



**uvex**

Certified PPE  
to be worn when using  
crop protection products

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protecting people



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When protecting crops,  
people need reliable protection too.



# When using crop protection products, safe PPE is mandatory

In agriculture, crop protection products are used to protect plants against diseases or harmful organisms. Reliable protection against chemicals that may be harmful to health is essential when handling these products.

For this reason, the German Federal Office for Consumer Protection and Food Safety (Bundesamt für Verbraucherschutz und Lebensmittelsicherheit – BVL) not only sets out regulations for the use of crop protection products, but also regulates the personal protective equipment required – with human health being at the heart of everything they do.

As specialists in professional occupational health and safety, uvex offers innovative solutions for the safe handling of crop protection products, ranging from respirators to safety gloves and full protective suits – first-class, standard-compliant PPE for maximum safety.



**German Federal Office of Consumer Protection and Food Safety**  
(Bundesamt für Verbraucherschutz und Lebensmittelsicherheit – **BVL**)  
Personal protective equipment for handling crop protection products

[bvl.bund.de/psa](https://bvl.bund.de/psa)



Detailed information about this topic can be found on the **uvex x-pertblog**

<https://www.uvex-safety.com/blog/pesticides-ppe-plant-protection/>

## High risk:

### Direct contact with concentrated crop protection products

From measuring out crop protection products to disposing of empty containers: During many activities in the agricultural industry, direct contact with highly concentrated chemicals cannot be avoided – and it is these activities that have the most stringent requirements for protective equipment.

#### Activities:

- Measuring and mixing crop protection products and filling sprayers
- Cleaning measuring containers, crop protection devices and contaminated surfaces
- Rinsing and disposing of empty crop protection containers

#### Products:



60224  
uvex rubiflex S NB35B



60557  
uvex rubiflex S XG35B



89843  
uvex 3B chem light



89880  
uvex 3B chem classic

#### uvex recommends\*:

- Mechanically resistant safety gloves (minimum length 29 cm) with a high level of chemical protection in accordance with ISO 18889 G2 or EN 374-1 type A and EN 388
- Protective suits certified according to EN ISO 27065 C3 and/or certified as liquid-tight (type 3) according to DIN EN ISO 14605

\* For more information, please refer to the BVL guideline "Personal protective equipment when handling plant protection products"







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## Medium risk:

### Direct contact with diluted crop protection products (ready to use)

When handling ready-to-use crop protection products, the effects of dilution create a lower risk than when handling concentrated crop protection products – however, the use of suitable protective equipment is still essential during everyday work.

#### Activities:

- Applying crop protection products (manually or without a protective cab)
- Rectifying device malfunctions while applying crop protection products

#### uvex recommends\*:

- Safety gloves (minimum length 24 cm) with ISO 18889 G1 chemical protection or EN 374-1 chemical protection of at least type B
- Protective suits certified as spray-tight (type 4) or as liquid-tight (type 3) according to DIN EN ISO 14605 or certified according to EN ISO 27065 C3

\* For more information, please refer to the BVL guideline "Personal protective equipment when handling plant protection products"

#### Products:



60224

uvex rubiflex S NB35B,  
uvex rubiflex S XG35B



60557

uvex profastrong NF33



60122



60596

Disposable safety gloves:  
uvex u-fit, uvex u-fit lite, uvex u-fit strong N2000



60597



60962



89375



89843



89880

uvex 4B, uvex 3B chem light,  
uvex 3B chem classic

## Low risk: Contact with residue (dried spray coatings)

Even when performing follow-up activities with treated crops, there is still a risk of coming into contact with harmful dried residues. For this area of work, certified safety gloves offer an optimum level of safety.

### Activities:

- Follow-up work with treated crops
- Contact with dried residues of crop protection products

### Products:



60278  
uvex unilite 7710F



60147  
uvex profi ENB20A

### uvex recommends:

- Safety gloves (minimum length 24 cm) with ISO 18889 (GR) and EN 388 chemical protection
- Partially coated safety gloves that meet the mechanical requirements of EN 388

### uvex protection from head to toe

Employees working in the agricultural sector are frequently exposed to hazardous chemical and biological substances. In addition to gloves and chemical-protection clothing, safety spectacles and respirators play a significant part in ensuring the safety of the wearer.



