Lessons from the City of Vienna and the WIDES Database

www.wides.at/
www.wides.at/en

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WEBINAR
Promoting Safer Disinfectants in the Global Health Care Sector
Thursday 23 April 2020 | 14:30 - 17:00
ÖkoKauf Wien (Ecobuy Vienna) - Programme for Green Public Procurement

• In 1998 the Vienna City Administration decided to purchase ALL its goods and services according to ecological considerations. For this purpose the programme „ÖkoKauf Wien“ was implemented. (Vienna’s Budget: ~ € 5 billion per year)

• All Results, as eco-criteria lists, position papers and Web tools are published on the website: http://www.oekokauf.wien.at

• By executive decree, these criteria lists are binding for all departments of the Vienna City Administration over the course of public procurement and tendering.
Participants of the „EcoBuy Vienna“ Working Group „Disinfection“

Manufacturers of Disinfectants or Active Substances

Federal Ministry for Social Affairs

Federal Ministry for Environment

Austrian Workers Compensation Board

Austrian Society for Hygiene, etc. - ÖGHMP

Ecotoxicologists TB Klade etc.

Consumer Association, VKI

Dep. for Environmental Protection, Vienna

Vienna Ombuds-Office for Environmental Protection

Also HCWH - Look up all Cooperation Partners at www.wides.at/en !
Our Theses, when we started

- The use of disinfectants in hygiene risk areas is indispensable.

- Several disinfectants show relevant impacts on health and the environment.

- Disinfectants (with the same application field, efficacy and spectrum of activity) show relevant differences in their toxicological profiles that justify substitution measures.

- It is possible to identify those products with the lowest impact on health and environment, despite a lack of data, complex composition and diverse dilution rates.

- Disinfectants with the lowest impacts are affordable.
OUR MAIN GOAL was SUBSTITUTION of the most toxic products

Reduction of possible risks of disinfection measures for health and the environment to a minimum, by carefully selecting those disinfectants with the lowest hazard potential from the market supply.

BUT a lot of disinfectants are sold as concentrates. Depending on the specific application the dilution rate changes and also differs between the products.

That´s why the information in Safety Data Sheets do not provide enough basis to carry out comparisons of the diluted products “ready to use”.

This makes substitution of disinfectants difficult. That´s why we created a Database to compare products at the needed dilution rates.
The WIDES Database is industry-independent, user-friendly and without charge.

It includes:

- Human- and ecotoxicological data on > 200 ingredients of disinfectants, as antimicrobial substances, surfactants, solvents, etc. including source references.

- Data regarding the composition, INDEPENDENTLY CERTIFIED spectrum of activity, applications and material compatibility of > 300 disinfectants for surfaces, instruments, laundry, dishes, hands and skin. Mainly from manufacturers’ data.

- An evaluation scheme to compare human- and ecotoxicological properties of the ingredients of the most important disinfectants available on the Austrian market.

German and English Training Videos and Flyers

www.wides.at and www.wides.at/en
Categorization of Adverse Impacts

Ingredient Classifications & hazard statements

- Acute toxicity (respiratory tract)
- Irritation, corrosivity
- Sensitisation, allergenic potential
- Carcinogenicity, mutagenicity, reproductive toxicity, specific target organ toxicity
- Behaviour in surface water acute
- Behaviour in surface water chronic
### Rules for the Assessment of Ingredients

<table>
<thead>
<tr>
<th><strong>ASSESSMENT-NUMBER (HAZARD POTENTIAL)</strong></th>
<th><strong>ACUTE TOXICITY (RESPIRATORY TRACT)</strong></th>
<th><strong>IRRITATION AND CORROSIVITY</strong></th>
<th><strong>SENSITISATION, ALLERGENIC POTENTIAL</strong></th>
<th><strong>CMR EFFECTS &amp; CHRONICALLY TOXIC PROPERTIES</strong></th>
<th><strong>BEHAVIOUR IN SURFACE WATERS</strong></th>
<th><strong>ACUTE</strong></th>
<th><strong>CHRONIC</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>7 (very high ++)</td>
<td>H300, H310, H330</td>
<td></td>
<td></td>
<td></td>
<td>H400 (M10000)</td>
<td>H410 (M1000)</td>
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<tr>
<td>6 (very high +)</td>
<td>H301, H311, H331 + H314 EUH032</td>
<td>H314 (1A)</td>
<td>H334</td>
<td>H340, H350, H360</td>
<td>H400 (M10000)</td>
<td>H410 (M100)</td>
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<tr>
<td>5 (very high)</td>
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<tr>
<td>4 (high)</td>
<td>H301, H311, H331, EUH029, EUH031, EUH070, H370</td>
<td>H314 (1B, 1C)</td>
<td>H317</td>
<td>H341, H351, H361, H362</td>
<td>H400 (M100)</td>
<td>H410 (M10)</td>
<td></td>
</tr>
<tr>
<td>3 (moderate)</td>
<td>H302, H312, H332, H371</td>
<td>EUH071</td>
<td>H373</td>
<td></td>
<td>H400 (M1)</td>
<td>H411</td>
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<tr>
<td>2 (low)</td>
<td>H304, H336</td>
<td>H315, H319, H335, EUH066</td>
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<td>1 (no)</td>
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<tr>
<td>?</td>
<td>Based on available data (e.g. animal studies) the hazard potential is negligible.</td>
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<td></td>
<td>A hazard cannot be excluded based on contradictory or insufficient data for an assessment.</td>
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Assessment of Active Substances

