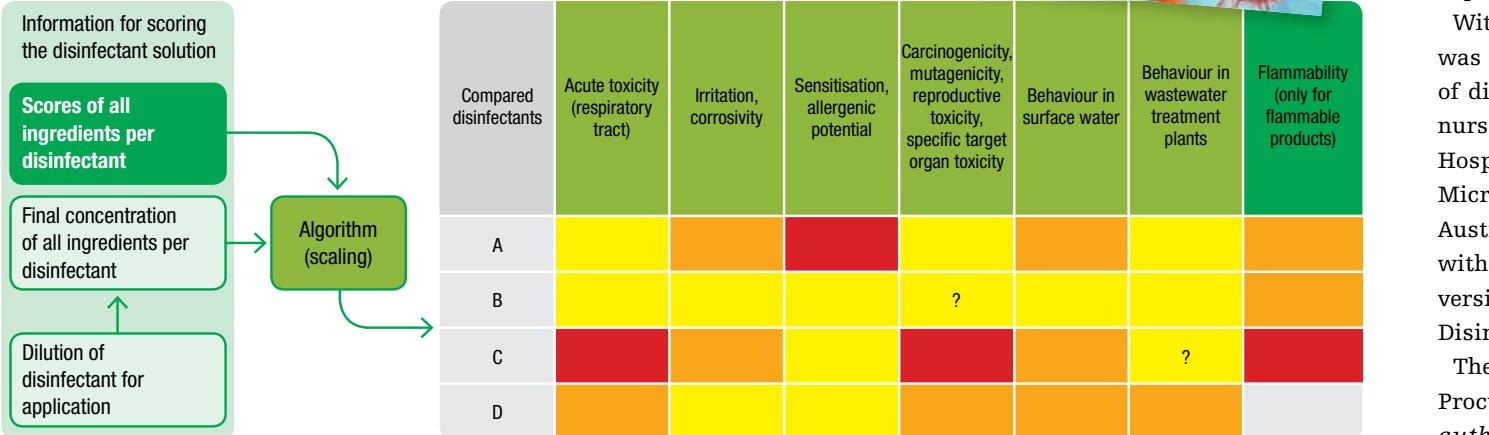


The WIDES Database

Product assessments for four different disinfectants



WIDES goes beyond standard labelling requirements

To compare the hazard potential of disinfectants, users and procurers rely primarily on information from product labelling (under the CLP Regulation) and manufacturers' safety data sheets (SDS). But do product labels and SDS provide appropriate assistance when it comes to substituting one disinfectant with a less hazardous one? We believe that this information on its own is a poor tool for this job and that WIDES provides suitable help for the following reasons:

- Under the CLP Regulation, labelling and classification requirements are only triggered at generic concentration limits. For example, an ingredient classified as skin or respiratory sensitiser (category 1), labelling is triggered only above a concentration of 0.1%. Below a concentration of 1 % the product is not classified nor labelled as sensitising. But the WIDES assessment does not lose the classification and still takes into account low concentra-

tions of highly hazardous ingredients in its product assessment.

- Safety data sheets provide no information about the hazard potential of aqueous solutions as diluted from the labelled concentrate. WIDES enables comparison of products taking into account the dilution processes and therefore points to the least hazardous final solution for the intended application.

The origins of WIDES in green procurement

Every year, the City of Vienna spends approximately five billion euro for a wide variety of goods and services. Given this considerable purchasing power and responsibility, the City Administration decided to implement a green procurement programme, "ÖkoKauf Wien" (Ecobuy Vienna), set up in 1998 as a leading programme of the Vienna Climate Protection Programme. "ÖkoKauf Wien" is organised across all departments of the City to develop ecological criteria and selection tools for product groups purchased by the City.

By executive decree, the list of criteria is binding for all departments of the City Administration.

Within "ÖkoKauf Wien", a working group on disinfectants was set up to help ensure a responsible and safe handling of disinfectants within Viennese hospitals, nursing homes, nurseries and schools. Partners are comprised of the Vienna Hospitals Association, the Austrian Society for Hygiene, Microbiology and Preventive Medicine (OEGHMP) and the Austrian Workers Compensation Board (AUVA), together with a team of experts in toxicology from a number of universities and NGOs. This team has developed the Viennese Disinfectant Database, WIDES.