More information about this topic can be found on the **uvex x-pertblog**

<https://www.uvex-safety.com/blog/pesticides-ppe-plant-protection/>





## Applicable standards — safety gloves

### ISO 18889 Standard for safety gloves for users of crop protection products

The EN 18889 standard consists of three performance levels – GR, G1 and G2. G2 offers the highest level of protection.



**GR:** Partially coated safety gloves provide protection against dried spray coatings during follow-up work.



**G1:** Fully coated safety gloves for handling ready-to-use crop protection products.

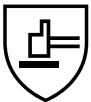


**G2:** Fully coated safety gloves for use with concentrated crop protection products.

### DIN EN 388 is a standard for safety gloves providing protection against mechanical risks

EN 388:2016 contains various test methods for comparing the mechanical performance of gloves. This standard focusses on the following six performance classes:

#### EN 388:2016



4 X 3 2 D P

- ↑ (a) Abrasion resistance (0 to 4)
- ↑ (b) Coupe test for cut resistance (0 to 5; X=not applicable or not tested)
- ↑ (c) Tear resistance (0 to 4)
- ↑ (d) Puncture resistance (0 to 4)
- ↑ (e) Cut resistance according to ISO (A to F)
- ↑ (f) Impact protection (P if passed)

#### (a) Abrasion resistance

To test the abrasion resistance of the safety glove, the material is rubbed with abrasive paper under pressure. The number of cycles required to grind a hole into the material is used as a reference value. (Highest performance class 4 = 8000 cycles)

#### (b) Cut resistance using the coupe test

A rotating circular blade is used to test the cut resistance of a safety glove. The blade cuts through the glove material at a constant speed and force. The reference value is the comparison with a reference material and a resulting index. (Highest performance class 5 = index 20)

#### (c) Tear resistance

To test the tear resistance of the safety glove, the material is first cut. The reference value is the force required to tear the material. (Highest performance class 4 = 75 newtons)

#### (d) Puncture resistance

To test the puncture resistance, the material being tested is pierced with a nail that has set dimensions. The force used for this is used as the reference value.

#### (e) Cut resistance using the TDM test

The use of this test method in accordance with ISO 13997 is applicable for materials that blunt the rotating circular blade during the coupe test (see above). The force required to cut a material at a defined distance (20 mm) is measured (maximum performance class F = 30 newtons)

#### (f) Additional impact protection

Gloves with a performance class ending in "P" offer a specific level of impact absorption.



## DIN EN ISO 374-1 Standard for safety gloves providing protection against dangerous chemicals and micro-organisms

Chemical protection gloves must meet the requirements of European standard EN ISO 374-1.

EN ISO 374-1:2016/Type A



J K L M N O

**Permeation resistance, type A:**  
at least 6 test chemicals for at least 30 minutes each.

EN ISO 374-1:2016/Type B



J K L

**Permeation resistance, type B:**  
at least 3 test chemicals for at least 30 minutes each.

EN ISO 374-1:2016/Type C



**Permeation resistance, type C:**  
at least 1 test chemical for at least 10 minutes each.

### Handling dried spray coatings during follow-up work

Partially coated safety gloves



GR

> 30 minutes protection against sodium hydroxide 40% (K)

EN 388:2016



EN 388:2016



### Handling ready-to-use (diluted) crop protection products

Fully coated safety gloves  
Minimum length 24 cm



G1

EN ISO 374-1:2016/at least type B



### Handling concentrated crop protection products

Fully coated safety gloves  
Minimum length 29 cm



G2

EN ISO 374-1:2016/at least type B



EN 388:2016



EN 388:2016



## When handling crop protection products, please pay attention to the pictograms on your safety gloves

As an alternative to ISO 18889, safety gloves that meet the requirements of DIN EN ISO 374-1 and/or DIN EN 388 are also suitable.



