



Hess - Products

COMPARISON OF DISINFECTION WITH D - 50/500 AND DISINFECTION WITH CHLORINE

	D - 50/500	CHLORINE
Long term effect	very long	depending on temperature, short till medium
Light sensibility	practically not	medium
Temperature sensibility	practically not	fast degradation at rising temperatures
Neutral pH	neutral	change of pH of the treated water
Contact time	medium	short
Retarded efficiency through organic materials	yes	yes
Influence of ammonia or urea	till 5 mg/l not	reaction to chloramin
Efficiency against algae	yes	limited
Efficiency against fungi	yes	limited
Forming of smell	no	yes
Change of taste	no	yes
Danger of over dose	practically not	yes
Carcinogenic/mutagenic	no	reaction products yes



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COMPARISON OF THE DISINFECTION WITH D - 50/500 AND DISINFECTION WITH QUATS

	D - 50/500	QUATS
Degradation without residue	practically yes	no
Foaming	no	yes
Temperature sensibility	practically not	few
Rinsing	very good	bad
Contact time	medium	at high temperatures short, at low temperatures long
Coating at higher water temperatures	no	yes
Protein turbidity and foam deterioration in contact with beer	no	yes
Toxicity	no	yes
Measurement of concentration	good	bad
Forming of smell	no	yes
Change of taste	no	yes
Danger of over dose	practically not	yes



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COMPARISON OF DISINFECTION OF D - 50/500 AND DISINFECTION WITH PERACETIC ACID

	D - 50/500	PERACETIC ACID
Universal usage	yes	no
Gaps of effect	no	yes
Smell	practically not	biting
Influence on taste, smell and consistence of food and beverages	no	yes
Rinsing necessary	no	yes
Corrosive	no	yes
Stacking	yes	limited
Fully automatic feedback-control	yes	no
Application range of pH	1 - 8	2.5 - 4
Application range of temperature	5° - 95°C	5° - 40°C danger of explosion at temperatures over 65°C
Neutralisation of waste water	no	yes
Velocity of killing of germs	medium	fast



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COMPARISON OF DIFFERENT DISINFECTANTS I

PARAMETERS	QUATS	PHENOLS	ALDEHYDES	HALOGENES	D - 50/500
Efficiency spectrum	grampos. bacteria, fungi, yeast, algae, lichens, covered viruses	grampos. bacteria, gramneg. bacteria, fungi, yeast, algae, covered viruses	grampos. bacteria, gramneg. bacteria, fungi, yeast, spores, covered and uncovered viruses	grampos. bacteria, gramneg. bacteria, fungi, yeast, spores, covered viruses	grampos. bacteria, gramneg. bacteria, fungi, yeast, spores, covered and uncovered viruses, amoebae, protozoa, biofilms
Gaps of effect	gramneg. bacteria, mycobacteria, spores, uncovered viruses, amoebae, protozoa, biofilms	spores, uncovered viruses, amoebae, biofilms	amoebae, protozoa, biofilms	amoebae, protozoa, biofilms	
pH optimum	5 - 9	2 - 8	4 - 9	5 - 9	2 - 8



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COMPARISON OF DIFFERENT DISINFECTANTS II

PARAMETERS	QUATS	PHENOLS	ALDEHYDES	HALOGENES	D - 50/500
pH stability	1 - 12	1 - 14	3 - 12	1 - 9	2 - 8
Protein foamy and deterioration in contact with beer	strong	not used because of changes in colour and taste	not used because of changes in colour and taste	strong	no
Water hardness compatibility	bad	very good	good	good	very good
Protein capacity	bad	very good	bad	bad	good
Dirt capacity	bad	very good	unsatisfactory	good	moderate



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COMPARISON OF DIFFERENT DISINFECTANTS III

PARAMETERS	QUATS	PHENOLS	ALDEHYDES	HALOGENES	D - 50/500
Surface behaviour	surface residues	adsorption on plastics	high vapour pressure, high air load in rooms	surface residue	very good
Smell	no smell	intensive	stinging	intensive	no smell
Foam behaviour	strong foaming	very good	bad	good	very good
Skin compatibility	good	good in diluted solutions	skin and eye sensitive, danger of sensibilisation	skin and eye sensitive, as gas perilous	very good in diluted solutions
Carcinogen	no	yes	yes	yes, reaction product chloroform	no
Mutagen	no	till 800 mg/kg no	yes	yes as reaction product chloroform	no



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COMPARISON OF DIFFERENT DISINFECTANTS IV

PARAMETERS	QUATS	PHENOLS	ALDEHYDES	HALOGENES	D - 50/500
LD ₅₀ oral, rat	350 - 900 mg/l	1830 - 3000 mg/l	800 - 1700 mg/l		> 2000 mg/l
LD ₅₀ inhalation			0.59 mg/l air		> 60 mg/l
Federal Republic of Germany Classification of water danger	3	1 - 2	1 - 2	2 - 3	0
Stability in diluted solutions	only short-term, not reusable	only short-term, not reusable	only short-term, not reusable	only short-term, conditional reusable	reusable
Temperature stability	moderate	bad	bad	very bad	very good
Corrosion dependence of temperature				at rising temperatures high danger of corrosion	no change



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COMPARISON OF DIFFERENT DISINFECTANTS V

PARAMETERS	QUATS	PHENOLS	ALDEHYDES	HALOGENES	D - 50/500
Biodegradation in sewage disposal plants	90 % after 5 days	100 % after 3 - 7 days, neutralisation necessary	good, but neutralisation necessary	very good, but neutralisation necessary	100 % after 2 - 4 hours
Biodegradation "Closed bottle test" OECD 301 D	65-70 % degradation in 20 days	80-90 % degradation in 20 days	75-90 % degradation in 5-10 days		100 % degradation in 24 hours
Universal usage	limited	limited	limited	moderate	very good
Measurement of concentration in place	not possible	not possible	not possible	very good	very good
Fully automatic proportioning	not possible	not possible	not possible	very good	very good



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EQUIPMENT FOR PROPORTIONING AND FIELD METHODS FOR DETERMINATION

MEASURING STRIPES
Range: 0 - 100 mg/l

PROPORTIONING BOX

VARIO-DISPENSER
Range: 0.1 - 2.0 %
1.0 - 20 %

HANDLING

- D - 50/500** is completely soluble in water and miscible in water in every proportion.
- D - 50/500** no foaming.
- D - 50/500** and solutions mixed with water have the same wettability and adhesion as water.
- D - 50/500** no forming of coating on disinfected surfaces.

TRANSPORT INSTRUCTIONS

RID/ADR-GGVB/GGVS-class 5.1/1b
IMDG/GGVS 5.1/II UN 2014
IATA/ICAO forbidden
UN No. 2014

Original containers have to be transported **standing up**. On the packaging must be a distinguishing mark:

UPRIGHT TRANSPORT, THIS SIDE UP!