The European Commission has endorsed "Green Public Procurement" defining it as "... a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured."³

**Note: The WIDES database has been developed exclusively for professional users.
Routine disinfection should not be undertaken in households.**

References:

- 1 Loddé B, Paul M, Roguedas-Contios AM, Eniafe-Eveillard MO, Misery L, Dewitte JD. Occupational dermatitis in workers exposed to detergents, disinfectants, and antiseptics. *Skinned*. 2012 May-Jun;10(3):144–50.
- 2 Grillitsch B, Gans O, Kreuzinger N, Scharf S, Uhl M, Fuerhacker M. Environmental risk assessment for quaternary ammonium compounds: a case study from Austria. *Water Sci. Technol.* 2006;54(11–12): 111–8.
- 3 Commission of the European Communities. Public procurement for a better environment. COM (2008) 400.

Statement of the Executive City Councillor for the Environment, Ulli Sima

"I am pleased that we have succeeded with the WIDES database to protect human health in harmony with environmental protection."

Statement of the Executive City Councillor for Public Health and Social Affairs, Sonja Wehsely

"Disinfection protects against infections, but chemical disinfectants also pose a threat to human health. The WIDES database compares commercially available products and identifies the level of the threat. This can help to switch from a very aggressive product to a more compatible one."

Statement of the Executive Director of HCWH Europe, Anja Leetz

"HCWH Europe promotes the WIDES database and encourages its use across Europe. We believe this is a very practical step to protect health-care workers, patients and the environment from harmful substances."

Health Care Without Harm (HCWH) is a global non-profit organisation whose mission is to transform the health sector worldwide so that it becomes ecologically sustainable and a leading advocate for environmental health and justice across the globe.

Partner Institutions:

- "ÖkoKauf Wien" • Wiener Umweltanwaltschaft (WUA) • Austrian Society for Hygiene, Microbiology and Preventive Medicine (Österreichische Gesellschaft für Hygiene, Mikrobiologie und Präventivmedizin – ÖGHMP) • Austrian Workers Compensation Board (Allgemeine Unfallversicherungsanstalt – AUVA)
- IFZ Graz, Inter-University Research Centre for Technology, Work and Culture (Interuniversitäres Forschungszentrum für Arbeit, Technik und Kultur – IFZ Graz) • Engineering Office Klade (Technisches Büro Klade) • Vienna Hospitals Association (Wiener Krankenanstaltenverbund – KAV) • Association of Austrian Environmental Helpdesks („die umweltberatung“) • BG Bau, the German professional association for the building industry (WINGIS-online – Hazardous materials information system of BG Bau)
- Health Care Without Harm – Europe



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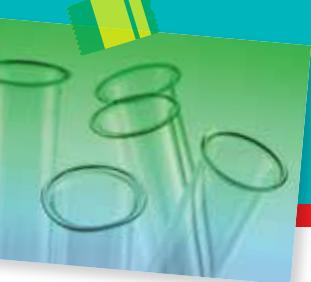
The WIDES Database for Choosing Disinfectants
Evaluating the health and ecological effects of disinfectant products

www.wides.at



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Vienna is special.

The WIDES Database for Choosing Disinfectants — Evaluating the health and ecological effects of disinfectant products



Chemical disinfection — currently indispensable ...

Disinfectants, belonging to the group of biocides, are widely used in healthcare settings to prevent and control infections. Routine disinfection measures are indispensable to protect people's health. Disinfectants are used at many points, such as working surfaces, flooring, furnishings, medical devices and last but not least on the skin. They are applied to kill or inactivate infectious agents such as bacteria, viruses or fungi. Where thermal disinfection is not possible, the use of chemicals is essential.

... but with the threat of toxic and ecotoxic impacts

Disinfectants don't just attack infectious agents. Due to their ability to kill cells they also pose certain hazards for human health. They may contain a variety of substances — surfactants, solvents, fragrances, etc. — which may have skin degreasing, irritating, corrosive or sensitising properties in addition to the cytotoxic impacts of a disinfectant. Where disinfectants have been used routinely and professionally, cases of skin and mucous membrane irritation, allergic and contact eczema, bronchitis and allergic asthma are well documented.¹

In the wider environment, disinfectants can also pose a threat. Sewage treatment plants may receive disinfectants through the drainage systems, and the biological treatment processes may be impaired because of the toxicity of disinfectants to the microorganisms that biodegrade waste components. And ingredients that do not biodegrade can find their way into surface waters where they may threaten aquatic life. The Austrian Federal Environment Agency, for example, has found high levels of antimicrobial compounds in some rivers and could not rule out the possibility that these levels were harmful.²



Choosing the most appropriate disinfectants — the WIDES database — an innovative tool for substitution

The WIDES database (Wiener Desinfektionsmittel-Datenbank) has been developed by the Vienna City Administration to directly address the difficulties in choosing appropriate disinfectants while at the same time considering the wider health and environmental impacts. WIDES is a user-friendly information system which compiles and analyses the hazards of commercially available disinfectants.

