



# List of disinfectants and disinfection methods tested and approved by the Robert Koch Institute

As of 27 January 2026 (18th edition)

Below is the list of agents and procedures tested and approved by the Robert Koch Institute for disinfection measures in accordance with Section 18 of the Act on the Prevention and Control of Infectious Diseases in Humans (Infection Protection Act, IfSG, of 20 July 2000, Federal Law Gazette I p. 1045, last amended by Article 8v G. of 12 December 2023, Federal Law Gazette 2023 I No. 359).

The list reflects the current status and replaces the previous 17th edition of the list, last published in the Federal Health Gazette in 2017 [1].

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## Preliminary remark

When using the agents and methods listed below, their microbiological spectrum of activity must be taken into account. The areas of activity are indicated by letters, which mean:

- A** Suitable for killing vegetative bacteria, including mycobacteria, and fungi, including fungal spores (*for products containing ingredients for hygienic hand disinfection: suitable for killing vegetative bacteria, including mycobacteria and yeasts*).
- B** Suitable for inactivating viruses  
(corresponds to the definition of "**virucidal**" [2]: effective against enveloped and non-enveloped viruses; for products containing it for surface disinfection, the area of effectiveness corresponds to the definition of "**virucidal PLUS**" [3])  
  
Other areas of effectiveness listed in the RKI list for virus inactivation according to [2]:  
"**Limited virucidal**" – effective against enveloped viruses,  
"**Limited virucidal PLUS**" – effective against enveloped viruses as well as adeno-, noro- and rotaviruses.
- C** Suitable for killing spores of the anthrax pathogen.
- D** Suitable for killing spores of the pathogens that cause gas oedema and tetanus (sterilisation procedures must be used to kill these spores, taking into account the relevant standards).

With regard to the effectiveness of disinfection measures against the pathogen that causes Creutzfeldt-Jakob disease, including its new variant, reference is made to the announcements in the Federal Health Gazette [4-10] in particular.

Information on the type and scope of disinfection measures for certain infectious diseases is contained in further publications by the Robert Koch Institute [11].

When using disinfectants and disinfection methods, their compatibility with the objects to be disinfected must also be taken into account.



## Agents and procedures

### 1 Thermal processes

#### 1.1 Incineration

Area of application: ABCD

#### 1.2 Boiling with water

Disinfection temperature: 100 °C

Exposure time: at least 3 min, effective range: AB  
at least 15 min, effective range: ABC

For implementation, see [12]

#### 1.3 Steam disinfection method

The steam disinfection methods listed here are used to disinfect contaminated objects that are resistant to disinfection temperatures of up to 105 °C. It must also be ensured that the air can be displaced from the item. The exposure time is calculated from the point at which all parts of the material are exposed to saturated steam and have reached the disinfection temperature. The disinfection of porous materials (e.g. bedding, mattresses) requires fractionated vacuum procedures. The methods described here are only suitable for waste that must be disinfected in accordance with the IfSG if the requirements listed in 3.4.2.1 and 3.4.2.3.1 are met (disinfection of waste, see 3.4).

The wastewater and exhaust air produced during the procedures must be treated in such a way that they do not pose any danger. The requirements of DIN 58949, Part 2 [13] must be observed. The disinfection systems must be loaded and operated in accordance with the operating instructions, regularly maintained and checked for proper functioning. Reference is made to DIN 58949, Part 3 [14] in this regard.

##### 1.3.1 Steam flow method

Disinfection in apparatus with saturated steam at a minimum temperature of 100 °C

Exposure time: at least 5 min, effective range: AB  
at least 15 min, effective range: ABC

##### 1.3.2 Fractional vacuum method (VDV method)

The methods are characterised by:

- 1) Removal of air from the chamber and disinfected items by repeated evacuation alternating with the inflow of saturated steam
- 2) Disinfection with saturated steam,
- 3) Drying of the disinfected items by evacuation (if necessary).

Steam that is largely free of air and foreign gases is required to carry out these procedures (see DIN EN 285 [15]). The disinfection chamber must be vacuum-tight. The specified absolute pressures must be maintained during the vacuum phases with a maximum deviation of +10 mbar and during the intermediate steam bursts with a maximum deviation of -10 mbar.



### 1.3.2.1 Miele system

#### Operating data:

##### a) 75 °C programme

#### Air removal

Number of evacuation phases: 4

Pressure to be achieved in the evacuation phases:

1st phase:  $\leq 50$  mbar

Subsequent phases:  $\leq 120$  mbar

During the first evacuation phase, once 50 mbar has been reached, steam is introduced into the chamber up to a pressure of 400 mbar and evacuated to 50 mbar.

Pressure to be reached during the intermediate steam bursts:  $\geq 400$  mbar.

#### Disinfection steam

temperature: 75 °C

Exposure time: 20 min Effective

range: AB, except viral hepatitis

##### b) 105 °C programme

#### Air removal

Number of evacuation phases: 4

Pressure to be achieved in the evacuation phases:

1st phase:  $\leq 50$  mbar

Subsequent phases:  $\leq 300$  mbar

During the first evacuation phase, once 50 mbar has been reached, steam is fed into the chamber up to a pressure of 400 mbar and evacuated to 50 mbar.

Pressure to be reached during the intermediate steam bursts:  $\geq 1000$  mbar.

#### Disinfection Steam

temperature: 105 °C

Application time: 1 min, effective range: AB 5  
min, effective range: ABC

Tested and approved device types: DGD 8803, DGD 8805

### 1.3.2.2 System MMM

#### Operating data:

#### Air removal

Number of evacuation phases: 5

Pressure to be achieved in the evacuation phases:  $\leq 80$  mbar

Pressure to be achieved during intermediate steam bursts:  $\geq 400$  mbar

#### Disinfection

##### a) 75 °C programme

Steam temperature: 75 °C

Exposure time: 20 min Effective

range: AB, except viral hepatitis



*b) 105 °C programme*

Steam temperature: 105 °C  
Exposure time: 1 min, effective range: AB 5  
min, effective range: ABC

Tested and approved device types: DES 1500/1501, DES 2000/2001, DES 3000/3001, DES 4000/4001, DES 6000/6001 and the structurally identical Vacudes types

### 1.3.2.3 WEBECO/MATACHANA system

#### Operating data:

##### Air removal

Number of evacuation phases: 5  
Pressure to be achieved during evacuation phases: ≤ 80 mbar  
Pressure to be achieved during intermediate steam bursts: ≥ 400 mbar

##### Disinfection

a) 75 °C programme  
Steam temperature: 75 °C  
Exposure time: 20 min Effective  
range: AB, except viral hepatitis

b) 105 °C programme  
Steam temperature: 105 °C  
Exposure time: 7 min  
Effective range: ABC

Tested and approved device types: LD 210, LD 215, LD 220, LD 225, LD 230, LD 235, LD 237, LD 240, LD 250 and the corresponding types in the LDH series

### 1.3.3 Procedures and device types no longer listed

Processes and equipment types listed in previous editions of the list but no longer listed above may continue to be used provided that the prescribed operating data and the conditions listed in section 1.3 are complied with.

## 2 Chemical agents and processes

The chemical agents must be diluted with water for use; the addition of cleaning agents or similar substances is not permitted.

If disinfectant dosing devices are used to produce the working dilutions, these should be tested in accordance with the guidelines issued by the Federal Institute for Materials Research and Testing (BAM) and the Federal Health Office [16, 17], or, since 2004, in accordance with the joint recommendation of BAM, RKI and the Commission for Hospital Hygiene and Infection Prevention

"Requirements for the design, properties and operation of decentralised disinfectant dosing devices" [18] and meet the respective requirements. The conditions and instructions for operation issued by the BAM during testing must be observed.



## 2.1 Instrument disinfection

For the reprocessing of medical devices, reference is made to the recommendation of the Commission for Hospital Hygiene and Infection Prevention at the RKI and the Federal Institute for Drugs and Medical Devices "Hygiene requirements for the reprocessing of medical devices" [7].

Table 1: Instrument disinfection

Active ingredient	Name	Concentration Working dilution [%]	Exposure time [min]	Area of effect	Manufacturer or applicant
Formaldehyde and/or other Aldehydes or derivatives	Descoton Forte	3	120	A	Dr. Schumacher
		5	60	A	
	formaldehyde solution (DAB 10) (formalin)	6	60	AB	
	Korsolex® basic	1	240	A	Bode Chemie
		2	120	A	
Per compounds	Peracetic acid <sup>1</sup>	0.35	60	AB	
	Sekusept active	2	60	A	Ecolab
		7	60	B	
Phenols	m-cresol soap solution (DAB 6)	1.5	60	A	

<sup>1</sup> Concentration specified based on an active ingredient content of 100%; note corrosive properties.

## 2.2 Surface disinfection (wipe disinfection), laundry disinfection, disinfection of excrement

For surface disinfection, reference is made to the recommendation of the Commission for Hospital Hygiene and Infection Prevention (KRINKO) at the Robert Koch Institute, "Hygiene requirements for cleaning and disinfecting surfaces" [19, 20].

Table 2: Disinfection of surfaces, laundry and excrement

Active ingredient	Name	Surface disinfection (wipe disinfection)		Linen disinfection (soaking method)		Disinfection of excrement 1 part sputum or stool + 2 parts GV or 1 part urine + 1 part GV						Area of application	Manufacturer or applicant
		GV [%]	EWZ [min]	GV [%]	EWZ [min]	Sputum		Stool		Urine			
						GV [%]	EWZ [min]	GV [%]	EWZ [min]	GV [%]	EWZ [min]		
Alcohols	Bacillo® AF	conc.	15									A	Bode Chemie
Chlorine, organic or inorganic substances with active chlorine	Chloramine-T (DAB 9)	2.5	120	1.5	12	5	240					A <sup>1</sup> B	
	Clorina®	2.5	120	1.5	12	5	240					A <sup>1</sup> B	Lysoform
	Trichlorol®	3	120	2	12	6	240					A <sup>1</sup> B	Lysoform
Formaldehyde and/or other aldehydes or derivatives	Aldasan® 2000	4	240									AB	Lysoform
	Formaldehyde solution (DAB 10) (formalin)	3	240	1.5	12							AB	
	Lysoform®	5	360	4	12							AB	Lysoform
	Lysoformin®	5	360	3	12							AB	Lysoform
	Optisept	7	240									AB	Dr. Schumacher
Lye	Lime milk							20	360			A <sup>3</sup> B	
Per compounds	APESIN AP100 Plus <sup>2</sup>	3	240									AB	tana-Chemie
	DESIFOR-ONE PROTECT	3	240									AB	DR. SCHNELL
	Dismozon®plus <sup>2</sup>	3.6	240									AB	Bode Chemie
	Dismozon®plus <sup>2</sup>	3.6	15									B	Bode Chemie

Active ingredient	Name	Surface disinfection (wipe disinfection)		Laundry disinfection (soaking method)		Disinfection of excrement 1 part sputum or stool + 2 parts GV or 1 part urine + 1 part GV						Area of application	Manufacturer or applicant
		GV [%]	EWZ [min]	GV [%]	EWZ [min]	Sputum		Stool		Urine			
						GV [%]	EWZ [min]	GV [%]	EWZ [min]	GV [%]	EWZ [min]		
	Incidin active <sup>2</sup>	3	60									AB	Ecolab
	Incidin active <sup>2</sup>	2	60									B	Ecolab
	perform <sup>®2</sup>	3	240									AB	Schülke & Mayr
	terralin <sup>®</sup> paa <sup>2</sup>	8	60									AB	Schülke & Mayr
	terralin <sup>®</sup> paa <sup>2</sup>	7	60									B	Schülke & Mayr
	Ultrasol active <sup>2</sup>	3	60									AB	Dr. Schumacher
	1+1 Wofasteril <sup>®</sup> SC super combination process <sup>2</sup>		60									AB	Kesla Pharma
	Wofasteril <sup>®</sup> SC super and alcapur <sup>®</sup>	2 2											
	Wofasteril <sup>®2</sup>	2	60									A	Kesla Pharma
	Wofasteril <sup>®2</sup>	2	240									AB	Kesla Pharma
	Wofasteril <sup>®</sup> combination therapy <sup>2</sup> Wofasteril <sup>®</sup> and alcapur <sup>®</sup>	2 6	60									AB	Kesla Pharma
Phenol or phenol derivatives	Amocid <sup>®</sup>	5	360	1	12	5	240	5	360	5	120	A	Lysoform
	Helipur <sup>®</sup>	6	240			6	240	6	360	6	120	A	B. Braun
	m-cresol soap solution (DAB 6)	5	240	1	12							A	
	Phenol	3	120	1	12							A	

<sup>1</sup> Insufficiently effective against mycobacteria, especially in the presence of blood during surface disinfection.