Assessment of all ingredients, integrated in the WIDES Database: www.wien.gv.at/wuawides/internet/Inhaltsstoffsuche/Bewertungen

**Substance:** Glutaraldehyde (CAS 111-30-8)

**Intended use:** antimicrobial agent

**Data source classification:** REACH registration dossier

<table>
<thead>
<tr>
<th></th>
<th>Acute toxicity (respiratory tract)</th>
<th>Irritation and corrosivity</th>
<th>Sensitisation, allergenic potential</th>
<th>CMR effects &amp; chronically toxic properties</th>
<th>Behaviour in surface water acute</th>
<th>Behaviour in surface water chronic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applied H-statement resp. data set</strong></td>
<td>H331 + H314 (Skin Corr.1B)</td>
<td>H314 (Skin Corr. 1B)</td>
<td>H334</td>
<td>Based on available data (REACH dossier) hazard potential can be excluded</td>
<td>H400</td>
<td>H411</td>
</tr>
<tr>
<td><strong>ANo (Hazard potential)</strong></td>
<td>5 (very high)</td>
<td>4 (high)</td>
<td>5 (very high)</td>
<td>1 (no)</td>
<td>3 (moderate)</td>
<td>3 (moderate)</td>
</tr>
</tbody>
</table>
Comparative Product Assessment in the WIDES

<table>
<thead>
<tr>
<th>Compared disinfectants</th>
<th>Acute toxicity (respiratory tract)</th>
<th>Irritation, corrosivity</th>
<th>Sensitisation, allergenic potential</th>
<th>Carcinogenicity, mutagenicity, reproductive toxicity, specific target organ toxicity</th>
<th>Behaviour in surface water acute</th>
<th>Behaviour in surface water chronic</th>
<th>Flammability (only for flammable products)</th>
</tr>
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<tbody>
<tr>
<td>A</td>
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</table>
Consulting Activities using the WIDES Database

Since 2010 we consult hospitals, kindergardens, schools, official swimming pools and further Viennese institutions by selecting safe disinfectants - using the WIDES Database [www.wides.at](http://www.wides.at)

Examples for Substitution

In Viennese schools antimicrobial soaps were replaced with ordinary soap.

In our official swimming pools the use of a disinfectant with an ingredient with CMR properties could not be substituted. But the concentration could be reduced by 50%. After some time, the manufacturer changed the formulation and could phase out Trisodiumnitriltriacetate.

The department for Health Service (MA15) changed the guidance for the selection of effective disinfectants. The use of „aldehydes“, which had been recommended since 1995, was explicitly not recommended any more since 2014. The assessment in the WIDES Database played a key role for this decision.

Provisional conclusion: The use of product D generates an emission of 232 kg substances of very high concern per year. There are products available for the same application and with the same efficacy which emit 0 kg substances of very high concern. A substitution should be taken into consideration but does not appear to be urgent (distance to worst case products is substantial).
**MONITORING the disinfectants used in Viennese departments in 2015**

**Blue:** Additional emissions in kg/year, if the worst products from the market would be used.

**Black:** Potential for substitution in kg/year, if the best products from the market would be used.
List of Recommended Disinfectants of the Vienna Hospital Association using (also) the WIDES Database

Persons responsible for hygiene measures in the Viennese Hospitals Association created a performance specification for a number of applications of disinfectants. These specifications - including criteria such as quantity, packaging size, spectrum of activity, and absence of aldehydes - were made part of a public tender.

The proposals received were ranked both by price and by considering the ecological and health-related impacts according to the WIDES assessment. Low price products with a good ecological and health ranking were identified and a list of recommended, low-price disinfectants was created.

The Viennese Hospitals Association now takes this list into consideration. (Actually about 90% of the used disinfectants are from this list.)
Analysis showed that all chemicals with allergenic, toxic, teratogenic, (potentially) carcinogenic and very ecotoxic chemicals with long lasting effects to aquatic life could be phased out of routine disinfection of surfaces, instruments and hands by using the disinfectants, that are on top of the recommendation list.
Using the WIDES database to protect pregnant employees

- The Austrian Labour Inspectorate made a DECREE about hand disinfectants that may be used by pregnant employees.
- The WIDES is used to select products that fulfill the criteria.
- The decree resulted in a strong increase of the use of perfume-free products with low hazardous potential.

Händedesinfektion und Beschäftigungsverbot § 4 Abs. 2 Z 4 MSchG
Who uses the WIDES database?

**Its use is binding**
for the Vienna Hospital Association
for Kindergardens, Schools and Baths of the City of Vienna

**Its use is recommended by**
- the Austrian Action Plan für Sustainable Procurement
- the global NGO „Health Care without Harm“
- the Austrian Labour Inspectorate
  (Austrian Decree about Hand Disinfectants for Pregnant Employees)
Publications by WHO and ILO, EU-Commission, ICLEI and now: EU-OSHA
CONCLUSIONS

The WIDES Database provides ALL users of disinfectants with useful information, even at global scale. (BECAUSE the listed active ingredients cover a significant proportion of those used worldwide, and typical formulations of disinfectants are similar worldwide. ) English training videos facilitate use!!! (Look at: www.wides.at/en)

ALL disinfectant manufacturers wishing to have their products included in the WIDES Database are welcome, if they meet some basic criteria, specified on the website.

„The dose makes the poison.“ That´s why it´s useful not only to phase out the most hazardous chemicals, but to also consider the concentration of all relevant chemicals to select the safest products.

QUESTION TO YOU:
DO YOU SEE SYNERGIES WITH YOUR WORK?
Thank You!

German Website  www.wides.at
English Website  www.wides.at/en

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