

Disinfection and Sterilisation of 3M™ Safety Eyewear

Technical datasheet



Safety eyewear is used in many applications where clean and sterile PPE is essential. This information sheet explains how safety eyewear should be cleaned, disinfected and if required, sterilised by autoclaving up to 40 times at 121°C.

Cleaning safety eyewear:

Clean eyewear with running water and mild soap (pH neutral soap, pH of 6 to 8) with no waxes or fat (waxes, oils, and grease will deposit a film which could interfere with anti-fog properties). Rinse goggles with clean water, shake off excess water, and let air dry.

CAUTION: Avoid soaking or excessively rubbing coated lenses during the cleaning process.

Disinfecting safety eyewear:

A dilute solution of sodium hypochlorite, (household bleach 5.75 to 6% sodium hypochlorite), is an appropriate disinfectant for goggles and visors.

To make a dilute solution suitable for disinfecting goggles and visors:

1. Mix 3/4 cup household bleach with 4 litres of warm water.
2. Immerse the goggles and visors in the solution and soak for 5 minutes.
3. Rinse the goggles and visors in clean, warm water, blot excess water with a cotton towel, and air dry in a clean non-contaminated atmosphere. Keep straps away from the lens during drying.
4. Store the goggles and visors away from contaminated areas when not in use.

Note:

- ▶ The disinfectant capability of bleach solutions decreases with storage. Be sure to use a fresh bottle of bleach when preparing the solution and make up a fresh solution daily. Please note that certain properties such as anti-fogging may reduce after multiple cleanings.
- ▶ As a general guideline 3M™ goggles with polycarbonate lenses, as well as goggles with acetate lenses, can be disinfected at least 10 times without a noticeable reduction in anti-fog performance. Eyewear with 3M™ Scotchgard™ Anti-Fog coating helps keep lenses clear in rugged, dusty, steamy and wet environments providing at least 12 times longer lasting fog resistance than traditional anti-fog, anti-scratch coatings.

Autoclaving:

3M has tested products from 3 families of safety eyewear to show that they can be safely sterilised by autoclaving up to 40 times at 121°C and retain their protective properties.

The models sterilised by autoclaving were:

- ▶ 3M™ GoggleGear™ GG501NSGAF-BLU
- ▶ 3M™ GoggleGear™ GG6001NSGAF-BLU
- ▶ 3M™ Solus™ 1101SGAF

After 40 cycles of automatic cleaning and disinfection, and sterilisation by autoclaving at 121°C testing was carried out in 3M laboratories on the following properties:

- ▶ mechanical performance (BT)
- ▶ anti-fog properties (N)
- ▶ anti-scratch properties (K)
- ▶ splash protection (3)
- ▶ optical performance (Class 1)

Based on the internal testing these claims remain valid.

Product description

The 3M™ GoggleGear™ GG501NSGAF-BLU is a safety goggle:

- ▶ Has a low profile design
- ▶ Designed to be worn with 3M™ GoggleGear™ prescription inserts
- ▶ Indirect venting to help reduce fogging
- ▶ 3M™ Scotchgard™ Anti-Fog coating
- ▶ Neoprene headband on blue frame



Product description

The 3M™ GoggleGear™ GG6001NSGAF-BLU is a safety goggle:

- ▶ Has a large profile design
- ▶ Can be worn over many prescription spectacles
- ▶ Indirect venting to help reduce fogging
- ▶ 3M™ Scotchgard™ Anti-Fog coating
- ▶ Neoprene headband on blue frame



The 3M™ Solus™ S1101SGAF is a safety spectacle:

- ▶ Has a slim frame
- ▶ Semi-rimless design
- ▶ 3M™ Scotchgard™ Anti-Fog coating



Key features (all of the mentioned products):

- ▶ Optical class 1 lens for prolonged use
- ▶ Single piece lens design
- ▶ 3M™ Scotchgard™ Anti-Fog/Anti-Scratch Coating providing protection against fogging and scratching, meeting K & N marking requirements of EN 166
- ▶ Offers protection against UV radiation
- ▶ Low energy impact (F) which also provide protection at extremes of temperature of between -5°C and +55°C (T) in accordance with EN 166:2001
- ▶ 3M™ Scotchgard™ Anti-Fog/Anti-Scratch Coating provides scratch resistance and durability, even after multiple washes

Additional key features (goggles only):