<sup>2</sup>Not suitable for disinfecting surfaces that are noticeably contaminated with blood or porous surfaces (e.g. raw wood).

<sup>3</sup> Not suitable for tuberculosis; preparation of lime milk: 1 part slaked lime (calcium hydroxide) + 3 parts water. GV: working dilution, EWZ: exposure time



## 2.3 Hygienic hand disinfection

Rub the solution into your hands and keep them moist for the prescribed exposure time. The times listed in the table are minimum values. In the case of heavy or visible contamination and contamination with tuberculosis bacteria, disinfection must be carried out twice. For hygienic hand disinfection, please refer to the recommendations of the Commission for Hospital Hygiene and Infection Prevention "Recommendations for Hand Hygiene" [21].

Table 3: Hygienic hand disinfection

Active ingredient	Name	Area of effect / Exposure times in minutes				Manufacturer or applicant
		A	Limited virucidal	Limited virucidal PLUS	B (virucidal)	
Alcohols <sup>1</sup>	AHD 2000®	½	½			Lysoform
	Aktivin DHH	½				WERO
	Alcoman	½	½			Meditrade
	Alcosyn	½	½		1½	DR. SCHNELL
	Aseptoman	½				Dr. Schumacher
	Aseptoman Viral	½			1½	Dr. Schumacher
	C 20	½	½			Orochemie
	Chirosyn Hand Disinfectant	½	½		1½	Orochemie
	CimoSkin	½				DR. SCHNELL
	Descoderm	½				Dr. Schumacher
	desderman®	½	½			Schülke & Mayr
	desderman® pure	½	½			Schülke & Mayr
	desmanol care®	½	½			Schülke & Mayr
	ERVESEPT	½				ERVE Germany
	Ethanol (DAB 10) 80% by volume	½				
	FINK Antiseptic HD med	½				Fink TEC
	HD 410	½	½			Orochemie
	Hospisept®	½	½			Lysoform
	Isopropanol 70% by volume	½	½			
	kodan® Tincture forte	½				Schülke & Mayr
	Manorapid® Synergy	½	½		1½	Lysoform
	Medisoft med – Hand disinfection Med	½	½			NW-Chemie
	mobilomed® msept Skinsoft	½				mobiloclean
	Nüscoman	½	½			Dr Nüsken Chemistry
	OP-Sept	½				Dr. Deppe Laboratory
	ORLIN SUPRADES HD	½				Kersia Germany
PentraMAN	½	½		1½	PRISMAN	
Poly-Alcohol Hand Antiseptic	½	½			Antiseptics	



Active ingredient	Name	Area of effect / exposure times in minutes				Manufacturer or applicant
		A	Limited virucidal	Limited virucidal PLUS	B (virucidal)	
	Poly-Alcohol Skin colourless Antiseptic	½				Antiseptics
	Promanum® pure	½	½			B. Braun
	n-propanol 60% by volume	½				
	RHEOSEPT	½	½			NW-Chemie
	Sanocid	½				Heck Hygiene
	sensiva® hand <sup>disinfection</sup>	½				Schülke & Mayr
	Skinman complete	½				Ecolab
	Skinman complete pure	½				Ecolab
	Skinman soft	½	½			Ecolab
	Softa-Man®	½	½			B. Braun
	Softa-Man® acute	½			1	B. Braun
	Spitacid	½	½			Ecolab
	Sterillium®	½	½			Bode Chemie
	Sterillium® classic pure	½	½			Bode Chemie
	Sterillium® med	½	½			Bode Chemie
	Sterillium® Virugard	½	½		2	Bode Chemie
Halogens	Braunol®	1				B. Braun
	Chloramine T (DAB 9) 1%	2 <sup>2</sup>			2	
	Chloramine T (DAB 9) 2%	1 <sup>2</sup>	1		1	
	Chloramine T-Lysoform® 1%	2 <sup>2</sup>			2	Lysoform
	Chloramine T-Lysoform® 2%	1 <sup>2</sup>	1		1	Lysoform
Other active ingredients	primasept® med	1				Schülke & Mayr
	Wofasteril® 0.5%	1	1			Kesla Pharma

<sup>1</sup> The classification of preparations in this group does not mean that the products contain only alcohols as active ingredients. Information on other active ingredients can be found in the manufacturer's declaration.

<sup>2</sup> Insufficiently effective against mycobacteria.



### 3 Special procedures

The devices must be operated in accordance with the operating instructions, regularly maintained and checked for proper functioning.

#### 3.1 Laundry disinfection in washing machines

The machines must ensure that the concentration of disinfectant and detergent specified for the respective process, the liquor ratio and the temperature are maintained during the exposure time. The data specified for the liquor ratio are minimum values. It is permissible to use larger liquors, taking into account the concentration specifications.

(Liquid = amount of liquid used to treat the items being cleaned during a work phase. Liquid ratio = ratio of the weights of the items being cleaned and the liquid.)

The disinfection temperature specified is the lower switching point of the temperature control of the respective device. This is to ensure that the disinfection temperature is not exceeded during the exposure time.

At the end of the disinfection phase, the items being disinfected, the liquid and the interior of the machine that came into contact with the contaminated laundry and liquid must be disinfected. The exhaust air must be removed or treated in such a way that it does not pose any danger. Before the end of the disinfection phase, no liquid may flow out of the machine if it is necessary to prevent pathogens from entering the wastewater. However, this is only necessary in special situations, e.g. if pathogens occur that do not or no longer occur in the UK and cause serious diseases (e.g. pathogens causing haemorrhagic fever). This procedure is therefore recommended in facilities where patients with highly dangerous, possibly imported infections are treated in accordance with their intended use, unless other disinfection methods (e.g. incineration) are specified [11, 22].

According to the current state of the art, these requirements can be met by the following washing machines:

- 1) discontinuously operating professional drum washing machines (domestic washing machines are generally not suitable),
- 2) Continuously operating washing machines as listed below.

The requirements issued by the Robert Koch Institute at the time of registration, in particular with regard to cycle times, must be observed.

*JENSEN UniQ50/40 cycle washing  
machine Manufacturer: JENSENEN  
GmbH*

#### 3.1.1 Thermal disinfection washing process

The concentration of the detergent should comply with the manufacturer's recommendations. The suitability of the detergent for washing should be confirmed by an expert opinion (textile technical expert opinion).

a) Disinfection temperature:	85 °C
Exposure time:	15 min
b) Disinfection temperature:	90 °C
Exposure time:	10 min
Liquid ratio:	1:4 to 1:5
Effective area:	AB



### 3.1.2 Chemothermic disinfection washing process

The conditions specified in the notification when the respective process was registered must be observed and the information on the process sequence listed therein must be strictly adhered to in order to ensure effectiveness.

The processes with per compounds as the active ingredient in Table 4 are not suitable for laundry that is noticeably contaminated with blood. The effectiveness of the processes has been proven in accordance with the test methodology for a blood load of 12.5 ml/kg of laundry [23, 24]. In the case of heavier soiling, the processes may be carried out twice if necessary.

Table 4: Chemothermal disinfection washing procedures with per compounds as the active ingredient

Name	Concentration (g or ml per 1 litre of solution)		Disinfection temperature [°C]	Exposure time [min]	Liquor ratio	Effective range	Manufacturer or applicant
	Detergent	Disinfectant					
APESIN system process	3 ml ACTIV liquid and 1 ml SYSTEM alca	3 ml APESIN oxides <sup>1</sup>	60	15	1:5	AB	tana-Chemie
ARENAS® - Method	1 ml ARENAS® -wash and 2 ml ARENAS® - excellent	5 ml ARENAS® - oxydes <sup>1</sup>	60	20	1:4	AB	Johannes Kiehl
ARENAS® - Method	5 ml ARENAS® - alcawash	6 ml ARENAS® - oxydes <sup>1</sup>	60	20	1:4	AB	Johannes Kiehl
BA 52 procedure	4 g Supertakt 2000	8 g BA 52 <sup>1</sup>	40	20	1:5	AB	Schuster Chemie
BA 52 process	2 g Supertakt 2000 and 2 g of detergent booster	2 g BA 52 <sup>1</sup>	60	15	1:5	AB	Schuster Chemie
BasePro Des40 process	2 ml BasePro Care	6 ml BasePro Des40 <sup>1</sup>	40	20	1:5	AB	Schneiderei
BasePro Des60 process	2-4 ml BasePro heavy-duty detergent	2 ml BasePro Des60 <sup>1</sup>	60	10	1:5	AB	Schneiderei
BEIBLEACH POWER ACTIVE Process	0.4 ml BEICLEAN NFG and 2 ml BEIPUR ANP	5 ml BEIBLEACH POWER ACTIVE <sup>1</sup>	40	20	1:5	AB	CHT Germany
Buz® Laundry Bright L 832 process	2 ml Buz® Laundry Compact L 810	6 ml Buz® Laundry Bright L 832 <sup>1</sup>	60	10	1:5	AB	BUZIL-WERK Wagner
Clax Personril process	4 g Clax Profi Forte	2 ml Clax Personril <sup>1</sup>	60	15	1:5	A	Diversey Germany
Clax Personril process	3-6 g Clax Profi	2 ml Clax Personril <sup>1</sup>	60	15	1:5	AB	Diversey Germany
Clax Personril process	3 g Clax Profi	1.6 ml Clax Personril <sup>1</sup>	70	10	1:5	AB	Diversey Germany
Clax Personril conc. process	1.25 g Clax 100 Colour and 1.875 g Clax MASTER Delta G	1.0 g Clax Personril conc. <sup>1</sup>	60	10	1:4	A	Diversey Germany
Clax Revoflow OXI process	3 g Clax Revoflow PRO	2.25 g Clax Revoflow OXI <sup>1</sup>	60	20	1:5	AB	Diversey Germany
Cool Asepsis process	0.5 g Cool Care, Cool Care Free or Cool Force	4.25 g Cool Asepsis <sup>1</sup>	20 followed by 60	5 then 10	1:4	AB	Christeyns
ESDOGEN DISINFECT Procedure	2 ml ESDOGEN DETERGENT	6 ml ESDOGEN DESINFECT <sup>1</sup>	40	20	1:5	AB	Kreussler Chemical Factory



