This document is intended as a guide to help answer questions most often asked regarding MSA Eyewear. For questions not covered in this document, please contact your MSA representative via www.MSAsafety.com – selecting the appropriate region for the quickest response.

1. How to clean and disinfect MSA eyewear

MSA recommends cleaning the eyewear with **water and useing a lint free cloth** to gently pat the lens dry (ideally with tissues D8133039). We also recommend the eyewear soft bag (10104677 Pack of 12 soft bags) to dry the lens.
Every lens coating in the market looses its antifog properties after repeated cleaning, with MSA Cleaning & Antifog Spray D8241079 you add it every time you clean!
The eyewear can be disinfected with a mild detergent mixed with water (alcohol <50%).
Sterilisation by steam or autoclave cleaning is not recommended as the high temperatures involved could damage the AntiFog coating or deform some of the thermoplastic parts of the eyewear.

2. When should eyewear be replaced?

Like all Personal Protective Equipment eyerwear should be **replaced immediately when you see any damage**. MSA recommends routine inspection of your eyewear. Pitted, scratched or cracked eyewear reduces protection and obstructs vision. Contact with chemicals like sunscreens and bug repellents may cause cracking. All plastics degrade over time.

3. How best to handle eyewear?

Always remove spectacles by putting **one hand on each temple** and pulling forward and up to disengage from the ears and side of the head. Handling spectacles by only one temple can stress the frame and although stress fractures may not be seen by the naked eye, they can weaken the impact resistance of any safety eyewear over time.
For **storage**, MSA recommends cleaning eyewear (see FAQ 1.) and keeping in a soft bag or case to protect from any dust, liquid, UV or excess humidity [<70% is recommended].
MSA offers the following cases to properly store your eyewear:
10058134 PERSPECTA Soft case, 12 pack
10081939 PERSPECTA Hard case, 6 pack
10104677 Soft bag, 12 pack
10104665 Storage case for 1 spectacle, 2 Alternator dust inserts, 2 spare lenses, 6 pack

4. Which MSA lenses offer UV protection?

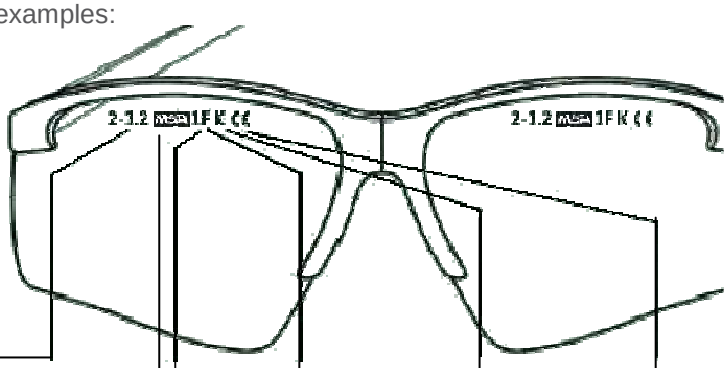
All MSA lenses of all colours filter out UV radiation 99.9%, which is up to 380nm. This is sufficient in most of the industries.
If your work requires protection between 380 and 400 nm you should select a lens with **UV400** protection, as this **filters 100% UV.**
Outdoor workers receive up to 10x more UV load per year. It is recommended that a UV 400 eyewear is worn all time as the damage to eye tissue by repeated exposure to UV is additive, incremental and irreversible. Experts recommend UV400 lenses in general to prevent cataract and age-related macular degeneration. [1]
MSA has several spectacle models with special light gold mirror, orange, smoke and even clear lenses offering UV400 100% protection !

[1] http://www-organik.chemie.uni-wuerzburg.de/fileadmin/08020000/user_upload/makula/optimiert.pdf

5. What does the markings on eyewear mean?

It is EN166 that rules the requirements and markings of protective eyewear. A full understanding of markings is best understood by following the examples:

Lens marking:



Filter class:
2 Ultra violet radiation
2C UV radiation with enhanced colour recognition
5 Sunglare filter without infrared specification
Scale number: Increases with decreasing luminous transmittance of lens

Identification of the **manufacturer**

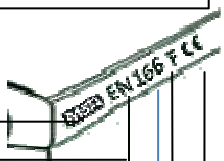
Optical class:
All MSA eyewear is designed for permanent wear (class 1)

Symbol for mechanical strength
“S” Increased robustness
“F” High speed particles with low energy impact (45 m/s)
“B” High speed particles with medium energy impact (120 m/s) googles/visors only
“T” Additional resistance at extreme temperatures (–5 and +55 °C)

“K” Resistance to surface damage by fine particles
“N” Resistance to fogging

Certification mark

Frame markings:



Identification of the **manufacturer**
Accredited standard
Symbol for mechanical strength
“S” Increased robustness
“F” High speed particles with low energy impact (45 m/s)
“B” High speed particles with medium energy impact (120 m/s) googles/visors only
“T” Additional resistance at extreme temperatures (–5 and +55 °C)

Certification mark

Only for goggles
Field of use:
No Symbol: Basic Use
“3” Liquid droplets and splash
“4” Large dust particles
“5” Gas and fine dust particles <5 µm
“9” Non-adherence of molten metal and resistance to penetration of hot solids

6. Why I can't find in MSA's eyewear CE certificates the conformity with EN 170, EN 169 or EN 172 even though it is stated in the product leaflet?

It is EN166 that rules the requirements and markings of protective eyewear, in clause §7.2.1 it then refers to other standards like EN 169, EN 170 or EN172 which contain further specifications which may be complied with. So if you find the scale number "2" (e.g. 2C-1.2) on the product this means that the requirements of EN170 for Ultraviolet filters are fulfilled, if the scale number is "5" (e.g. 5-2) it means compliance to EN172 (Industrial sun glare filters).

