

Handling of chemicals

Particular caution is always essential when handling chemical products. Listed below are a number of precautions based on the information contained in the DIN safety data sheets and on the container labels for our products.

I. Safety data sheet

The safety data sheets produced by Bayer AG in accordance with DIN 52900 contain valuable information which is constantly updated. Those people intending to store, use or dispose of products supplied by the Specialty Products Business Group, or who already do so, are advised to always obtain the relevant safety data sheet and make it available to those people who will handle the product. The safety data sheet also provides an employer with the basis for assessing the various obligations contained in the regulations on the handling of hazardous substances insofar as they relate to the protection of human health and life and the environment. The nature of a substance or the type of contact which will be had with a substance determine what protective equipment should be worn:

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| Eye protection: | Close-fitting safety goggles, face mask |
| Respiratory protection: | Filter mask, self-contained breathing apparatus or dust mask (depending on the requirements) |
| Protective clothing: | From protective fabric suits to full air-fed protective suits (depending on requirements) Protective footwear, helmets, protective gloves. |

II. General rules on the handling of chemicals:

1. Keep chemicals away from food, drink, tobacco, etc.
 2. Avoid any direct contact with the product. In particular, protect the eyes, face and hands.
 3. Do not inhale dusts, vapours or gases.
 4. Keep ignition sources away from flammable liquids. Do not smoke.
 5. In case of contact with the product, wash the affected parts of the body immediately with plenty of water or special decontaminants. Remove contaminated clothing.
 6. Consult a doctor if poisoning or burning is suspected.
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III. The following comments apply to certain groups of products or substances:

a) Corrosive substances or products

These include acidic or basic products, e. g. containing alkali hydroxides, some phenolic compounds and/or their alkali salts, free sulfonic or carboxylic acids, certain halogen compounds such as acid halogenides and side chain chlorinated aromatics, amino compounds, especially aliphatic amines, some of which have a rapid effect on the central nervous system, circulation, liver and kidneys (e. g. some phenols and sulfo-chlorides).

1. Wear close-fitting safety goggles or full face protection, impermeable gloves and protective suit.
2. Remove contaminated clothing.
3. In the event of skin contact, wash immediately with plenty of water, or preferably with soap and water or a cleanser containing polyethylene glycol 400. Phenols, particularly chlorinated phenols, are best removed with a mixture of 2 parts polyethylene glycol 300 and 1 part ethanol (see national regulations on the handling of phenols, cresols and xylenols). In this case too, the skin should subsequently be washed with plenty of water. A doctor should then be consulted. Splashes in the eyes should be removed by careful flushing with running water. An eye specialist must be consulted as quickly as possible, preferably without interrupting the rinsing of the eyes.
4. If a corrosive substance is swallowed, do not induce vomiting but drink a suspension of activated charcoal in water. Consult a doctor immediately.

b) Substances or products which irritate the respiratory tract

(e.g. products containing acid halogenides, certain aromatics containing halogens such as side chain chlorinated toluene, alpha-halogenated keto compounds, acid anhydrides and aldehydes.)

1. Provide effective exhaust ventilation. Good room ventilation is necessary.
2. Wear a full face mask with suitable filter.
3. Should signs of irritation occur, go into the open air, then consult a doctor.

c) Methaemoglobin-forming substances and products

These include products containing e. g. aromatic nitro and amino compounds. There is a risk of poisoning even by absorption through the skin or the respiratory tract. In these cases it is possible that the symptoms will not occur until several hours after exposure.

1. Provide effective exhaust ventilation. Good room ventilation is necessary.
2. Avoid inhalation and skin contact. Wear gloves and protective clothing. If necessary, use a full face mask.
3. Never use alcohol, acetone or similar solvents to remove these substances from the skin. Instead, use polyethylene glycol 400 (at low temperatures use low-viscosity types) then wash off with plenty of water. If necessary, wash with soap and water.
4. Remove contaminated clothing and take a bath (at the most lukewarm but never hot). Also wash hair and clean fingernails.
5. Where there are symptoms of poisoning (headache, dizziness, blue-grey coloration of the skin (cyanosis) beginning around the lips and ear lobes), avoid any physical exertion whatsoever. Do not drink alcohol and do not take a hot bath. Consult a doctor immediately (use an ambulance).

d) Allergizing or sensitizing substances and products

These include compounds and products which, on repeated exposure, even at low levels, may cause hypersensitivity reactions, for example, of the respiratory tract (asthma) or the skin (eczema). Sensitizing or allergizing products may contain aldehydes, isothiazolinones, isocyanates, sulfenamides, etc. even at low concentrations.

1. Avoid inhalation and skin contact. Wear gloves and a protective suit. If dust or aerosol can occur wear a dust filter or face mask with suitable filter, respectively.
2. Remove contaminated clothing.
3. Take a shower or bath on completion of work.
4. Should an adverse reaction occur, avoid any further contact with the substance concerned and consult a doctor.

The information given above is not exhaustive. It should merely be regarded as a set of recommendations we are able to make on the basis of our experience in handling these substances.