Name	Concentration (g or ml per 1 litre of solution)		Disinfection temperature [°C]	Exposure time [min]	Liquor ratio	Effective range	Manufacturer or applicant
	Detergent	Disinfectant					
havon PROFESSIONAL DISINFECT 40-Process <sup>3</sup>	0.4 g havon U9 PLUS or havon B1, 0.4 g havon A3 and 4.5 g havon K5 4.4 g A3 (added when the disinfection temperature is reached)	5 g havon E4 and 5 g havon T7 <sup>1</sup>	40	20	1:5	A <sup>2</sup> B	Hagleitner Hygiene International
havon PROFESSIONAL DISINFECT 60-Method	0.4 g havon U9 PLUS or havon B1, 2.7 g havon A3 and 3.0 g havon K5	1.2 g havon E4 and 1.0 g havon T7 <sup>1</sup>	60	10	1:5	A	Hagleitner Hygiene International
Lizerna Sept procedure	0.5 ml Ozerna Diamond	3 ml Lizerna Sept <sup>1</sup>	60	10	1:4	AB	BÜFA
OTTALIN PA-CONC process	2 ml ESDOGEN DETERGENT	6 ml OTTALIN PA-CONC <sup>1</sup>	40	20	1:5	AB	Kreussler Chemical Factory
OTTALIN PA-CONC process	1.2 g TREBON SI	0.8 g OTTALIN PA-CONC <sup>1</sup>	60	10	1:5	AB	Kreussler Chemical Factory
OTTALIN PA-CONC process	1.2 g DERVAL POWER C	1.2 g OTTALIN PA-CONC <sup>1</sup>	65	12	1:4	AB	Kreussler Chemical Factory
OTTALIN PERACET Process	2-4 ml DERVAL SOLO or 2 g TREBON SI	2 ml OTTALIN PERACET <sup>1</sup>	60	10	1:5	AB	Kreussler Chemical Factory
OTTALIN PERACET-Process	2 g TREBON BASIS	2 ml OTTALIN PERACET <sup>1</sup>	65	12	1:5	A	Kreussler Chemical Factory
OXYPLEX Process	3 g ALIPLEX or 4 ml OLISSE	2 ml OXYPLEX <sup>1</sup>	60	15	1:5	AB	Bumus-Hychem
OXYPLEX plus process	1.2 ml Liquisan B	5 ml OXYPLEX plus <sup>1</sup>	40	10	1:5	AB	Bumus-Hychem
OXYPLEX plus process	1 ml Liquisan B	1 ml OXYPLEX plus <sup>1</sup>	60	10	1:5	AB	Bumus-Hychem
OXYPLEX plus process	3 g ALIPLEX or 4 ml OLISSE	0.7 ml OXYPLEX plus <sup>1</sup>	70	10	1:5	AB	Bumus-Hychem
Ozonite process	1.5 ml Ecobrite Magic Emulsion or Turbo Emulsion Future	1 ml Ozonit super <sup>1</sup> or 2 ml Ozonit <sup>1</sup>	60	10	1:5	AB	Ecolab
Ozonite process	3 - 6 g Triplex Energy PF	1 ml Ozonit super <sup>1</sup> or 2 ml Ozonit <sup>1</sup>	60	15	1:5	AB	Ecolab
Ozonite process	3 g Dermasil 3H PF2 or 0.9 ml Silex Emulsion, 1.5 g Triplex energy PF or 0.25 ml Turbo Plus and 1.5 ml Turbo Break	1 ml Ozonit super <sup>1</sup> or 2 ml Ozonit <sup>1</sup>	70	10	1:4	AB	Ecolab
Ozonite process	0.6 - 1.4 g Turbo Plus and 1-2.4 g Turbo Break	1 ml Ozonit super <sup>1</sup> or 2 ml Ozonit <sup>1</sup>	70	10	1:5	A	Ecolab
Ozonite process	3-6 g Triplex energy PF or 1.4 g Turbo	1 ml Ozonit super <sup>1</sup> or 2 ml Ozonit <sup>1</sup>	70	10	1:5	AB	Ecolab



Name	Concentration (g or ml per 1 litre of solution)		Disinfection temperature [°C]	Exposure time [min]	Liquid ratio	Effective range	Manufacturer or applicant
	Detergent	Disinfectant					
	Plus and 2.4 g Turbo Break						
Ozonite PERFORMANCE process	4 ml Turbo Usona	6 ml Ozonit PERFORMANCE <sup>1</sup>	40	15	1:5	AB	Ecolab
Ozonite PERFORMANCE process	0.9 ml Silex Emulsion	0.7 ml Ozonit PERFORMANCE <sup>1</sup>	60	12	1:4	AB	Ecolab
Ozonite PERFORMANCE process	0.8 ml Turbo plus and 0.5 ml Turbo Break	0.7 ml Ozonit PERFORMANCE <sup>1</sup>	60	10	1:5	AB	Ecolab
Ozonite PERFORMANCE process	1.5 g Triplex energy PF	0.6 ml Ozonit PERFORMANCE <sup>1</sup>	70	10	1:4	AB	Ecolab
Penta Active Process	4 g Tena ST	1 g Penta-Aktiv <sup>1</sup>	60	15	1:4	A	Bumus-Hychem
Penta Active process	0.5 g Liquisan A or Liquisan A without brighteners and 1 g Liquisan B or 3 g OLISSO Power	1 g Penta-Aktiv <sup>1</sup>	65	10	1:4	AB	Bumus-Hychem
Penta Active process	2.5 g Tenalan W	1 g Penta-Aktiv <sup>1</sup>	70	8	1:4	AB	Bumus-Hychem
Penta Active process	4 g Tena PF, Tena PF brightener-free, Tena ST or Penta base	1 g Penta-Aktiv <sup>1</sup>	70	10	1:4	AB	Bumus-Hychem
Peracid Asepsis process	1.2–2.4 g Majestic green	2 ml peracid asepsis <sup>1</sup>	70	10	1:4	AB	Christeysn
Peracid Forte method	4 g Selox Micran	6 ml Peracid Forte <sup>1</sup>	40	15	1:5	AB	Christeysn
Peracid Forte method	1.5 g Majestic Maxima	0.6 ml Peracid Forte <sup>1</sup>	60	10	1:5	AB	Christeysn
Peracid Forte method	3-5 g Majestic soap	0.7 ml Peracid Forte <sup>1</sup>	65	15	1:5	AB	Christeysn
Peracid Forte process	1.5 g Majestic Excellent, Majestic Excellent Free, Majestic colour, Majestic Maxima or Majestic Sava	0.6 ml Peracid Forte <sup>1</sup>	20 followed by 70	5 then 10	1:4	AB	Christeysn
Peracid Forte method	3-5 g Majestic soap	0.7 ml Peracid Forte <sup>1</sup>	70	10	1:5	AB	Christeysn
Personnel procedure	3-6 g Osmaflex profi	2 ml Personril <sup>1</sup>	60	15	1:5	AB	Christeysn
Personnel procedure	1.5 g Osmaflex Ideal or Osmaflex Ideal Free	0.7 ml Personril <sup>1</sup>	70	10	1:4	A	Christeysn
Personnel procedure	2 g Majestic Sava or 3 g Osmaflex Thema, Record Special or 1.5 g Select Power	1.6 ml Personril <sup>1</sup>	70	10	1:4	AB	Christeysn



Name	Concentration (g or ml per 1 litre of solution)		Disinfection temperature [°C]	Exposure time [min]	Liquor ratio	Effective range	Manufacturer or applicant
	Detergent	Disinfectant					
Personal care products	1.5 g Majestic colour, Majestic Excellent or Majestic Excellent Free	1.9 ml Personril <sup>1</sup>	20 followed by 65	5 then 10	1:4	AB	Christeyns
Personnel procedure	1.5 g Majestic Sava	1.8 ml Personril <sup>1</sup>	20 followed by 70	5 followed by 10	1:4	AB	Christeyns
Personnel procedure	3 g Osmaflux profi	1.6 ml Personril <sup>1</sup>	70	10	1:5	AB	Christeyns
PES 32 method	2–4 g Maximo Liquid	2 ml PES 32 <sup>1</sup>	70	10	1:5	A	Kleen Purgatis
PES 32 process	2 g Maximo Liquid	2.5 ml PES 32 <sup>1</sup>	70	10	1:5	AB	Kleen Purgatis
Prima Oxy process	4 ml Prima Hygiene	2 ml Prima Oxy <sup>1</sup>	60	15	1:5	AB	DR. SCHNELL
PRIMA SAN Method	1 g PRIMA SAN AKTIV and 1.5 g PRIMA SAN ALKA	1 g PRIMA SAN OXY <sup>1</sup>	60	10	1:5	AB	DR. SCHNELL
RHEOSOL Acid 5-process	2-6 g RHEOSOL Basic	2 ml RHEOSOL-Acid-5 <sup>1</sup>	60	15	1:5	A	NW-Chemie GmbH
Sanoxy Forte process	4 g Selox Micran	6 ml Sanoxy Forte <sup>1</sup>	40	15	1:5	AB	Christeyns
Sanoxy Forte procedure	1.5 g Majestic Maxima	0.6 ml Sanoxy Forte <sup>1</sup>	60	10	1:5	AB	Christeyns
Sanoxy Forte method	1.5 g Majestic Excellent, Majestic Excellent Free, Majestic colour, Majestic Maxima or Majestic Sava	0.6 ml Sanoxy Forte <sup>1</sup>	20 followed by 70	5 followed by 10	1:4	AB	Christeyns
Sept PES Concentration method	1.5 g Ozema Tiger	2 ml Sept PES conc. <sup>1</sup>	70	10	1:5	AB	BÜFA
SMART PROTECTION Process	0.6 ml BEIPUR ANP	0.5 ml BEIBLEACH WP35 <sup>1</sup>	70	10	1:4	AB	CHT Germany
Trisanox process <sup>2</sup>	1.5 g Liquisan B	1 g Trisanox oxide <sup>1</sup> and 1 g Trisanox-Active <sup>1</sup>	60	10	1:5	AB	Bumus-Hychem
Viva Duox process	2 g Viva Lana	7 ml Viva Duox <sup>1</sup>	40	20	1:5	AB	SEITZ
Viva Duox procedure	1.5 g Viva Pris	1.5 g Viva Duox <sup>1</sup>	60	10	1:4	AB	SEITZ
Viva Duox method	1.5 g Viva Pris	1.5 g Viva Duox <sup>1</sup>	60	10	1:5	AB	SEITZ
Viva Duox procedure	1 g Mega Power	1.7 g Viva Duox <sup>1</sup>	70	10	1:4	AB	SEITZ
Viva Duox process	1 g Mega Power	1.7 g Viva Duox <sup>1</sup>	70	10	1:5	AB	SEITZ
Viva Oxy process	3 g Viva Sol	2 ml Viva Oxy <sup>1</sup>	70	10	1:4	AB	SEITZ



