Deutschland GmbH

Carl-Schurz-Straße 1 D - 41453 Neuss Deutschland

F-mail: arheitsschutz de@mmm.com

www.3Marbeitsschutz.de

#### 3M España, S.A.

Juan Ignacio Luca de Tena, 19-25 28027 Madrid España E-mail: ohes.es@3M.com

www.3M.com/es/seguridad

#### 3M France

Boulevard de l'Oise 95006 Cergy Pontoise Cedex France www.3M.com/fr/securite

#### 3M Greece

3Μ Ελλάς Μ.Ε.Π.Ε. Κηφισίας 20 15125, Μαρούσι Ελλάς

www.3M.com/gr/occsafety

#### 3M Ireland Limited

The Iveagh Building The Park, Carrickmines Dublin 18 Ireland E-mail: ohes.helpline.uk@mmm.com

3M Italia srl

Via Norberto Bobbio, 21 20096 Pioltello MI

www.3M.co.uk/safety

F-mail: 3Msicurezza@mmm.com

www.3Msicurezza.it

#### 3M Nederland B.V.

Molengraaffsingel 29 2629 JD Delft Nederland E-mail: 3Msafety.nl@mmm.com www.3Msafety.nl

#### 3M Norge A/S

Postboks 100, 2026 Skjetten Norge E-mail: kundeservice@mmm.com www.3M.no/vern

#### 3M Österreich GmbH

Kranichberggasse 4 1120 Wien Österreich www.3M.com/at/arbeitsschutz

#### 3M Portugal

Rua do Conde Redondo, 98 1169-009 Lisbona Portugal www.3M.com/pt/segurança 3M Suisse S.a r.l. / Schweiz GmbH

Eggstrasse 93 8803 Rüschlikon Suisse / Schweiz www.3M.com/ch/safety

#### Suomen 3M Oy

Keilaranta 6 02150 Espoo Suomi www.3M.fi/suojaimet

#### 3M Svenska AB

191 89 Sollentuna Sverige E-mail: kundservice@mmm.com www.3M.se/personskyyd

#### 3M United Kingdom PLC

3M Centre Cain Road Bracknell **RG12 8HT** United Kingdom

E-mail: ohes.helpline.uk@mmm.com

www.3M.co.uk/safety

#### **3M Personal Safety Division**

#### **EMEA Region**

3M Centre, Cain Road Bracknell, Berkshire, RG12 8HT United Kingdom Office: +44 (0)1344 858000 www.3M.eu/PPEsafety

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