- ▶ Protection against liquid droplets or splashes – marking code 3 according to EN 166
- ▶ Protection against large dust particles – meeting code 4 according to EN 166 (note – not tested after sterilisation)
- ▶ Medium energy impact (B) which also provide protection at extremes of temperature of between -5°C and +55°C (T) in accordance with EN 166:2001
- ▶ Soft goggle shroud to help seal against the face

Typical applications

These products can be used in a wide range of applications including:

- ▶ Clean room
- ▶ Hospital
- ▶ Medical practice
- ▶ Pharmaceutical and chemical industry
- ▶ General laboratory
- ▶ Food industry

Product range

SAP ID	Product ID	Description	Lens colour	Shroud/strap/ temple arms colour
7100185183	GG501NSGAF-BLU	3M™ GoggleGear™ 500 Series Safety Goggles, Blue Shroud and Neoprene Strap, Scotchgard™ Anti-Fog/Anti-Scratch Coating (K&N), clear polycarbonate lens	Clear	Blue/black
7100216191	GG6001NSGAF-BLU	3M™ GoggleGear™ 6000 Series Safety Goggles, Blue Shroud and Neoprene Strap, Scotchgard™ Anti-Fog/Anti-Scratch Coating (K&N), clear polycarbonate lens	Clear	Blue/black
7100080258	S1101SGAF*	3M™ Solus™ Series Safety Spectacles, blue/black frame, Scotchgard™ Anti-Fog/Anti-Scratch Coating (K&N), clear polycarbonate lens	Clear	Blue/black

*Note: Sterilisation by autoclaving was only tested on the safety spectacle (Solus 1101SGAF). Testing was not carried out on any additional accessories.

Intended use

The GG501NSGAF-BLU and GG6001NSGAF-BLU are intended for protection against a variety of hazards including liquid droplets (3), large dust particles (4), low energy impact (F) and medium energy impact (B) at extremes of temperature -5°C and +55°C (T) in accordance with EN 166:2001.

The S1101SGAF is intended for protection against a variety of hazards including low energy impact (F) at extremes of temperature -5°C and +55°C (T) in accordance with EN 166:2001.

All products also help protect against UV radiation in accordance with EN 170:2002.

All lenses are also intended to give an enhanced level of protection against fogging and scratching from the 3M™ Scotchgard™ coating which meets K rating for anti-scratch (AS) and N rating for anti-fog (AF) as per EN 166:2001.

Use limitation

- ▶ Never modify or alter this product
- ▶ Do not use this product against hazards other than those specified in this document
- ▶ These products are not suitable for grinding or welding
- ▶ With the exception of the GG6001NSGAF-BLU these products are NOT designed to be worn over prescription spectacles

Standards and approval

These products are type examined by ECS GmbH European Certification Service, Notified Body number 1883 or Certottica SCRL, Notified body number 0530.

These products are CE marked to the requirements of European Regulation (EU) 2016/425.

The applicable legislation can be determined by reviewing the Certificate and Declaration of Conformity at www.3M.com/Eye/certs

Materials listing

Description	GG501NSGAF-BLU	GG6001NSGAF-BLU	S1101SGAF
Lens	Polycarbonate	Polycarbonate	Polycarbonate
Frame (rigid)	Polypropylene	Polypropylene	Polycarbonate
Frame (soft)	TPE	TPE	TPE
Headband connector	Nylon	Polymethoxylene	n/a
Headband	Neoprene	Neoprene	n/a

Marking

The products have demonstrated compliance with the requirements of EN 166:2001 and associated standards and bear the following marks:

Product reference	Lens	Frame marking
GG501NSGAF-BLU	2C-1.2 3M 1 BT KN	3M EN 166 3 4 BT CE
GG6001NSGAF-BLU	2C-1.2 3M 1 BT KN	3M EN 166 3 4 BT CE
S1101SGAF	2C-1.2 3M 1 FT KN	3M EN 166 FT CE

Explanation of marking

Marking	Description
2C-1.2 (EN 170:2002)	UV protection with good colour recognition. This product conforms to the requirements of the standard, providing UV protection for the complete specified range (210nm – 365nm)
1	Optical class
F	Impact protection against high speed particle at low energy (45m/s)
B	Impact protection against high speed particle at medium energy (120m/s)
T	Tested for impact protection at extreme temperature conditions -5°C and +55°C
3	Protection against droplets or splashes of liquids
4	Protection against large dust particles
K	Resistance to surface damage by fine particles
N	Resistance to fogging

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