Name	Concentration (g or ml per 1 litre of solution)		Disinfection temperature [°C]	Exposure time [min]	Liquor ratio	Effective range	Manufacturer or applicant
	Detergent	Disinfectant					
AMERAH Process	5 g AMERAH		60	20	1:5	AB	HIGHCLEAN GROUP
APESIN activdes hygiene process	5 g APESIN activdes hygiene		60	20	1:5	AB	tana-Chemie
ARENAS®Perla Des process	5 g ARENAS® -Perla-Des		60	20	1:5	AB	Johannes Kiehl
Clax Desotherm DS process	7 g Clax Desotherm DS		60	20	1:5	AB	Diversey Germany
Clax Desotherm DS process	5 g Clax Desotherm DS		70	15	1:5	AB	Diversey Germany
CLEAN and CLEVER PROFESSIONAL Disinfectant detergent PRO 38 method	7 g CLEAN and CLEVER PROFESSIONAL Disinfectant detergent PRO 38		60	20	1:5	AB	Igefa Trading Company
CLEAN and CLEVER PROFESSIONAL Disinfectant detergent PRO 38 process	5 g CLEAN and CLEVER PROFESSIONAL Disinfectant detergent PRO 38		65	20	1:5	AB	Igefa Trading Company
Decimal method	5 g Desimat		60	20	1:5	AB	Becker Chemie
DUROPLEX Process	4 g DUROPLEX		60	20	1:5	AB	Bumus-Hychem
DUROPLEX Process	2.5 g DUROPLEX		70	10	1:5	AB	Bumus-Hychem
Eltra process	7 g Eltra		60	20	1:5	AB	Ecolab
Eltra process	5 g Eltra		70	10	1:5	AB	Ecolab
Gabilan Plus process	5 g Gabilan Plus		60	20	1:5	AB	Cheque
havon DES 60 method	5 g havon DES 60		60	10	1:5	A	Hagleitner Hygiene
havon PERFECT process	7 g havon PERFECT		60	20	1:5	A	Hagleitner Hygiene
holludes 60 forte process	5 g holludes 60 forte		60	20	1:5	AB	hollu System Hygiene
JUMBO HYGIENE Process	5 g JUMBO HYGIENE		60	20	1:5	AB	Rösch Germany
Lavo Des 60 compact process	3.6 g Lavo Des 60 compact		60	15	1:5	AB	Kleen Purgatis
Mega Pur process	5 g Mega Pur		60	20	1:5	AB	SEITZ
Mega Pur 60 process	7 g Mega Pur 60		60	20	1:5	AB	SEITZ
Mega Pur 60 process	5 g Mega Pur 60		65	20	1:5	AB	SEITZ



Name	Concentration (g or ml per 1 litre of solution)		Disinfection temperature [°C]	Exposure time [min]	Liquor ratio	Effective range	Manufacturer or applicant
	Detergent	Disinfectant					
Monosan process	7 g Monosan		60	20	1:5	AB	Bumus-Hychem
Monosan PF process <sup>3</sup>	5 g Monosan PF		60	20	1:5	AB	Bumus-Hychem
Monosan PF process <sup>3</sup>	6 g Monosan PF		60	20	1:5	AB	Bumus-Hychem
mwash VMdes top process	5 g mwash VMdes top		60	20	1:5	AB	mobiloclean
Oxyplex Perfect process	7 g Oxyplex Perfekt		60	20	1:5	AB	Bumus-Hychem
Oxyplex Perfect process	5 g Oxyplex Perfekt		65	20	1:5	AB	Bumus-Hychem
Ozerna Sept One process	5 g Ozerna Sept One		60	20	1:5	AB	BÜFA
RAPA Extra process	4 g RAPA Extra		60	20	1:5	AB	DR. SCHNELL
RAPA plus method	6 g RAPA plus		60	20	1:5	AB	DR. SCHNELL
RHEOSOL-Deso Process	5 g RHEOSOL-Deso		60	20	1:5	AB	NW-Chemie GmbH
RUCK Disinfectant detergent process	4 g RUCK disinfectant detergent		60	20	1:4	AB	HELLMUT RUCK
Sanomat hygiene process	5 g Sanomat Hygiene		60	20	1:5	AB	Rösch
saponmatic hygiene process	5 g saponmatic Hygiene		60	20	1:5	AB	Rösch
Supersan forte method	5 g Supersan forte		60	20	1:5	AB	HIMED
TREBON PLUS Method	4 g TREBON PLUS		60	20	1:5	AB	Kreussler Chemical Factory
VL disinfection process	4 g VL disinfectant		60	20	1:5	AB	REWAKON

<sup>1</sup> The preparation should only be added once the disinfection temperature has been reached.

<sup>2</sup> Insufficiently effective against mycobacteria.

<sup>3</sup> Pre-treatment is carried out before heating without subsequent draining of the liquid.



### 3.2 Instrument disinfection in cleaning and disinfection devices

The devices listed below were tested in accordance with the "Federal Health Office Test Guideline for Testing Thermal Disinfection Processes in Cleaning Machines" [25, 26]. The focus here was on the disinfecting effect; cleaning performance was not tested. Express reference is made to the "Notice from the Robert Koch Institute on the inclusion of cleaning and disinfection devices in the list of tested and approved disinfectants and procedures in accordance with Section 18 IfSG" [27]. The effectiveness was only proven for the programme entered in the list. When reprocessing medical devices, the recommendation of the Commission for Hospital Hygiene and Infection Prevention at the RKI and the Federal Institute for Drugs and Medical Devices "Hygiene requirements for the reprocessing of medical devices" [7] must be observed.

The manufacturer's operating and loading instructions must be followed. Only cleaning agents recommended by the manufacturer of the cleaning and disinfection device for the respective applications should be used. No liquid may escape from the machine during the disinfection phase. The disinfection process must be completed before the liquid is drained for the first time. The exhaust air must be discharged or treated in such a way that it does not pose a hazard.

The disinfection temperature specified is the upper switching point of the thermostat of the respective device. This is to ensure that the temperature does not fall below 90 °C during the exposure time.

For instruments with long or narrow cavities, the procedures are only suitable if these cavities are flushed by the hot solution. In automatic cleaning machines with special instrument connections, the unused nozzles must be sealed tightly to ensure sufficient flushing pressure.

#### 3.2.1 System BHT Hygiene Technology

Thermal disinfection and cleaning process for instruments, laboratory glassware and anaesthesia equipment accessories

**Operating data:**

Disinfection temperature:	93 °C
Exposure time:	10 min
Effective range:	AB

Tested and approved device types: INNOVA M3, INNOVA M4, INNOVA M5

#### 3.2.2 Riebesam system

Thermal disinfection and cleaning process for instruments, laboratory glassware and anaesthesia equipment accessories

**Operating data:** Disinfection

temperature:	93 °C
Exposure time:	10 min
Effective range:	AB

Tested and approved device types: 25 TD, 26 TD

### 3.3 Room disinfection

Room disinfection involves the comprehensive and simultaneous disinfection of all surfaces in an enclosed room by vaporising or fogging a disinfectant. In addition to room disinfection, surface disinfection by wiping is also required



. This procedure should only be used if there is a particular risk of infection and/or if it can be assumed that wipe disinfection alone would be insufficient.

### 3.3.1. Vapourisation or fogging of diluted formaldehyde solutions using suitable equipment

Dosage:	5 g formaldehyde per m <sup>3</sup> of room
volume Relative humidity:	at least 70%
Exposure time:	6 hours
Effective area:	AB

To ensure the prescribed humidity, an aqueous formaldehyde solution must be evaporated (e.g. 50 ml of a 12% formaldehyde solution per m<sup>3</sup> of room volume).

After disinfection, it is recommended to neutralise the formaldehyde by evaporating at least 10 ml of a 25% ammonia solution per cubic metre of room volume.

When disinfecting rooms, the Technical Rules for Hazardous Substances "Room Disinfection with Formaldehyde" (TRGS 522 [28]) must be observed.

### 3.3.2 Hydrogen peroxide method

Fogging procedures with hydrogen peroxide can only be used on visually clean surfaces. Unlike the formaldehyde procedure, it is not possible to generally approve procedures with hydrogen peroxide for room disinfection, as the effectiveness of these procedures depends on the specific conditions on site, the type of procedure and the specific equipment (generator) used. Therefore, before using hydrogen peroxide fumigation procedures for a specific application, i.e. for a defined room, the specific procedure and the associated equipment must be validated for effectiveness. Validation requires detailed work instructions and includes at least the following tests (modified according to [29]):

- The physical parameters (temperature, % relative humidity, hydrogen peroxide concentration) in the room and the operating data of the generator for conditioning (dehumidification, if necessary), disinfection and ventilation for a complete fumigation cycle must be determined and specified using suitable tests.
- The tests must also include the determination of the limits of the procedure:
  - the areas in the room that are most difficult for the fumigant to reach must be determined using suitable indicators,
  - the required uniform gas distribution must be verified,
  - The location of the generator and the use of any aids for better distribution of the hydrogen peroxide (fans) must be specified.
  - The inactivation of bioindicators with spores of *Geobacillus stearothermophilus* (see DIN EN ISO 11138 [30]) on all relevant and difficult-to-inactivate carrier materials (filter paper, metal), including, where applicable, in protective colloids (e.g. blood) and in the areas of the room that are most difficult for the fumigant to reach (effective range: ABCD).
- It must be ensured that there are no materials present in the room to be fumigated that destroy hydrogen peroxide through adsorption or catalysis and thus negatively influence the success of the disinfection.
- The reproducibility of the process must be demonstrated, e.g. through standardisation and continuous monitoring of the process-relevant parameters specified in the above regulation.



- It must be demonstrated that the residual gas concentration after ventilation is below the prescribed value (< 0.5 ppm).
- The validation must be preceded by a risk analysis with regard to personal protection, technical safety regulations, leak testing of the room and the escape route situation. The procedure must also be agreed with the local monitoring and approval authorities.

The procedure may only be carried out with the parameters specified during validation for which effectiveness has been demonstrated.

The specific validation of effectiveness and subsequent practical implementation may only be carried out by persons who are sufficiently qualified in this regard.

The possibility of validating only one of several rooms that are identical in terms of geometry, materials and other physical parameters must be decided on a case-by-case basis.

### 3.4 Disinfection of waste

Thermal processes must be used to disinfect waste.

#### 3.4.1 Incineration

Scope: ABCD

#### 3.4.2 Steam disinfection process

##### 3.4.2.1 Steam flow process in apparatus in accordance with DIN 58949 or DIN EN 285

These methods are only suitable for liquid waste or waste that contains sufficient water, e.g. microbiological cultures. The waste must be placed in the chamber in containers with a wide opening without any additional packaging in such a way that steam can access all parts of the waste.

The exposure time is calculated from the point at which all parts of the waste are exposed to saturated steam and have reached the disinfection temperature.

So-called steam pots or steam disinfection devices in accordance with DIN 58949 Part 2 [13] or steam sterilisers in accordance with DIN EN 285 [15] are suitable. The instructions given in section 1.3 must be observed.