**Safety glove testing**  
Cut resistance in accordance with EN 388 and ISO 13997

<https://www.youtube.com/watch?v=5nfttjvu-ls>

## Relevant standards — protective clothing

### DIN EN ISO 27065

**“Protective clothing – Performance requirements for protective clothing worn by operators applying pesticides and for re-entry workers”.**

The EN ISO 27065 standard consists of three performance levels – C1, C2 and C3. C3 offers the highest level of protection.

ISO 27065



C1

ISO 27065



C2

**C1 and C2** are suitable for follow-up work. The majority of protective clothing that meets the requirements of these levels is reusable.

ISO 27065



C3

**C3** is suitable for use with diluted crop protection solutions and concentrated crop protection products that the user may come into contact during the mixing process.

ISO 27065



C3

Protective clothing certified in accordance with EN ISO 27065 can be labelled with a pictogram of a conical flask with a leaf. Alongside the standard, the class is also indicated in the pictogram.

### DIN EN 14605

**“Protective clothing against liquid chemicals – Performance requirements for clothing with liquid-tight (type 3) or spray-tight (type 4) connections, including items providing protection to parts of the body only”.**

Liquid-tight (type 3) protective suits are worn when there is an increased risk of contact with crop protection products. For example, when manually spraying crops in close proximity to each other or carrying out wet cleaning of pickling systems.

EN 14605



TYP 3

**Type 3**  
liquid-tight protective suits

EN 14605



TYP 4

**Type 4**  
spray-tight protective suits



## Disposable or reusable

### Advantages of disposable protective clothing compared to reusable protective clothing

- A clean, fresh and flawless product always available
- Convenient individual packaging, always easy to carry with you
- No cross-contamination because the product can be disposed of directly after use
- No complicated or expensive preparation required (e.g. separate laundry, re-impregnation etc.)



## Hand protection: uvex Chemical Expert System

Safety gloves for use with chemicals must be selected with the greatest care. Our online advisers and extensive chemical database are here to help you.



<https://www.uvex-safety.com/en/product-assistants/safety-gloves-uvex-chemical-expert-system/>

## Overview

### Handling concentrated crop protection products

High risk



60224  
uvex rubiflex S NB35B



60557  
uvex rubiflex S XG35B



89843  
uvex 3B chem light



89880  
uvex 3B chem classic

### Handling ready-to-use (diluted) crop protection products

Medium risk



60224  
uvex rubiflex S NB35B,  
uvex rubiflex S XG35B



60557  
uvex profastrong NF33



60596  
Disposable safety gloves:  
uvex u-fit, uvex u-fit lite, uvex u-fit strong N2000



60597



89375



89843



89880

uvex 4B, uvex 3B chem light,  
uvex 3B chem classic

### Handling dried spray coatings during follow-up work

Low risk







60278  
uvex unilite 7710F






60147  
uvex profi ENB20A






	uvex rubiflex S NB27B	uvex rubiflex S NB35B
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	60271	60224
<b>Type</b>	gauntlet, approx. 27 cm	gauntlet, approx. 35 cm
<b>Standard</b>	ISO 18889 (G2), EN 388 (2 111 X), EN ISO 374-1:2016/Type A (J K N O P T), EN 407 (X 1 X X X X)	
<b>Material</b>	cotton support	
<b>Coating</b>	fully coated with special NBR coating (nitrile rubber), approx. 0.40 mm	
<b>Colour</b>	blue	
<b>Sizes</b>	7 to 11	6 to 11


	uvex u-fit lite	uvex u-fit
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	60597	60596
<b>Type</b>	roughened fingertips, approx. 24 cm	roughened surface, approx. 24 cm
<b>Standard</b>	EN ISO 374-1:2016/Type B (K P T), EN 374-5:2016 VIRUS	
<b>Material</b>	no lining	
<b>Coating</b>	NBR (nitrile rubber), approx. 0.06 mm	NBR (nitrile rubber), approx. 0.10 mm
<b>Colour</b>	indigo blue	blue
<b>Sizes</b>	S to XL	


