Safe Handling of Cleaners and Disinfectants

1. Detergents and Disinfectants and the Concept of Hazardous Chemicals

Many cleaners and disinfectants for institutional and industrial uses are hazardous substances in their traded form, while heavily diluted solutions for daily use are usually not dangerous substances anymore.

When the human body has contact with dangerous substances by touching, inhaling or swallowing, severe damage to body and health can be the result, if the prescribed safety measures are not taken like wearing suitable protective gloves or protective glasses on handling with caustic substances.

Cleaners and disinfectants as dangerous substances can be irritant (symbol Xi), corrosive (symbol C), harmful (symbol Xn), oxidizing (symbol O) or (easily) inflammable (symbol F), and - in very rare cases - even toxic (symbol T).

Handling hazardous chemicals nowadays is regulated by various EC-directives and administrative regulations (e.g. 67/548/EEC, 99/45/EC, 2001/58/EC). These directives provide binding regulations for all EU members concerning the classifying, labelling and dealing with hazardous chemicals. As knowledge of chemicals is steadily increasing and the whole material is in flow, there are regular re-assessments of substances and criteria possibly affecting the labelling of products.

2. Information for the Safe Handling of Detergents and Disinfectants

The product label is the most important source of information for the user in the first place. More detailed information concerning the industrial safety, environmental protection and the transport of hazardous goods can be obtained from the EC safety data sheet prescribed by the European chemical directives for all dangerous substances and preparations.

You can get the latest versions of safety data sheets from Dr Weigert via your dealer or via Internet: http://www.drweigert.com under the headline “service”. There you will find also all product leaflets which explain details about application and show the safety advices and the hazard warnings. You will get important information about storing potentially water polluting substances from the Dr. Weigert Environmental Information no. 2.

The potential riskiness of products like cleaning agents is calculated nowadays via the kind and amount of the components, according to the so-called conventional method. One example: If a mixture contains 10% of corrosive raw material, this product has to be labelled as corrosive with the symbol C. The user is made aware of the danger by risk-phrases and by the symbols, for example: R35 - causes severe burns. Based on the safety advice, the user can determine which protective measures will have to be taken so that the handling of this substance will not cause any damage to the health, for example; S 26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 27 - Take off immediately all contaminated clothing. S 28 - After contact with skin, wash immediately with plenty of water. and S 36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

For irritant or corrosive cleaners and disinfectants, there are the characteristic corresponding hazard symbols C - corrosive (two test tubes with liquid dropping out of them onto a hand or a surface), and Xi - irritant (diagonal cross), with both symbols on a orange-coloured background. The hazard warning Xn – harmful (R22- Harmful if swallowed, R21- Harmful in contact with skin, R20 - Harmful by inhalation) is formally identical with Xi. The most important hazard notices in the area of cleaners and disinfectants for institutional and industrial use are, for instance, R36/38 - Irritant to eyes and to skin and R34 - causes burns, or R35 - causes severe burns, as well as for active chlorine-containing products R31 - Contact with acids liberates toxic gas. Equally important is the R-sentence R43 - May causes sensitization by skin contact. Products thus labelled contain substances like, for instance, glyoxal, which can change resp. sensitize the immune system of the skin so that another contact with this substance, even in lower concentrations, can cause an allergic skin rash (contact eczema). Wearing protective gloves when handling these products is obligatory.

Companies handling hazardous substances have to inform their employees about all appropriate protective measures and rules of conduct. The prescribed measures for occupational health or protection of the environment may be different from country to country. So please refer to your domestic regulations!
In Germany, the employer has to set up an operation manual (so called “Betriebsanweisung”). It defines the risks for stuff and environment which might arise from dealing with hazardous substances and states the necessary protective measures and rules of conduct. It indicates as well the correct dispose of potentially hazardous waste.

The operation manual has to be written in understandable form in the language of the employees and has to be fixed at a suitable prominent location at the work area. The operation manual should contain also regulations for handling dangerous situations and hazards and about First Aid.

Employees working with hazardous substances have to be instructed by their employer on potential dangers as well as on protective measures by means of the operation manual. Furthermore, women of child-bearing age must be informed about potentials risks and possible working restrictions for pregnant women. The instructions should be given before employment and at least once a year in a form relevant to the respective workplace. Contents and time of the instructions have to be recorded in writing and to be confirmed by the instructed personnel by signature.

3. Protecting the Workplace by Automated Dosing Systems

The safe handling of liquid cleaners and disinfectants is actively supported by our weigomatic® and neomatik® dosage systems. The automated dosage of cleaners and disinfectants directly out of the delivered containers guarantees not only continuously steady concentrations in conjunction with efficient product application, but also avoids direct contact of the employees with the concentrated products. Consequently, accidents with serious burns etc. are practically prevented.

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