##### 3.4.2.2 Steam flow method in special devices

###### 3.4.2.2.1 Engstler & Ott system

The process is characterised by:

1. Comminution of the material in a closed system,
2. Disinfection of the shredded material in a chain conveyor using saturated steam.

The requirements specified by the Robert Koch Institute at the time of registration, in particular with regard to measures to be taken at the end of operation and in the event of operational disruptions, must be observed.

**Operating data:** Disinfection temperature:

	105 °C
Exposure time:	15 min
Effective range:	ABC

Tested and approved device type: ZDA-M3, Type II



### 3.4.2.3 Fractional vacuum procedure

The instructions given in section 1.3.2 must be observed.

#### 3.4.2.3.1 Methods according to sections 1.3.2.1 to 1.3.2.3

The methods listed in sections 1.3.2.1 to 1.3.2.3 are also suitable for disinfecting waste if the following conditions are met:

- a) The containers in which the waste is stored must not be sealed airtight during treatment in the disinfection chamber. Only containers with sufficiently large openings or bags may be used.
- b) If sacks are used as containers, they must be designed in such a way that, if sealed, they will tear during the first vacuum phase.
- c) The material to be disinfected must not contain any hermetically sealed containers, unless they contain water or aqueous solutions. However, the amount of liquid per container must be limited to ensure that the equalisation time is sufficient to heat the entire quantity to the disinfection temperature.
- d) The equalisation time and cooling time must be adjusted to the type of waste. In particular, the compact components and the amount of liquid must be taken into account. At a disinfection temperature of 105 °C, an exposure time of at least 30 minutes must be provided.
- e) The exhaust air and condensate must be treated in accordance with DIN 58949 Part 2 [13].
- f) Effectiveness must be confirmed by an extraordinary test using the test load "hollow body" (see guideline "Testing the effectiveness of waste disinfection processes" [31] or DIN 58949 Part 3 [14]).

#### 3.4.2.3.2 Christof system

The conditions imposed by the Robert Koch Institute at the time of registration, in particular with regard to the type of waste and its packaging, must be observed.

##### **Operating data:**

- a) *Programme for unspecified hospital waste*

##### Air removal

Number of evacuation phases: 4

Pressure to be achieved in the evacuation phases:

1. Phase:  $\leq 150$  mbar
2. Phase:  $\leq 200$  mbar
3. up to phase 4:  $\leq 300$  mbar

Pressure to be achieved during intermediate steam surges:

1. Intermediate steam surge:  $\geq 1500$  mbar
2. Intermediate steam blast:  $\geq 1800$  mbar
3. Intermediate steam blast:  $\geq 2100$  mbar

##### Disinfection

Pressure in the disinfection chamber: 2100 mbar

Exposure time: 6 min

Effective range: ABC



*b) Programme for liquid waste*

Air removal

Number of evacuation phases: 1

Pressure to be achieved in the evacuation phase:  $\leq 150$  mbar

Disinfection

Pressure in the disinfection chamber: 2250 mbar

Exposure time: 12 min

Effective range: ABC

*c) Programme for liquid waste in bags*

Air removal

Number of evacuation phases: 2

Pressure to be achieved in the evacuation phases:

1. Phase:  $\leq 150$  mbar

2. Phase:  $\leq 300$  mbar

Pressure to be achieved during the intermediate steam blast:  $\geq 1200$  mbar

Disinfection

Pressure in the disinfection chamber: 2100 mbar

Exposure time: 12 min

Effective range: ABC

Tested and approved device type: SinTion 1.1

**3.4.2.3.3 Getting system**

The requirements specified by the Robert Koch Institute at the time of registration, particularly with regard to the type of waste and its packaging, must be observed.

**Operating data:**

*a) Programme Waste porous goods*

Air removal

Number of evacuation phases: 5

Pressure to be achieved in the evacuation phases:

1st to 3rd phase:  $\leq 100$  mbar

4. Phase:  $\leq 200$  mbar

5. Phase:  $\leq 400$  mbar

Pressure to be achieved during intermediate steam bursts:  $\geq 1250$  mbar

Disinfection

Steam temperature: 134 °C

Application time (after reaching 134 °C on an exposed temperature sensor): 10 min

Effective range: ABC

*b) Waste programme Solutions*

Air removal

Number of evacuation phases: 1

Pressure to be achieved in the evacuation phase:  $\leq 100$  mbar



Disinfection Steam

temperature: 121 °C

Exposure time (after reaching 105 °C on a temperature sensor in the material or a reference vessel):

10 min Effective range:

ABC

*c) Programme Waste Prions (except CJK pathogens)*

The requirements issued by the Robert Koch Institute regarding the goods to be disinfected must be observed.

Air removal

Number of evacuation phases: 5

Pressure to be achieved during the evacuation phases:

1st to 3rd phase: ≤ 100 mbar

4. Phase: ≤ 200 mbar

5. Phase: ≤ 400 mbar

Pressure to be achieved during intermediate steam bursts: ≥ 1250 mbar

Disinfection

Steam temperature: 134 °C

Exposure time (after reaching 134 °C on a temperature sensor in a 2-litre reference vessel filled with 1 litre of liquid):

60 min

Effective range: ABCD and TSE prion pathogens Tested

and approved device type: GEL 18 9 15

**3.4.2.3.4 Holzner system**

The requirements specified by the Robert Koch Institute at the time of registration, in particular with regard to the type of waste and its packaging, must be observed.

**Operating data:**

*a) Programme: 105 °C*

Air removal

Number of evacuation phases: 6

Pressure to be achieved during the evacuation phases:

1. Phase: ≤ 70 mbar

2. up to 6th phase: ≤ 120 mbar

Pressure to be achieved during intermediate steam bursts: ≥ 1400 mbar

Disinfection steam temperature:

105 °C

Exposure time: 30 min

Effective range: ABC

*b) Programme: Liquids 121 °C*

Air removal

Number of evacuation phases: 1

Pressure to be achieved in evacuation phase I: ≤ 100 mbar



Disinfection Steam

temperature: 121 °C

Exposure time (after reaching 121 °C on a temperature sensor in the material or in a reference vessel; the reference vessel must be located inside the container used to hold the material): 20 min Effective range: ABC

c) Programme: 134 °C

Air removal

Number of evacuation phases: 6

Pressure to be achieved during the evacuation phases:

1. Phase: ≤ 70 mbar

2. up to 6th phase: ≤ 120 mbar

Pressure to be achieved during intermediate steam bursts: ≥ 1400 mbar

Disinfection steam temperature:

134 °C

Exposure time: 10 min

Effective range: ABC

Tested and approved device types:

DSL 50.70, DSL 3.3.6, DSL 4.4.6, DSL 6.6.6, DSL 6.6.9-1, DSL 9.6.6-1-DE, DSL 9.6.9, DSL 9.6.12, DSL 12.6.12, DSL 12.9.12, DSL 14.7.14, DSL 14.8.16, DSL 18.13.15

**3.4.2.3.5 System HP Medical Technology**

The conditions imposed by the Robert Koch Institute at the time of registration, in particular with regard to the type of waste and its packaging, must be observed.

**Operating data:**

a) Programme: C waste, solid, 134 °C

Air removal

Number of evacuation phases: 4

Pressure to be achieved in the evacuation phases:

1. Phase: ≤ 65 mbar

2. Phase: ≤ 70 mbar

3. and 4th phase: ≤ 150 mbar

Pressure to be achieved during intermediate steam bursts: ≥ 1250 mbar

Disinfection steam temperature:

134 °C

Exposure time: 20 min

Effective range: ABC

b) Programme: Liquid hazardous waste 121 °C

Air removal

Number of evacuation phases: 1

Pressure to be achieved in the evacuation phase: ≤ 70 mbar



Disinfection steam

temperature: 121 °C  
Exposure time: 20 min  
Effective area: ABC

Tested and approved device types: Varioklav 75 S, Varioklav 135 S

**3.4.2.3.6 Lautenschläger system**

The requirements specified by the Robert Koch Institute at the time of registration, particularly with regard to the type of waste and its packaging, must be observed.

**Operating data:**

a) *Programme: Waste 134 °C*

Air removal

Number of evacuation phases: 7  
Pressure to be achieved in the evacuation phases:  
1st to 3rd phase: ≤ 130 mbar  
4. to 7th phase: ≤ 1400 mbar

Pressure to be achieved during intermediate steam bursts:

1. and 2nd steam surge: ≥ 1300 mbar  
3rd to 6th steam burst: ≥ 2800 mbar

Disinfection steam temperature:

134 °C  
Exposure time: 15 min  
Effective area: ABC

b) *Programme: Liquid waste 121 °C*

Air removal

Number of evacuation phases: 5  
Pressure to be achieved during evacuation phases:

1. Phase: ≤ 50 mbar  
2. Phase: ≤ 640 mbar  
3. Phase: ≤ 860 mbar  
4. Phase: ≤ 1070 mbar  
5. Phase: ≤ 1300 mbar

Pressure to be achieved during intermediate steam bursts:

1. and 2nd steam surge: ≥ 1200 mbar  
3. Steam blast: ≥ 1400 mbar  
4. Steam blast: ≥ 1800 mbar  
5. Steam surge: ≥ 2500 mbar

Then reduce to the pressure corresponding to a steam temperature of 121 °C.

Disinfection steam

temperature: 121 °C  
Exposure time: 45 min  
Effective area: ABC

Tested and approved appliance types: Labocert 1600, Labocert 3000, Labocert 5000



#### 3.4.2.3.7 Miele system

The requirements specified by the Robert Koch Institute at the time of registration, particularly with regard to the type of waste and its packaging, must be observed.

If the waste is packaged in thermoformed containers made of polystyrene KR 2797, the process must be preceded by an additional evacuation stage to 200 mbar and a steam inlet until a temperature of at least 100 °C is reached.

##### **Operating data:**

###### Air removal

Number of evacuation phases: 3

Pressure to be reached in the evacuation phases:

1. Phase:  $\leq 50$  mbar
2. and 3rd phase:  $\leq 300$  mbar

During the 1st evacuation phase, once 50 mbar has been reached, steam is introduced into the chamber up to a pressure of 400 mbar and evacuated to 50 mbar.

Pressure to be reached during the intermediate steam bursts:  $\geq 1000$

###### mbar Disinfection

- a) Steam temperature: 105 °C  
Exposure time: 25 min  
Effective range: ABC

- b) Steam temperature: 115 °C  
Exposure time: 20 min  
Effective area: ABC

Tested and approved device types: DGD 8803, DGD 8805

#### 3.4.2.3.8 System MMM

The requirements specified by the Robert Koch Institute upon registration, particularly with regard to the type of waste and its packaging (packaging types 1 and 2), must be observed. For packaging type 2, the chamber is evacuated to  $\leq 800$  mbar before the actual removal of air. This is followed by steam pre-treatment of the containers at 103 °C with a holding time of at least one minute.