	uvex rubiflex S XG27B	uvex rubiflex S XG35B
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	60560	60557
<b>Type</b>	gauntlet, approx. 27 cm	gauntlet, approx. 35 cm
<b>Standard</b>	ISO 18889 (G2), EN 388 (3 12 1 X), EN ISO 374-1:2016/Type A (J K N O P T), EN 407 (X 1 X X X X)	
<b>Material</b>	cotton support	
<b>Coating</b>	fully coated with special NBR coating (nitrile rubber) and XG Grip coating, approx. 0.40 mm	
<b>Colour</b>	blue, black	
<b>Sizes</b>	7 to 11	


	uvex u-fit strong N2000
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	60962
<b>Type</b>	roughened fingertips, approx. 28 cm
<b>Standard</b>	EN ISO 374-1:2016/Type A (J K L O P S T), EN 374-5:2016 VIRUS
<b>Material</b>	no lining
<b>Coating</b>	NBR (nitrile rubber), approx. 0.20 mm
<b>Colour</b>	blue
<b>Sizes</b>	S to XXL

	uvex profastrong NF33
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	60122
<b>Type</b>	gauntlet, grip texture on palm, approx. 33 cm
<b>Standard</b>	EN 388 (4 1 0 1 X), EN ISO 374-1:2016/Type A (A J K L O T) EN ISO 374-5:2016 VIRUS
<b>Material</b>	Cotton-flocked
<b>Coating</b>	fully coated with NBR (nitrile rubber), approx. 0.38 mm
<b>Colour</b>	green
<b>Sizes</b>	7 to 11

	uvex unilite 7710F	uvex profi ergo ENB20A
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	60278	60147
<b>Type</b>	knitted cuff	
<b>Standard</b>	EN 388 (4 1 2 1 X), EN 407 (X 1 X X X X)	EN 388 (2 1 2 1 X), EN 407 (X 1 X X X X)
<b>Material</b>	polyester (seamless)	cotton support
<b>Coating</b>	palm and entire back of the hand are coated with NBR (nitrile rubber) and feature a grip finish	palm and entire back of the hand coated with NBR (nitrile rubber)
<b>Colour</b>	blue, black	white, orange
<b>Sizes</b>	7 to 11	6 to 10

	uvex 3B chem classic
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	89880
<b>Material</b>	polypropylene spunbond material laminated with polypropylene film
<b>Standard</b>	EN 14605, ISO 13982-1, EN 1149-5 EN 14126, EN 1073-2,
<b>Colour</b>	yellow
<b>Sizes</b>	S to 3XL

	uvex 3B chem light
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	89843
<b>Material</b>	polypropylene spunbond material laminated with polyethylene film
<b>Standard</b>	EN 14605, EN 13034, ISO 13982-1, EN 1149-5, EN 14126, EN 1073-2, ISO 27065
<b>Colour</b>	white, yellow
<b>Sizes</b>	S to 3XL

	uvex 4B
	 More information on the product can be found at <a href="http://uvex-safety.de">uvex-safety.de</a> , ▶ <a href="#">click here</a>
<b>Art. no.</b>	98375
<b>Material</b>	polypropylene spunbond material laminated with polyethylene film
<b>Standard</b>	EN 14605, EN 13034, ISO 13982-1, EN 1149-5, EN 14126, EN 1073-2, DIN 32781
<b>Colour</b>	white, orange
<b>Sizes</b>	S to 3XL


The protective articles listed are tested according to the specified standards and the test chemicals required by these standards. None of these products offer complete protection against all chemical or hazardous substances. The decision as to whether a product is suitable for a particular application is ultimately the responsibility of the user. For any advice, please contact uvex.


# uvex

We will be happy to advise you


UVEX ARBEITSSCHUTZ GMBH  
Wuerzburger Straße 181-189  
90766 Fuerth  
GERMANY

T: +49 911 9736-0  
F: +49 911 9736-1760  
E: [safety@uvex.de](mailto:safety@uvex.de)  
I: [uvex-safety.com](http://uvex-safety.com)

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