

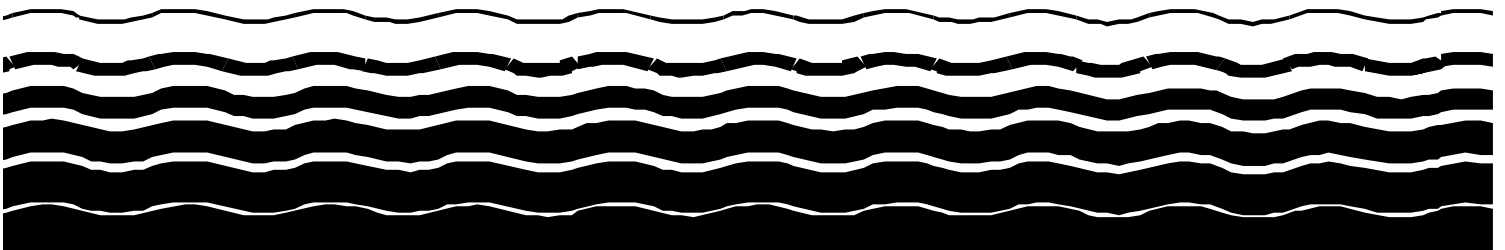
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Alternative Disinfectants and Oxidants Guidance Manual



DISCLAIMER

This manual provides accurate technical data and engineering information on disinfectants and oxidants that are not as widely used as chlorine. The U.S. Environmental Protection Agency encourages drinking water treatment utilities and drinking water primacy agencies to examine all aspects of their current disinfection practices to improve the quality of their finished water without reducing microbial protection.

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ACRONYMS

AECL	Alternate enhanced coagulant level
ACUK	Acid chrome violet K
AOC	Assimilable organic carbon
ASDWA	Association of State Drinking Water Administrators
AWWA	American Water Works Association
AWWARF	AWWA Research Foundation
BAC	Biologically active carbon
BAF	Biologically active filtration
BAT	Best Available Technology
BCAA	Bromochloroacetic acid
BDOC	Biodegradable organic carbon
BMP	Best management practice
BOM	Biodegradable Organic Matter (=BDOC + AOC)
Br-	Bromide ion
BrO ₂ -	Bromite ion
BrO ₃ -	Bromate ion
CI	Confidence interval
Cl ₂	Chlorine
ClO ₂	Chlorine Dioxide
CT	Concentration-Time
CWS	Community Water System
D/DBP	Disinfectants/disinfection byproducts
DBPR	Disinfectants/disinfection byproducts rule
DBP	Disinfection byproduct
DBPFP	Disinfection byproduct formation potential
DBPP	Disinfection byproduct precursors
DBPRAM	DBP Regulatory Assessment Model
DBPs	Disinfection byproducts
DOC	Dissolved organic carbon
DPD	N,N-diethyl-p-phenylenediamine
DWEL	Drinking Water Equivalent Level
EBCT	Empty bed contact time
EMSL	EPA Environmental Monitoring and Support Laboratory (Cincinnati)
EPA	United States Environmental Protection Agency
ESWTR	Enhanced Surface Water Treatment Rule
FBR	Filter Backwash Rule
FY	Fiscal year
GAC	Granular activated carbon
GWR	Ground Water Rule
GWSS	Ground Water Supply Survey
H ₂ O ₂	Hydrogen Peroxide
HAA ₅	Haloacetic acids (five)
HOBr	Hypobromous acid
HOCl	Hypochlorous acid
IC	Ion chromatography

ICR	Information Collection Rule
IESWTR	Interim Enhanced Surface Water Treatment Rule
IOA	International Ozone Association
IOC	Inorganic chemical
KMnO ₄	Potassium permanganate
LOAEL	Lowest observed adverse effect level
LOQ	Limit of quantitation
LT1ESWTR	Long Term Stage 1 Enhanced Surface Water Treatment Rule
M-DBP	Microbial and disinfection byproducts
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MDL	Method Detection Limit
mg/L	Milligrams per liter
mgd	Million gallons per day
MIB	Methylisoborneol
MRDL	Maximum Residual Disinfectant Level (as mg/l)
MRDLG	Maximum Residual Disinfectant Level Goal
MRL	Minimum Reporting Level
MX	3-chloro-4-(dichloromethyl)-5-hydroxyl-2(5H)-furanone
NaCl	Sodium chloride
NCI	National Cancer Institute
ND	Not detected
NH ₂ Cl	Monochloramine
NIPDWR	National Interim Primary Drinking Water Regulation
NIOSH	National Institute for Occupational Safety and Health
NOAEL	No Observed Adverse Effect Level
NOM	Natural Organic Matter
NOMS	National Organic Monitoring Survey
NORS	National Organics Reconnaissance Survey for Halogenated Organics
NPDWR	National Primary Drinking Water Regulation
NTNCWS	Nontransient noncommunity water system
NTP	Normal Temperature and Pressure
O ₂	Oxygen
O ₃	Ozone
OBr-	Hypobromite ion
OCI-	Hypochlorite ion
PCE	Perchloroethylene
PE	Performance evaluation
POE	Point-of-Entry Technologies
POU	Point-of-Use Technologies
ppb	Parts per billion
ppm	Parts per million
PQL	Practical Quantitation Level
PTA	Packed Tower Aeration
PWS	Public water system
RIA	Regulatory Impact Analysis
RMCL	Recommended Maximum Contaminant Level
RNDB	Regulations Negotiation Data Base
RSC	Relative Source Contribution
SDWA	Safe Drinking Water Act, or the "Act," as amended in 1996
SM	Standard Method

SMCL	Secondary Maximum Contaminant Level
SMR	Standardized mortality ratios
SOC	Synthetic Organic Chemical
SWTR	Surface Water Treatment Rule
TCE	Trichloroethylene
THM	Trihalomethane
THMFP	Trihalomethane formation potential
TMV	Tobacco mosaic virus
TOC	Total organic carbon
TTHM	Total trihalomethanes
TWG	Technologies Working Group
UV	Ultraviolet
VOC	Volatile Organic Chemical
WIDB	Water Industry Data Base
WS	Water supply
XDBPs	Halogenated DBPs

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