##### **Operating data:**

###### Air removal

Number of evacuation phases: 5

Pressure to be achieved during the evacuation phases:

- 1st phase:  $\leq 80$  mbar
- Subsequent phases:  $\leq 200$  mbar

Pressure to be achieved during intermediate steam bursts:

- Packaging type 1:  $\geq 1000$  mbar
- Packaging type 2:  $\geq 1250$  mbar

###### Disinfection

- a) Steam temperature: 105 °C  
Exposure time: 30 min  
Effective range: ABC



Tested and approved device types:

DES 1500/1501, DES 2000/2001, DES 3000/3001, DES 4000/4001, DES 6000/6001 and the structurally identical Vacudes types

- b) Steam temperature: 134 °C  
Exposure time: 10 min  
Effective range: ABC

Tested and approved device types:

MLD 666, MLD 669, MLD 969, MLD 9612, MLD 12912, MLD 12924, MLD 141114, MLD 141128, MLD 181015 as well as the structurally identical types Monachia, Vakulab and Ventilab

### 3.4.2.3.10 Schlumbohm system

The conditions imposed by the Robert Koch Institute at the time of registration, in particular with regard to the type of waste and its packaging, must be observed.

**Operating data:**

*a) Programme for solid waste*

Air removal

Number of evacuation phases: 5  
Pressure to be achieved in the evacuation phases: ≤ 150 mbar  
Pressure to be reached during intermediate steam bursts: ≥ 1800 mbar

Disinfection Steam

temperature: 134 °C  
Exposure time: 15 min  
Effective range: ABC

*b) Programme for liquid waste*

Air removal

Number of evacuation phases: 1  
Pressure to be achieved in the evacuation phase: ≤ 100 mbar

Disinfection Steam

temperature: 121 °C  
Exposure time: 20 min  
Effective range: ABC

Tested and approved device types:

SLS.4.4 (formerly LABSTM.4.300), SLS.4.6 (formerly LABSTM.4.450), SLS.4.8 (formerly LABSTM.4.600), SLS.6.6 (formerly LABSTM.6.500), SLS.6.9 (formerly LABSTM.6.700), SLS.6.12 (formerly LABSTM.6.900), SLS.6.15 (formerly LABSTM.6.1100), SLS.8.8 (formerly LABSTM.8.600), SLS.8.12 (formerly LABSTM.8.900), SLS.8.16 (formerly LABSTM.8.1200), SLS.12.30 (formerly LABSTM.12.2300), SLS.12.36 (formerly LABSTM.12.2900), SLS.12.48 (formerly LABSTM.12.3500), SLS.18.45 (formerly LABSTM.18.3300), SLS.18.54 (formerly LABSTM.18.4300), SLS.18.72 (formerly LABSTM.18.5300), SLS.24.60 (formerly LABSTM.24.4500), SLS.24.108 (formerly LABSTM.24.7500)

### 3.4.2.3.11 WEBECO / MATACHANA system

The conditions imposed by the Robert Koch Institute at the time of registration, in particular with regard to the type of waste and its packaging, must be observed.



### Operating data:

#### a) 105 °C - Programme

##### Air removal

Number of evacuation phases: 7

Pressure to be achieved in the evacuation phases:

1st phase:  $\leq 90$  mbar

Subsequent phases:  $\leq 200$  mbar

Pressure to be achieved during intermediate steam bursts:  $\geq 1250$  mbar

The pressure is maintained for 60 seconds during the first intermediate steam burst and for 30 seconds during each subsequent steam burst.

##### Disinfection Steam

temperature: 105 °C

Exposure time: 30 min

Effective area: ABC

##### Tested and approved device types:

EMD 217, EMD 224, EMD 230, EMD 235, EMD 250, E 14 laboratory, E 16 laboratory, E 18 laboratory, E 24 laboratory, E 26 laboratory,

E 28 laboratory, EST laboratory 110, EST laboratory 115, EST laboratory 120, EST laboratory 210, EST laboratory 215, EST laboratory 220

#### b) Solids programme

##### Air removal

Number of evacuation phases: 2

Pressure to be achieved in the evacuation phases:

1. Phase:  $\leq 120$  mbar

2. Phase:  $\leq 200$  mbar

Pressure to be achieved during the intermediate steam burst:  $\geq 1900$  mbar

##### Disinfection steam temperature:

134 °C

Exposure time: 5 min

Effective range: ABC

Tested and approved device types: CS/VF, CS/VFT, CS/VFKT

#### c) Liquids programme

##### Air removal

Number of evacuation phases: 1

Pressure to be achieved in the evacuation phase:  $\leq 120$  mbar

##### Disinfection Steam

temperature: 115 °C

Exposure time (after reaching 115 °C on a temperature sensor in the material or in a reference vessel): 10 min

Effective range: ABC

##### Tested and approved device types:

CS/VFT, CS/VFKT, E 14 Laboratory, E 16 Laboratory, E 18 Laboratory, E 24 Laboratory, E 26 Laboratory, E 28 Laboratory, EST Laboratory 110, EST Laboratory 115, EST Laboratory 120, EST Laboratory 210, EST Laboratory 215, EST Laboratory 220



*d) Petri dish programme*

The total volume of the added culture media must not exceed 2 litres.

Air removal

Number of evacuation phases: 1

Pressure to be achieved in the evacuation phase:  $\leq 120$  mbar

Disinfection Steam

temperature: 121 °C

Exposure time (after reaching 121 °C on an exposed temperature sensor): 10 min Effective

range: ABC

Tested and approved device types: CS/VF, CS/VFT, CS/VFKT

*e) 134 °C programme*

Air removal

Number of evacuation phases: 7

Pressure to be achieved during the evacuation phases:

Phase 1:  $\leq 90$  mbar

Subsequent phases:  $\leq 200$  mbar

Pressure to be achieved during intermediate steam bursts:  $\geq 1900$  mbar

The pressure is maintained for 60 seconds during the first intermediate steam burst and for 30 seconds during each subsequent steam burst.

Disinfection Steam

temperature: 134 °C

Exposure time: 10 min

Effective range: ABC

Tested and approved equipment types:

E 14 laboratory, E 16 laboratory, E 18 laboratory, E 24 laboratory, E 26 laboratory, E 28 laboratory, EST laboratory 110, EST laboratory 115, EST

Laboratory 120, EST Laboratory 210, EST Laboratory 215, EST Laboratory 220

*f) Programme: Waste disinfection, solids; waste sterilisation 134 °C*

Air removal

Before the first evacuation phase, steam is introduced into the chamber up to a pressure of  $\geq 3000$  mbar.

This pressure is maintained for 5

minutes. Number of evacuation phases: 6

Pressure to be reached during the evacuation phases:  $\leq 200$  mbar

Pressure to be reached during intermediate steam bursts:  $\geq 1900$  mbar with a holding time of 30 seconds in each case

Disinfection

Steam temperature: 134 °C

Exposure time: 20 min

Effective area: ABC

Tested and approved device types:

WEBECO: EC 140/EC 240-Lab, EC 160/EC 260-Lab, EC 180/EC 280-Lab, EC 1100/EC 2100-Lab, EC 1120/EC 2120-Lab and

MATACHANA: S-1004 I-E1/-E2, S-1006 I-E1/-E2, S-1008 I-E1/-E2, S-1010 I-E1/-E2, S-1012 I-E1/-E2

EC series also available with the addition FD (external steam supply)



S series also available in I-V1/-V2 version (external steam supply)

*g) Programme: Liquids, waste, open liquids 1 L3*

Air removal

Number of evacuation phases: 1

Pressure to be achieved in the evacuation phase:  $\leq 600$  mbar

Disinfection Steam

temperature: 121 °C

Exposure time: 20 min

Scope of application: ABC

Tested and approved device types:

WEBECO: EC 140/EC 240-Lab, EC 160/EC 260-Lab, EC 180/EC 280-Lab, EC 1100/EC 2100-Lab, EC 1120/EC 2120-Lab and

MATACHANA: S-1004 I-E1/-E2, S-1006 I-E1/-E2, S-1008 I-E1/-E2, S-1010 I-E1/-E2, S-1012 I-E1/-E2

EC series also with the addition FD (external steam supply) S series

also in the I-V1/-V2 version (external steam supply)

### 3.4.2.3.12 Zirbus system

The requirements specified by the Robert Koch Institute upon registration, in particular with regard to the type of waste and its packaging, must be observed.

**Operating data:**

*a) Programme: Solid waste*

Air removal

Number of evacuation phases: 6

Pressure to be achieved in the evacuation phases:

1. Phase:  $\leq 70$  mbar

2. Phase:  $\leq 80$  mbar

3. Phase:  $\leq 90$  mbar

4. Phase:  $\leq 100$  mbar

5. Phase:  $\leq 110$  mbar

6. Phase:  $\leq 120$  mbar

Pressure to be achieved during intermediate steam bursts:  $\geq 1800$  mbar

Disinfection steam temperature:

134 °C

Exposure time: 20 min

Effective range: ABC

*b) Programme: Waste liquid*

Air removal

Number of evacuation phases: 1

Pressure to be achieved in the evacuation phase:  $\leq 100$  mbar

Disinfection Steam

temperature: 121 °C

Exposure time: 20 min



Effective range: ABC

Tested and approved device type: HST 6x6x9

### 3.4.2.4 Special procedures

#### 3.4.2.4.1 Göldner I system

The process is characterised by:

1. crushing the material in a closed system,
2. heating the material in a screw conveyor (oil jacket temperature: 115 °C),
3. Disinfection of the material by saturated steam in a temperature-controlled screw conveyor (oil jacket temperature: 115 °C). The conditions imposed by the Robert Koch Institute at the time of registration, in particular with regard to the type of waste and its packaging, as well as the measures to be taken at the end of operation and in the event of operational disruptions, must be observed.

#### **Operating data:**

Disinfection temperature: 110 °C

Exposure time: at least 45 min (defined by the speed of the temperature-maintaining screw conveyor: 0.7 rpm)

Effective range: ABC

Tested and approved device type: LOGMED

#### 3.4.2.4.2 Göldner II system

The process is characterised by:

1. Filling the system and shredding the material in a closed system, duration 10 min, grain size 20 x 30 mm,
2. adding 5 litres of water to the exposure screw,
3. Heating the crushed material in the exposure screw (oil jacket temperature: 115 °C) to 98 °C using saturated steam, maintaining this temperature for 6 minutes, heating to 116 °C,
4. Disinfecting the material with saturated steam in the exposure screw (oil jacket temperature: 115 °C),
5. Disinfect the condensate and the liquid collected from the shredded waste in a separate pressurised disinfection container.

The requirements specified by the Robert Koch Institute at the time of registration, in particular with regard to measures at the end of operation and in the event of operational disruptions, must be observed.

#### **Operating data:**

##### *Exposure screw:*

Disinfection temperature: 115 °C

Exposure time: 15 min (maintaining the temperature within the temperature range by means of control via 3 temperature sensors distributed and interconnected in the exposure screw in accordance with the theoretical saturated steam curve)

Effective range: ABC

##### *Disinfection pressure vessel (liquid and condensate treatment):*

Disinfection temperature: 115 °C

Exposure time: 15 min

Effective range: ABC

Tested and approved device type: LOGMED II



#### 3.4.2.4.3 Neuweiler / Remondis system

The process is characterised by:

1. Shredding of waste in a closed system,
2. Control of air removal via the fictitious dilution factor\*,
3. Disinfection of the shredded material in two independent autoclave tubes, each with a reversing screw conveyor, using saturated steam in a pressure-controlled process:
  - a) Introduction of saturated steam into the autoclave tubes and heating of the outer jacket to a pressure of 3550 mbar,
  - b) Further heating steps by introducing saturated steam into the autoclave tubes and the outer jacket, regulated between 3550 and 3600 mbar,
  - c) Maintaining 138 /+2 °C for 7 minutes by regulating the introduction of saturated steam into the autoclave pipes and the outer jacket, followed by depressurisation to ambient pressure.
4. the condensate produced must be collected in a closed system (condensate container) and disinfected in a separate unit provided by the customer, automatically controlled by the LOG 100/R control system.

