

UV Inactivation Chart¹ (in mJ/cm²)

Organism	Type	Affiliated Disease, Contamination, Toxin	Dose log 3	Reference
<i>Agrobacterium tumefaciens</i>	Bacterium	Crown Gall disease in Dicotyledons (Grapes, Berries, Fruits, Nuts)	8.5	
<i>Aeromonas hydrophila</i>	Bacterium	Tissue damage in humans (opportunistic pathogen)	3.9	Wilson, et al, 1992
<i>Aspergillus flavus</i> (yellow green)	Fungus (Mold Spore)	Aspergillosis of the lungs, corneal infections	99.0	
<i>A. glaucus</i> (blue green)	Fungus (Mold Spore)	Allergenic	88.0	
<i>A. niger</i> (black)	Fungus (Mold Spore)	Otomycosis, Black mold on fruits and vegetables	330.0	
Adenoviridae	Virus	Upper respiratory infections	90.0	Meng and Gerba, 1996
<i>Bacillus anthracis</i>	Bacterium	Anthrax	8.7	
<i>B. anthracis</i> (spores)	Bacterium	Anthrax	46.2	Pasteur Institute, Paris
<i>B. megatherium</i> (vegetable)	Bacterium	Infections, food poisoning	2.5	
<i>B. megatherium</i> (spores)	Bacterium	Infections, food poisoning	52.0	
<i>B. paratyphosus</i>	Bacterium	non pathogenic	6.1	
<i>B. subtilis</i> (vegetable)	Bacterium	Ropiness in bread dough, food contamination	11.0	
<i>B. subtilis</i> (spores)	Bacterium	Ropiness in bread dough, food contamination	61.0	Chang et al, 1985, Sommer et al, 1998
<i>Campylobacter jejuni</i>	Bacterium	Food poisoning, gastroenteritis	4.0	Wilson et al, 1992
<i>Chlorella vulgaris</i>	Protist (algae)	Plant pathogen	22.0	
<i>Clostridium Tetani</i>	Bacterium	Tetanus	23.1	Pasteur Institute, Paris
<i>C. botulinum</i>	Bacterium	Produces Botulin toxin	11.2	
Coliphage	Virus	Bacteriophage that infects <i>E. coli</i>	6.6	
<i>Corynebacterium diphtheriae</i>	Bacterium	Diphtheria	6.5	
Coxsackie A	Virus	Hand, foot & mouth disease, conjunctivitis, herpangina	6.9	
Coxsackie B	Virus	Pericarditis, myocarditis, gastrointestinal distress	20.6	Battigelli et al, 1993
<i>Cryptosporidium parvum</i>	Protist	Cryptosporidiosis	25.0	Craik et al, 2001
<i>Eberthella typhosa</i>	Bacterium	Typhoid fever	4.1	
<i>Escherichia coli</i>	Bacterium	Food poisoning, gastroenteritis, meningitis	8.6	Sommer et al, 1998; Wilson et al, 1992
<i>Giardia lamblia</i> (cysts)	Protist	Giardiasis (Beaver Fever, Traveller's Diarrhea)	10.0	Linden et al, 2002
Hepatitis virus	Virus	Hepatitis, jaundice	15.0	US.EPA, 1999
Influenza virus	Virus	Influenza, respiratory infections	6.6	
<i>Legionella bozemanii</i>	Bacterium	Pneumonia	3.5	
<i>L. dumoffii</i>	Bacterium	Pneumonia	5.5	
<i>L. gormanii</i>	Bacterium	Pneumonia	4.9	
<i>L. longbeachae</i>	Bacterium	Legionnaire's disease, pontiac fever	2.9	
<i>L. micdadei</i>	Bacterium	Influenza, Pittsburgh pneumonia	3.1	
<i>L. pneumophila</i>	Bacterium	Legionnaire's disease	3.8	
<i>Leptospira interrogans</i>	Bacterium	Leptospirosis (Weil's disease, canicola fever, canefield fever, 7-day fever)	6.0	
<i>Micrococcus candidus</i>	Bacterium		12.3	
<i>M. sphaeroides</i>	Bacterium		15.4	
<i>Mycobacterium tuberculosis</i>	Bacterium	Tuberculosis	10.0	
<i>Mucor racemosus</i> A	Fungus (Mold Spore)	Fungal plant pathogen, zygomycosis and fungal sinusitis in humans	35.2	