7. Why is eyewear marked e.g. 5-2.5 not marked to be compliant to EN 170 UV Protection?

EN standards specify those **lens colours for outdoor use and can be CE certified according to EN172** "Specification for Sunglare filters used in personal eye-protectors for industrial use". This is why the MSA lens colours smoke, light gold mirror, blue purple, blue mirror, silver mirror, dark brown and rainbow mirror are approved to this standard.
Only the lens colours clear, orange and amber can be officially approved according to "EN170: Personal eye-protection - Ultraviolet filters - Transmittance requirements and recommended use". **But ALL MSA lens colours fulfil the requirements of EN170 and filter 99,9% of UV** (up to 380nm) which is more than required by EN172. It is not part of the markings nor listed in the CE certificates but can be shown via transmittance test reports produced during the CE testing.

8. What is a transmission curve and why this is usefull?

The quality of a UV and sun protection filter is not visible just by looking at the lens. With a pretty tint but poor UV protection harmful radiation can easily get through to the light dilated pupil (that's the dark center of the eye) causing real damage. Real UV protection can only be proved by checking the lens transmission curve.
A transmission curve is a graph in which the actual transmission through a specific lens is plotted against the wavelength. That's why MSA always shows a detailed transmission curve for each tint highlighting the real filter effect by wavelength (see MSA lens colour guide).

9. What are the benefits of special lens colours like orange?

Each lens colour has its benefits for special applications. Please see MSA lens colour guide for details.

10. Are the Antifog and Antiscratch coatings on the inside or outside of the lens?

MSA eyewear uses a precision dipping process for the coatings which allows lenses to be **coated on both sides uniformly**. The coatings themselves are highly technical chemicals specially developed for superior quality.
Coating Options:
TuffStuff= Economic coating with antiscratch coating rated EN 166 "K"
Sightgard= MSA's popular antifog coating with good anti-scratch properties
Sightgard+= Premium antifog coating rated EN 166 "N", good anti-scratch properties
OptiRock= Premium durable high performance antifog coating with outstanding antiscratch properties rated EN 166 "K N"

11. In the market I found various offers for Antifog eyewear, sometimes with EN166 “N” marking sometimes without but all claiming Antifog properties. What is the difference?

The term “Antifog” is descriptive not fixed.
The eyewear mechanical properties standard EN166 includes an antifog option. In this optional test the lens must remain free from fogging for a minimum of 8 s when tested [clause 16 EN 168:2001]. A premium, robust coating is required to successfully pass the test after all the necessary conditioning.
The MSA premium coatings “Sightgard+” and “OptiRock” have passed this intensive test and therefore lenses with this coating are marked with “N” from EN166. MSA’s standard Antifog coating called “Sightgard” gives more than acceptable Antifog performance in many working conditions and as it also has good antiscratch properties it offers a very good price/performance ratio.
Only eyewear marked EN166 “N” is certified as having the required level of Antifog to meet the standard’s requirements. In MSA’s leaflets you will find the product certification markings clearly listed - this is the real certified performance- always check before you buy!

12. In the market I found various offers for Antiscratch eyewear, sometimes with EN166 “K” marking sometimes without but claiming Antiscratch properties. What is the difference?

The term “Antiscratch” is descriptive not fixed.
EN166 includes an optional requirement on “Resistance to surface damage by fine particles” using “K” for the product marking. Sand is used to test the robustness and light scattering is measured afterwards [clause 15 of EN 168:2001].
MSA’s economic coating called “TuffStuff” and premium coating “OptiRock” have passed this test and therefore lenses with these coatings are marked with “K” from EN166.
Only eyewear marked EN166 “K” is certified as having the required level of Antiscratch to meet the standard’s requirements. In MSA’s leaflets you will find the product certification markings clearly listed this is the real certified performance- always check before you buy!

13. What is the impact protection provided by goggles?

According to EN166 the **certified maximum impact protection for goggles is 120 m/s** tested by a 6mm steel ball, product marking “B”. The impact will be strutted by the lens and frame. By EN standard it is not possible to test according high energy impact 190m/s to get the marking “A”. This is just applicable for face shields.

14. The mechanical resistance marking on the Racers model is “F” (low energy impact 45m/s) but in the product leaflet MSA claims it has been tested to 198m/s?

In **EN166** the impact test for **spectacles** includes maximum “**High speed particles with low energy impact (45 m/s), marking F”.** MSA’s Racers have been designed to resist very high impact for specialist applications, including independent testing to 198 m/s, required by MIL-V-43511C clause 3.5.10. and MIL-PRF-31013 clause 3.5.1.1. However EN166 only allows the marking “F” to be used with spectacles.

15. How best to use goggles with an industrial safety helmet?

MSA offers brackets to easily fit a goggle headband to the rain gutter of the helmets V-Gard 500 or V-Gard 520. (2 Brackets GA90006)
For storage MSA recommends pulling the goggle down over the peak and allowing it to lie loosely inside the shell. This prevents lip seal deformation under constant pressure over time.

Bracket for goggle attachment

16. What is the storage time of MSA's cleaning solution for eyewear?

MSA cleaning solutions for eyewear, visors and full face masks have no storage limit if stored in the dark, at normal room temperature.
Our current solutions are:
D8241079 Cleaning spray bottle, 110 ml (cleaning, antifog)
GA1616 klar-pilot gel, 25 ml bottle (cleaning, antifog, antistatic)
10032164 klar-pilot liquid, 100 ml spray (cleaning, antifog, antistatic)

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