\*The dilution factor is calculated according to: Spicher, G., Peters, J.: Investigations into VDV methods for steam disinfection and sterilisation. Zbl. Bakt. Hyg.1977:165:393-422

The requirements specified by the Robert Koch Institute at the time of registration, in particular with regard to measures at the end of operation and in the event of malfunctions, must be observed.

#### **Operating data:**

##### Air removal

By alternating between vacuum and steam inlet, a fictitious dilution factor of 18,000 must be achieved. Setting on the device: 21,000

Number of evacuation phases: at least 4

Pressure to be achieved in the evacuation phases:

1. Phase:  $\leq 20$  kPa
2. Up to 4th phase: 10 kPa

Pressure to be achieved during intermediate steam bursts:

1. up to 4th phase:  $\geq 225.0$  kPa

If the fictitious dilution factor of 18,000 is not achieved with four air changes, further air changes with the same parameters as for the fourth air change are required.

Disinfection temperature:	138 °C
Exposure time: Effective range:	7 min ABC

##### Condensate disinfection

Disinfection temperature:	$\geq 138$ °C
Exposure time:	5 min
Area of effect:	ABC

Tested and approved device type: LOG100/R with shredder LOG100-750



### 3.4.3 Special process

#### 3.4.3.1 Meteka system – special process for liquid waste

The process is characterised by:

Heating of liquid waste in special containers using microwaves.

The requirements specified by the Robert Koch Institute at the time of registration, in particular with regard to the type of waste and its packaging, must be observed.

##### **Operating data:**

###### Disinfection

Disinfection temperature: 100 °C  
Exposure time: 25 min  
Effective range: ABC

Tested and approved device type: MEDISTER 60 Liquid

#### 3.4.3.2 Meteka system – special process for wet waste I

The process is characterised by:

Heating the waste after adding water in special containers using microwaves.

The requirements specified by the Robert Koch Institute at the time of registration, particularly with regard to the type of waste and its packaging, must be observed. The process is only suitable for waste that contains sufficient water (microbiological cultures, blood samples, stool samples, drainage bags or bottles, blood bags).

##### **Operating data:**

###### Disinfection

Disinfection temperature: 100 °C  
Exposure time: 25 min  
Effective range: ABC

Tested and approved device types: MEDISTER 10, MEDISTER 60, MEDISTER 160

#### 3.4.3.3 Meteka system – special process for wet waste II

The process is characterised by:

Heating the waste after adding water in special containers using high-frequency technology (microwave range).

The requirements specified by the Robert Koch Institute at the time of registration, in particular with regard to the type of waste and its packaging, must be observed. The process is only suitable for waste that contains sufficient water (microbiological cultures, blood samples, stool samples, drainage bags or bottles, blood bags, dialysis systems).

##### **Operating data:**

###### Disinfection

Disinfection temperature: 121 °C  
Exposure time: 20 min  
Effective range: ABC

Tested and approved device type: MEDISTER 360



### 3.4.4 Procedures and device types no longer listed

Procedures or device types listed in previous editions of the list and no longer listed above may continue to be used provided that the entry has not been deleted by the RKI, the device types are unchanged, the conditions for use specified in the notification of acceptance are complied with, and regular maintenance and functional testing are ensured. Reference is made to DIN 58949, Parts 2 and 3 [13, 14] and DIN EN 285 [15] in this regard.

**3.5 Special procedure for treating HEPA filters in safety cabinets (class 2)** Procedures for disinfecting filters in safety cabinets by fumigation must be specifically tested for this application. This includes verification of the effectiveness of the procedure for the respective type of safety cabinet and the type of filter used for the required area of effect.

#### 3.5.1 STERIS system (VHP <sub>H2O2</sub> process)

The procedure is characterised by:

1. Removal of air humidity,
2. evaporation of hydrogen peroxide (35% Vaprox®) and flow of hydrogen peroxide through the HEPA filters of safety cabinets,
3. flowing hydrogen peroxide through the HEPA filters of the safety cabinet with the fan running and further evaporation of hydrogen peroxide.

#### Operating data:

##### 1. Dehumidification

air flow:	32 m <sup>3</sup> /h
Time:	10 min
Temperature range:	16-37 °C
Target humidity:	≤ 5 mg/l

##### 2. Air flow

<u>conditioning:</u>	18 m <sup>3</sup> /h
Time:	10 min
Vaprox dosage:	3.7 g/min
Temperature range:	16-37 °C

H<sub>2</sub>O<sub>2</sub> concentration to be achieved at the end of conditioning: 1.3 mg/l

##### 3. Disinfection

Air flow:	18 m <sup>3</sup> /h
Exposure time:	200 min
Dosage of Vaprox:	3.5 g/min
Temperature range:	16-37 °C

H<sub>2</sub>O<sub>2</sub> concentration during the disinfection phase: 1.1 mg/l

##### 4. Ventilation

Air flow:	33 m <sup>3</sup> /h
Time:	90 min
Temperature range:	16-37 °C

H<sub>2</sub>O<sub>2</sub> concentration to be achieved at the end of aeration: ≤ 0.5 ppm

Effective range: ABCD

Tested and approved device types: VHP1001G, VHP1000ED-S



Tested filter type: HEPA filter (glass fibre and neoprene) in class 2 safety cabinets

The requirements specified by the Robert Koch Institute at the time of registration, in particular with regard to the type of HEPA filters and the internal volume of the workbenches, must be observed. These must be requested from the manufacturer before using the procedure.

Manufacturer or supplier: STERIS Deutschland GmbH

### 3.5.2 Fumigation with formaldehyde

The procedure is characterised by:

1. Evaporation of formaldehyde (18%) and flow of formaldehyde through the HEPA filters of the safety cabinet with the fan running at high humidity and temperatures  $\geq 70$  °C
2. Evaporation of ammonia (25%) and flow of ammonia through the HEPA filters of the safety cabinet with the fan running

#### Operating data:

##### 1. Preparation

Switching on the workbench with simultaneous heat insulation,  
Increase in air humidity and temperature using water baths and radiant heaters in the work area, Target air humidity: ~100% relative humidity (measured behind the exhaust air filter),  
Target temperature:  $\geq 70$  °C (measured behind the exhaust air filter), Air flow: recirculation mode (reduced fan power/standby mode).

##### 2. Disinfection

Evaporation of 1000 ml of 18% formaldehyde solution  
Air flow: recirculation mode (reduced fan power/standby mode)  
Target humidity: ~100% relative humidity (measured behind the exhaust air filter)  
Temperature:  $\geq 70$  °C (measured behind the exhaust air filter)  
Exposure time: 9 hours

##### 3. Neutralisation

Evaporation of 300 ml of 25% ammonia solution  
Air flow: recirculation mode (reduced fan power/standby mode) Temperature: room temperature  
Exposure time: 1 hour  
Ventilation until the MAK value is reached: Formaldehyde concentration  $\leq 0.3$  ppm

Effective range: ABCD

Tested filter type: HEPA filter (glass fibre/neoprene) in class 2 microbiological safety cabinets

The following requirements must be observed to ensure that disinfection is carried out properly:

- This disinfection procedure may only be carried out by qualified personnel who hold a certificate of competence in accordance with TRGS 522 [28].
- The procedure can only be used for the above-mentioned filters in safety cabinets with a working aperture length of 1.2 m. For other filters or safety cabinets with different dimensions, revalidation with bioindicators – *Geobacillus stearothermophilus* (CFU  $10^6$ ) in accordance with DIN EN ISO 11138-5 [32] – is required in the exhaust air filter.



- The disinfection of filters in safety cabinets must be carried out with suitable personal protective equipment. Occupational health and safety requirements (e.g. TRGS 522 [28], Hazardous Substances Ordinance) must be observed.
- The post-treatment of filters is subject to the respective national regulations on waste disposal.

## Changes

Section	Name	Manufacturer or applicant	Change
2.3	Manorapid® Synergy	Antiseptics	New distributor: Lysoform
3.1	Washing line Senking P 50/P 36	JENSEN GMBH	New product name: JENSEN UNIQ50/40 cycle washing system

## Disinfectants or disinfection methods no longer listed due to notification from the manufacturer or applicant

Number	Name	Manufacturer or applicant	Scope of application
2.1	Sekusept PLUS	Ecolab	Instrument disinfection
2.	Incidin PLUS	Ecolab	Surface disinfection
2.2	Desomed Perfekt	Dr. Schumacher	Surface disinfection
2.2	hygienicVIRUCID	Hagleitner Hygiene	Surface disinfection
2.2	Incidin rapid	Ecolab	Surface disinfection
2.2	Melsitt®	B. Braun	Surface disinfection
2.2	Ultrasol F	Dr. Schumacher	Surface disinfection
2.2	B3	Orochemie	Surface disinfection
2.3	Skinman clear	Ecolab	Hygienic hand disinfection
2.3	Skinsept F	Ecolab	Hygienic hand disinfection
3.1.2	BEICLEAN CONTROL process with 1 ml BEIPUR PKS and 1 ml BEIBLEACH WP 351 and 0.8 ml BEICLEAN CONTROL per 1 litre of solution at 60°C, 12 min EWZ and 1:5 solution (WB: AB)	CHT Germany	Chemothermic disinfection washing process
3.1.2	OXYPLEX process with 3 g OSETTA UNIPLEX and 2 ml OXYPLEX per 1 L liquor at 60°C, 15 min EWZ and 1:5 liquor (WB: AB)	BurnusHychem	Chemothermic disinfection washing process
3.1.2	OXYPLEX plus process with 3 g OSETTA UNIPLEX and 0.7 ml OXYPLEX plus per 1 L of liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: AB)	BurnusHychem	Chemothermic disinfection washing process
3.1.2	Ozonite process with 3–6 g Silix universal and 1 ml Ozonite super per 1 L of liquor at 60°C, 15 min EWZ and liquor 1:5 (WB: A)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonite process with 3–6 Almesin universal and 1 ml Ozonite super or 2 ml Ozonite per 1 litre of liquor at 60°C, 15 min EWZ and liquor 1:5 (WB: AB)	Ecolab	Chemothermic disinfection washing process