<i>Neisseria (Moraxella) catarrhalis</i>	Bacterium	Otitis media, sinusitis, laryngitis	8.5	
Nematode eggs (Roundworm)	Parasite	Ascariasis, Appendicitis, Loeffler's Syndrome	92.0	
<i>Oospora lactis</i>	Fungus (Mold Spore)	Fruit rot (rapid decay of ripe fruits, potatoes), mold in dairy products		
<i>Paramecium</i> spp.	Protist			
<i>Penicillium digitatum</i> (olive)	Fungus (Mold Spore)	Fungal spoilage in fruits and vegetables	88.0	
<i>P. expansum</i> (olive)	Fungus (Mold Spore)	Postharvest decay of stored apples	22.0	
<i>P. roqueforti</i> (green)	Fungus (Mold Spore)	Producing harmful secondary metabolites (alkaloids and other mycotoxins)	26.4	
<i>Phytophthora tumefaciens</i>	Bacterium	Crown Gall disease in Dicotyledons (Grapes, Berries, Fruits, Nuts)	8.5	
Polio virus	Virus	Poliomyelitis (Polio)	29.0	Snicer et al, 1998, Wilson et al, 1992
<i>Proteus vulgaris</i>	Bacterium	Infections (esp. sinus and respiratory, urinary tract)	6.6	
<i>Pseudomonas aeruginosa</i> (lab)	Bacterium	Hospital acquired infections, ear infection and dermatitis in pools & tubs	3.9	
<i>Pseudomonas aeruginosa</i> (env.)	Bacterium	Hospital acquired infections, ear infection and dermatitis in pools & tubs	10.5	
<i>Rhizopus nigricans</i> (black)	Fungus (Mold Spore)	Infections, allergic reactions (known as breadmold)	220.0	
<i>Rhodospirillum rubrum</i>	Bacterium		6.2	
Rotavirus	Virus	Infections, severe diarrhoea, gastroenteritis	26.0	Battigelli et al., 1993; Wilson et al., 1992
Saccharomyces sp.	Yeast		13.2	
<i>Salmonella enteritidis</i>	Bacterium	Egg-associated Salmonellosis (fever, abdominal cramps, diarrhea)	7.6	Tosa and Hirata, 1998
<i>S. paratyphi</i>	Bacterium	Enteric fever	6.1	
<i>S. typhi</i>	Bacterium	Typhoid fever	6.4	Wilson et al., 1992
<i>S. typhimurium</i>	Bacterium			
<i>Sarcina lutea</i>	Bacterium		26.4	
<i>Serratia marcescens</i>	Bacterium	Nosocomial (Hospital acquired) infections	6.2	
<i>Shigella dysenteriae</i>	Bacterium	Epidemic dysentery	4.2	Wilson et al., 1992
<i>S. flexneri</i>	Bacterium	Shigellosis, dysentery	3.4	
<i>S. sonnei</i>	Bacterium	Shigellosis	7.0	Chang et al., 1985
<i>Staphylococcus aureus</i>	Bacterium	Staph and nosocomial infections, toxic shock syndrome	7.0	Chang et al., 1986
<i>S. epidermidis</i>	Bacterium	Infections in catheters and prostheses	5.8	
<i>Streptococcus hemolyticus</i>	Bacterium	Strep throat	5.5	
<i>S. faecalis</i>	Bacterium	Endocarditis, bladder and prostate infection	8.0	Harris et al., 1987
<i>S. lactis</i>	Bacterium		8.8	
<i>S. pyogenes</i>	Bacterium	Scarlet fever, toxic shock syndrome, flesh eating disease	8.8	
<i>S. viridans</i>	Bacterium	Mouth or gingival infections, endocarditis	3.8	
<i>Tobacco mosaic virus</i>	Virus	Mottling and discoloration in plants	440.0	
<i>Vibrio cholerae</i>	Bacterium	Cholera	2.2	Wilson et al., 1992
<i>Yersinia enterocolitica</i>	Bacterium	Yersiniosis (fever, abdominal pain, diarrhea)	3.7	Wilson et al., 1992

Typical Wyckomar UV systems produce UV doses of 38 – 60 mJ/cm²

¹ UV energy levels required at 254 nanometer wavelength for 99.9% (log 3) destruction of organisms