WIDES enables purchasing departments and those responsible for sanitation in healthcare settings to compare products with a mouse click. Disinfectants that pose less risk to hospital staff, patients and the environment can be chosen — a triple payback which is likely to be cost-effective in the long term through reduced illnesses and environmental protection.

WIDES is an innovative instrument for enabling substitution of highly hazardous disinfectants with products that have lower impacts on health and/or the environment.

Features of the WIDES database

- Available in English and German, and free of charge to all users at: www.wides.at/en (English) and www.wides.at (German).
- Includes training videos.
- Lists about 200 ingredients of disinfectants, and includes published human toxicological and ecotoxicological data and hazard statements of the substances.
- Hosts around 200 market-based products for hygienic hand wash, hand disinfection, skin antisepsis, surface, instrument and linen disinfection.
- Exclusively hosts products with independently certified efficacy and with safety and product data sheets that fulfil sufficient quality criteria.
- Assesses active substances and other ingredients in six hazard categories based on the hazard classification (hazard categories, hazard statements) of the Classification, Labelling and Packaging Regulation (EC) No 1272/2008 (CLP).
- Assesses products according to an evaluation scheme which takes into account all ingredients with hazardous properties at their specific concentration.
- Compares products in response to the user's selection of a specific exposure time and spectrum of activity.
- Enables the user to carry out comparisons of products as the final diluted working solutions.
- Displays product assessment through a colour code from pale yellow (low hazard potential) to red (high hazard potential).
- Reports data gaps concerning the hazard potential of ingredients by using question marks.
- User-friendly design, developed in active cooperation with hygienists and OHS professionals.
- Welcomes disinfectant manufacturers wishing to have their products included in the Database. Minimum criteria are specified on the WIDES website.

How WIDES works

WIDES has been developed in collaboration with international experts in occupational health and environmental protection. The assessment scheme of WIDES is two-tiered. First, the database applies an evaluation of the hazardous properties of chemical ingredients in disinfectants and the flammability of products. Secondly, a comparison of the adverse properties of disinfectants is provided, taking into account their dilution for a particular application.

Scoring the hazards of chemical ingredients

For each disinfectant to be assessed, the necessary information on the hazards of the individual ingredients is recorded in the WIDES database, with references indicating the source of the information. The hazards of each ingredient are scored in six categories by assigning assessment numbers. These hazard scores are independent of any dilution, being intrinsic to the properties of the ingredients.

Ignition sources, such as open flames and hot plates in kitchens or lasers in operating rooms, can set alight alcohol-containing disinfectants. Therefore, in addition to the four health-based and two environmental categories, the flammability of alcohol-containing products is scored in WIDES. The assessment is based on the physical properties of the product, as specified in the product's safety data sheet.



Assessment of ingredients in six hazard categories

- Acute toxicity (respiratory tract)
- Irritation, corrosivity
- Sensitisation, allergenic potential
- Carcinogenicity, mutagenicity, reproductive toxicity, specific target organ toxicity
- Behaviour in surface water
- Behaviour in wastewater treatment plants

Comparison of disinfectants as diluted for use

Then these scores are adjusted to take into account the final concentrations of the ingredients (using a straightforward calculation). If more than one ingredient with a particular hazard is present, the adjusted scores are then summed for each hazard, so each disinfectant ends up with 6 scores (or 7 if flammable). This comprises a disinfectant's hazard profile (or product assessment). The scores are represented visually by a colour code, from pale yellow (relatively low hazard) to red (high hazard). Where information on a hazard has not been available, a white field is used to indicate lack of data and an inability to make an assessment.

Since the information for the individual hazard categories is not combined, the user is able to decide which categories are (most) relevant against the background of exposure to humans and the environment caused by the particular application being considered.