

## Proper handling of cleaning agents

### I. General

1. Hazardous materials (HM) are present in our daily life. Not only the commercial sector deals with HM, also private households use various chemicals, such as cleaning agents. Alongside with the useful effects, handling chemicals or HM can bear health risks.
2. HM are dangerous substances or mixtures with one or more of the following characteristics:



Explosive



Toxic or very toxic



Carcinogenic/  
Mutagenic or  
teratogenic/ noxious



Oxidizing



Corrosive



Dangerous to the  
environment



Flammable or highly/  
easily flammable



Irritant/  
sensitizing

Usually one can find the hazard pictogram (sign) on the packaging of the product (displayed above are the new symbols in accordance with the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals; These replace the old pictograms which used to be orange squares). **Read the labels carefully.** Detailed information, e.g. about precautionary and first aid measures can also be found on the Material Safety Data Sheets (MSDSs) or the operating instructions of the workplace.

### II. Sources for MSDSs

1. The MSDS should be included with the product when it is purchased or received. Always ask for a copy of the respective MSDS when purchasing and picking up an ordered product.
2. If the MSDS is not included with the product or if no MSDS is available for products already stored at your location, you can usually obtain them from the following internet sites:

<http://hmirmsds.dlis.dla.mil> (user ID: nu03300, leave password blank)

<http://hazard.com/msds>

<http://msds.chem.ox.ac.uk/msds-searcher.html>

[http://www.dlis.dla.mil/webflis/pub/pub\\_search.aspx](http://www.dlis.dla.mil/webflis/pub/pub_search.aspx)

3. MSDSs in other languages:

<http://www.kodak.com/US/en/corp/hse/prodSearchMSDS.shtml> (Various languages)

#### Cleaning Agents Information Sheet

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### III. Possible risks from cleaning agents

1. The hazardous characteristics of cleaning agents bear many risks. Inhalation, ingestion or absorption via skin can lead to severe damage of health or even death.
2. Possible symptoms may be headaches, nausea, sickness and drowsiness to the point of unconsciousness. In severe cases intoxication, irritation or chemical burn of lungs and/or skin can occur.
3. It is important to **ALWAYS follow the instructions** on the cleaning agents you work with. Many concentrated agents must be diluted prior to use (give concentrate into water!). **Read the labels carefully.**
4. Precautionary measures include but are not limited to the use of skin protection agents and wearing protection gloves.



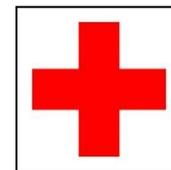
### IV. Chemical accidents after mixing of cleaning agents



1. Many accidents with chemicals are caused by the mixing of acids<sup>1</sup> (pH 1-3) with bases<sup>2</sup> (pH 8-12).
2. Toxic fumes such as chlorine gas may be released into the air if these products are mixed or incorrectly used. This can lead to chemical burns on the respiratory tract and lungs. Therefore **special attention must be applied.**
3. The mixing of different cleaning agents can also lead to weakening of cleaning power, exothermal (heating) reactions, chemical reaction (spilling), and generation of toxic components.

### V. First Aid Measures (follow instructions on the MSDS)

1. Inhalation: Remove from exposure. In severe cases obtain attention.
2. Skin contact: Wash off skin thoroughly with cold water. contaminated clothing and wash before re-use. In severe obtain medical attention.
3. Eye contact: Irrigate thoroughly with cold water for at least 15 minutes. Obtain medical attention.
4. Ingestion: Wash out mouth thoroughly with water. Do not induce vomiting. Obtain medical attention.



medical  
Remove  
cases

<sup>1</sup> e.g. toilet and bath cleaners such as Ringmaster All Purpose Bathroom Cleaner and Greenworks Bathroom Cleaner

<sup>2</sup> e.g. limescale remover and disinfectants such as Simple Green® All-Purpose Cleaner and Clorox® Regular Bleach

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