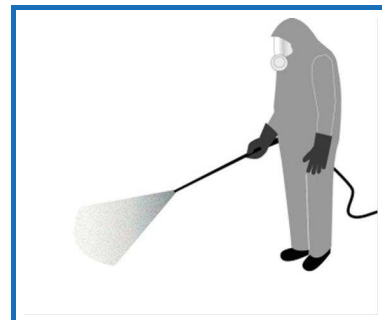


Control of insects: spraying

Proper use of biocidal products

The Control Guidance Sheet describes the fundamental organisational as well as technical measures, for applying insecticides. It is **to be used in combination with the CGS “General information on control of insects”** (BP 1181) and serves as a checklist for the employer or his representative.

In the event that the product's directions for use (e.g. on the label, instruction leaflet or safety data sheet) demand greater protective measures than those stated here, the manufacturer's information takes priority.



Gathering of information and internal labelling

- The general basic rules of the BP 1000 series of Control Guidance Sheets for biocides are to be implemented.

Organisation of the working procedures & work organisation

- Technical and organisational protective measures**
 - Good ventilation is ensured. Outdoors, the wind direction is checked before work commences, and work is carried out with one's back to the wind.
 - Product selection:** Ready-for-use products are given preference over concentrates, and brushing or rolling processes are given preference over spraying or pouring processes. Exception: automatic processes that do not require the operator to be present.
 - Products containing dichloromethane (methylene chloride) are avoided (labelling: R40).
 - Microencapsulated active substances are preferred.
 - In the case of products that contain propellants, preference is given to non-combustible products.
 - Automatic application is given preference over manual application.
 - The spray lance should be as long as possible in the event of manual application. Larger droplets are preferred, as fine droplets easily form mists that lead to higher exposure for the user.
- Preparing the solution**
 - Liquids are to be prepared outdoors (or at least in well-ventilated areas; but never in occupied rooms, kitchens or storage rooms for food or feed).
 - For dilution, the applicator or, where applicable, the storage vessel is to be filled with a quantity of diluent (e.g. water) and the concentrate is added to this (if a measuring cup is used, this is rinsed out and the washing water is also added). It is then filled up to the necessary dilution level. External contamination is to be avoided.
 - To dissolve solids, these are mixed with a little solvent (e.g. water) to create a fluid paste. This is added to the applicator, which is then filled up to the necessary dilution level.
- Wherever possible, restrict application to the treatment of hiding places and barriers.
- Special measures for solvent-containing biocidal products (e.g. fire and explosion protection)**
 - If solvent-containing biocidal products are used in rooms, good ventilation must be ensured. This especially applies to work at ground level!
 - Store spray cans in a cool place and with protection against light and sources of ignition.
- Personal protective equipment (PPE)**
 - Protective gloves**
 - If chemical protective gloves are required, these must be labelled as Cat. III (DIN EN 374) and with the Erlenmeyer flask pictogram. The gloves must also be specially suited to the substances used.
 - The material, thickness, and protection level of the chemical protective gloves are taken from the safety data sheet or, if necessary, coordinated with the manufacturer of the protective gloves by presenting the safety data sheet to them.
 - Disposable gloves are not reused.
 - Disposable latex/medical gloves must not be used as chemical protection.



- e. Multi-use chemical protective gloves are to be cleaned after use and stored in a well-ventilated place, protected from UV radiation and high temperatures.
- f. Chemical protective gloves are liquid-tight and may therefore only be worn for longer than 4 hours in exceptional cases. Medical check-ups are to be offered after 2 hours and are compulsory after 4 hours.
- g. It is advisable to wear (e.g. cotton) glove liners under liquid-tight gloves to reduce sweat formation.
- o An appropriate **protective suit** is to be selected for the exposure: at least type 4 (DIN EN 14605) for spray applications
- o **Shoes:** chemical-resistant boots shall meet standard DIN EN 13832.
- o **Respiratory protection**
 - a. If respiratory protection is necessary, the facepiece (e.g. mask) and the specific filter element are to be taken from the safety data sheet or coordinated with the PPE manufacturer by presenting the safety data sheet to them.
 - b. The reduction factor of the set of respiratory protection apparatus is to be taken from BGR 190 (tables 1–3).
 - c. Those with beards have to wear a hood or helmet (not a mask).
 - d. Limits on wearing time (BGR 190, Annex 2) are to be observed.
 - e. If filter-based respiratory protection is used, several suitable replacement filters should be present and ready for use.

Further information

- Safety data sheet of the biocidal product used
- TRGS 523 “Technical Rules for Hazardous Substances: Pest control using highly toxic, toxic and health hazardous substances and preparations”, available on the BAuA's website: www.baua.de
- TRGS 555 “Working instruction and information for workers”, available on the BAuA's website: www.baua.de
- Control Guidance Sheets 120 (“Skin Protection – Basic Safety Precautions”) and 250 (“Skin Protection – Extended Safety Precautions”), available on the BAuA's website: www.baua.de
- Professional Association Rules BGR 189 “Benutzung von Schutzkleidung” [Use of protective clothing], BGR 190 “Benutzung von Atemschutzgeräten” [Use of respiratory protective equipment] and BGR 195 “Benutzung von Schutzhandschuhen” [Use of protective gloves]; Federation of Professional Associations (HVBG), 10/2007, available at www.dguv.de or www.arbeitssicherheit.de
- Gloves database (protective glove recommendations) from GISBAU, www.gisbau.de
- Standards can be acquired from Beuth Verlag in their respective latest versions; website: www.beuth.de
- The exposure of the user during spraying can be estimated using the program SprayExpo, which is available on the BAuA's website: www.baua.de

What must be included in the operating instructions?

- Workplace, working area, activity
- Name of and, if necessary, further declarations on the active substance
- Risks to health and environment
- Protective measures and code of conduct (skin protection: employees are briefed on the use of skin products (skin protection, cleaning and care) annually)
- Conduct in case of danger and first-aid measures in the event of accidents
- Proper disposal and destruction of waste