3.1.	Ozonite process with 3–6 g Dermasil perfekt and 1 ml Ozonite super or 2 ml Ozonite per 1 litre of liquor at 60°C, 15 min EWZ and liquor 1:5 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonite process with 6 g Triplex energy and 1 ml Ozonite super or 2 ml Ozonite to 1 L liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: A)	Ecolab	Chemothermic disinfection washing process
3.1.	Ozonite process with 1.5 g Dermal perfekt and 1.5 ml Turbo Break and 1 ml Ozonite super or 2 ml Ozonite to 1 L of liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonite process with 0.9 ml Hygenil emulsion and 1.5 ml Turbo Break and 1 ml Ozonite super or 2 ml Ozonite to 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.	Ozonite process with 1.5 g Silex 3000 and 1.5 ml Turbo Break and 1 ml Ozonite super or 2 ml Ozonite per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonite process with 3–6 g Silex universal and 1.5 ml Turbo Break and 1 ml Ozonite super or 2 ml Ozonite per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.	Ozonite process with 3 g Triplex Energy and 1.5 ml Turbo Break and 1 ml Ozonite Super or 2 ml Ozonite per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonite process with 1.5–6 g Membrex and 1–2.4 g Turbo Break and 1 ml Ozonite Super or 2 ml Ozonite per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: A)	Ecolab	Chemothermic disinfection washing process
3.1.	Ozonite process with 1.5 Membrex and 2.4 g Turbo Break and 1 ml Ozonite super or 2 ml Ozonite per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonite process with 3–6 g Almesin universal and 2.4 g Turbo Break and 1 ml Ozonite super or 2 ml Ozonite per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.	Ozonite process with 3–6 g Dermasil perfekt and 2.4 g Turbo Break and 1 ml Ozonite super or 2 ml Ozonite per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonite process with 1.5 ml Triplex Emulsion and 2.4 g Turbo Break and 1 ml Ozonite Super or 2 ml Ozonite to 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.	Ozonit PERFORMANCE process with 1.25 ml Dermasil emulsion and 6 ml Ozonit PERFORMANCE to 1 litre of liquor at 30°C, followed by 40°C, 5 followed by 10 min EWZ and liquor 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonit PERFORMANCE process with 0.9 ml Hygenil emulsion and 0.7 ml Ozonit PERFORMANCE per 1 litre of liquid at 60°C, 12 min EWZ and liquid 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozonit PERFORMANCE process with 1.5 g Dermasil perfekt and 0.6 ml Ozonit PERFORMANCE per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process



3.1.	Ozonit PERFORMANCE process with 1.5 g Silex 3000 and 0.6 ml Ozonit PERFORMANCE per 1 L of liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Peracid Asepsis process with 3 g Prolong Powder and 2 ml Peracid Asepsis per 1 L of liquor at 60°C, 15 min EWZ and liquor 1:5 (WB: AB)	Christeyns	Chemothermic disinfection washing process
3.1.2	Peracid asepsis process with 1.2–2.4 g Majestic Classic and 2 ml Peracid Asepsis per 1 litre of liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: AB)	Christeyns	Chemothermic disinfection washing process
3.1.	Peracid Forte process with 1.5 g Majestic Flex and 0.6 ml Peracid Forte per 1 litre of liquor at 60°C, 10 min EWZ and liquor 1:5 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.	Peracid Forte process with 1.5 g Majestic Flex and 0.6 ml Peracid Forte per 1 L of liquor at 20°C, followed by 70°C, 5 followed by 10 min EWZ and liquor 1:4 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.2	Peracid Forte process with 1.2 g Majestic classic and 0.7 ml Peracid Forte to 1 L liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: A)	Chriyteyns	Chemothermic disinfection washing process
3.1.	Peracid Forte process with 2.4 g Majestic classic and 0.7 ml Peracid Forte per 1 L of liquor at 70°C, 10 min EWZ and liquor 1:5 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.2	Personril process with 2 g Power Activ and 1.6 ml Personril per 1 L of liquor at 70°C, 8 min EWZ and liquor 1:4 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.2	Personril process with 3 g Majestic Saturn and 1.6 ml Personril per 1 L liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.2	Sanoxy Asepsis process with 1.5–2.5 g Majestic classic and 0.7 ml Sanoxy Asepsis per 1 L of liquor at 50°C, then 70°C, then 10 min EWZ and liquor 1:5 (WB: AB)	Chriyteyns	Chemothermal disinfection washing process
3.1.2	Sanoxy Asepsis process with 1.2 g Majestic Matrix and 0.7 ml Sanoxy Asepsis per 1 litre of liquid at 50°C, followed by 70°C, 8 followed by 10 min EWZ and liquid 1:5 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.2	Sanoxy Asepsis process with 1 ml Power progress and 0.7 ml Sanoxy Asepsis to 1 L of liquid at 50°C, then 70°C, then 10 min EWZ and liquid 1:5 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.	Sanoxy Forte process with 1.5 g Majestic Flex and 0.6 ml Sanoxy Forte per 1 litre of liquid at 60°C, 10 minutes EWZ and liquid 1:5 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.2	Sanoxy Forte process with 1.5 g Majestic Flex and 0.6 ml Sanoxy Forte per 1 L of liquor at 20°C, followed by 70°C, 5 followed by 10 min EWZ and liquor 1:4 (WB: AB)	Chriyteyns	Chemothermic disinfection washing process
3.1.2	Trisanox process with 5 g Trisanox B and 0.8 g Trisanox C per 1 L of liquor at 70°C, 10 min EWZ and liquor 1:4 (WB: AB)	BurnusHychem	Chemothermic disinfection washing process
3.1.2	Turbo Oxydan process with 4 ml Turbo Usona and 4 ml Turbo Oxydan to 1 litre of liquor at 30°C, then 40°C, 5 then 20 min EWZ and liquor 1:5 (WB: A)	Ecolab	Chemothermic disinfection washing process
3.1.	Ariel Formula Pro+ process with 7 g Ariel Formula Pro+ to 1 L of liquor at 60°C, 20 min EWZ and liquor 1:5 (WB: AB)	Procter & Gamble	Chemothermic disinfection washing process
3.1.2	AWAXAT process with 7 g AWAXAT per 1 L of liquor at 60°C, 20 min EWZ and liquor 1:5 (WB: AB)	August Wencke	Chemothermic disinfection washing process



3.1.2	AWAXAT process with 5 g AWAXAT per 1 L liquor at 65°C, 20 min EWZ and liquor 1:5 (WB: AB)	August Wencke	Chemothermic disinfection washing process
3.1.2	Desosan process with 6 g Desosan per 1 L of liquor at 60°C, 15 min EWZ and liquor 1:5 (WB: AB)	Christeyns	Chemothermic disinfection washing process
3.1.2	Destex process with 5 g Destex per 1 L of liquor at 60°C, 20 min EWZ and liquor 1:5 (WB: AB)	Textile catering service	Chemothermic disinfection washing process
3.1.2	Lavo Des 60 plus process with 5 g Lavo Des 60 plus per 1 L of liquid at 60°C, 20 min EWZ and liquid 1:5 (WB: A)	Kleen Purgatis	Chemothermic disinfection washing process
3.1.2	mopEltra process with 6 g mopEltra per 1 litre of liquor at 60°C, 15 min EWZ and liquor 1:5 (WB: AB)	Ecolab	Chemothermic disinfection washing process
3.1.2	Ozerna Sept Plus process with 5 g Ozerna Sept Plus per 1 L of liquor at 60°C, 15 min EWZ and liquor 1:5 (WB: AB)	BÜFA	Chemothermic disinfection washing process
3.1.2	SAFESEPT MAX Disinfecting Washing Powder process with 5 g SAFESEPT MAX Disinfecting Washing Powder per 1 L of liquor at 60°C, 20 min EWZ and liquor 1:5 (WB: AB)	PRISMAN	Chemothermic disinfection washing process
3.1.2	SAFE ST DISINFECTING WASHING POWDER Method with 5 g SAFE ST DISINFECTING WASHING POWDER per 1 litre of water at 60°C, 20 min EWZ and water ratio 1:5 (WB: AB)	PRISMAN	Chemothermic disinfecting washing process
3.1.2	Trixon process with 3–6 g Aliplex and 0.6 g Trixon per 1 L of liquor at 60°C, 10 min EWZ and liquor 1:5 (WB: AB)	BurnusHychem	Chemothermic disinfection washing process
3.1.2	Trixon process with 3–6 g Osetta and 0.6 g Trixon per 1 L of liquor at 60°C, 10 min EWZ and liquor 1:5 (WB: AB)	BurnusHychem	Chemothermic disinfection washing process
3.1.2	Trixon process with 3–6 g Uniplex and 0.6 g Trixon per 1 L liquor at 60°C, 10 min EWZ and liquor 1:5 (WB: AB)	BurnusHychem	Chemothermic disinfection washing process
3.4.2.3	Ringeisen system with KEA 100 apparatus type	CR Ringeisen Environmental Technology	Fractional vacuum process

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BÜFA Reinigungssysteme GmbH & Co KG  
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BHT Hygiene Technik GmbH  
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BurnusHychem GmbH  
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BUZIL-WERK Wagner GmbH & Co. KG 87700  
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Christeyns GmbH  
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HP Labortechnik GmbH  
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Kleen Purgatis GmbH  
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Laboratorium Dr. Deppe GmbH 47906  
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F. & M. Lautenschläger GmbH & Co. KG  
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Heck Hygiene GmbH  
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Lysoform  
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MATACHANA Germany GmbH  
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HIMED GmbH  
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Meditrade GmbH  
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NW-Chemie  
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Organic chemistry  
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Schülke & Mayr GmbH  
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SEITZ GmbH  
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Steris Deutschland GmbH  
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## Appendix

### to the list of disinfectants and disinfection methods tested and approved by the Robert Koch Institute

#### Disinfection of special surfaces

The agents and procedures listed in section 2.2 of the RKI list refer to application on solid surfaces that can be wiped down and disinfected in the medical sector.

In view of proven effectiveness, there is also a desire in other contexts, e.g. for averting dangers posed by human pathogens, including bacterial spore formers on other surfaces, such as the personal protective equipment of rescue workers, for reliable information on the proper use of suitable disinfectants.

For the specific case of application to PPE surfaces, test methods have been developed as part of a research project that take into account the special features of this application [27, 28]. In order to meet the need for information on this topic in a central location, this appendix to the list contains basic results from these investigations (concentration/time ratio and volumes) for selected active substances or disinfectants. It should be expressly noted that the specific circumstances of use must be taken into account when applying the information in the context described here. This requires appropriate validation under the respective practical conditions [33, 34], which is not covered by this list.

Explicit reference is made to the PSA Directive and TRBA 130 and 250.

#### Disinfection of hydrophobic (flexible) surfaces

Concentration:	5% Wofasteril® and 0.5% alcapur® N
Exposure time:	5 min
Application quantity:	≥ 50 ml/m <sup>2</sup>
Effective area:	ABC

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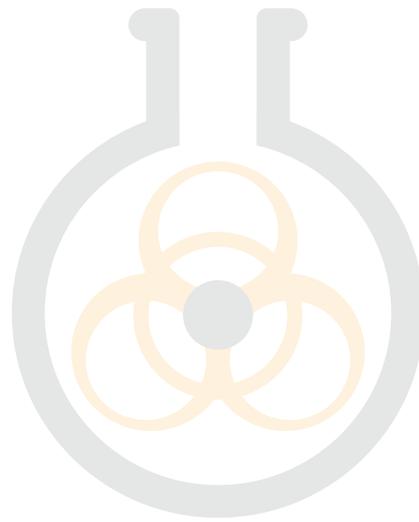
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