

# parmetol<sup>®</sup> K 60

## Preservative for household products

- Effective even in very low use-concentrations
- Broad, balanced spectrum of effect against bacteria, yeasts and moulds
- Contains no formaldehyde
- Effective in pH ranges up to 8.5

Active substance	EINECS-Name:	CAS-No.	EC-No.
Octylisothiazolinone	2-Octyl-2H-isothiazol-3-one	26530-20-1	247-761-7
Methylchloroisothiazolinone	5-Chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	247-500-7
Methylisothiazolinone	2-Methyl-2H-isothiazol-3-one	2682-20-4	220-239-6
(Mixture of 5-Chloro-2-methyl-2H-isothiazol-3-one and 2-Methyl-2H-isothiazol-3-one)		55965-84-9	

Physico-chemical properties	
Colour	nearly colourless - light yellow
Form	Liquid
Odour	nearly odourless
Density (20 °C)	1.080 - 1.090 g/ml
Refractive index (20 °C)	1.388 - 1.398
Initial boiling point	ca. 100 °C
Flash point (ISO 2719)	> 100 °C
Flow time (DIN 53211 - 20 °C)	ca. 30 s
Water solubility (20 °C)	> 10 g/l
Foaming characteristics	Non foaming
VOC-Content to Directive 2004/42/EC	36 %

**Fields of application**  
 The optimum use level should be evaluated by means of a repeated challenge test (e.g. at schulke Technical and Microbiological department). Limits for labelling can be seen from the separate schulke labelling sheet.

**Use biocides safely. Always read the label and product information before use.**

Recommended dosage		
Washing-up liquids	0.1 - 0.4 g/kg	(0.01 - 0.04 %)
Detergent	0.1 - 0.4 g/kg	(0.01 - 0.04 %)
Liquid laundry detergents	0.1 - 0.4 g/kg	(0.01 - 0.04 %)
Fabric softener	0.1 - 0.4 g/kg	(0.01 - 0.04 %)
Liquid scouring cleansers	0.1 - 0.4 g/kg	(0.01 - 0.04 %)
Window cleaners	0.1 - 0.4 g/kg	(0.01 - 0.04 %)
Wax emulsions	0.1 - 0.4 g/kg	(0.01 - 0.04 %)
Wet wipes	0.1 - 0.4 g/kg	(0.01 - 0.04 %)
Other uses	Kindly contact us.	

Indications for use	
Solubility(ies)	Fully soluble in water and in most polar organic solvents.
Compatibility with sulphite ions	parmetol <sup>®</sup> K 60 is inactivated by sulphite ions. Excessive sulphite > 10 ppm must be avoided.
Recommended use pH range	3 - 8.5
Maximum use temperature	60 °C (pH > 6 up to 40 °C)
Additional advice	If possible, to be incorporated at an early stage during production. pH, temperature and redox conditions are to be taken into consideration. Avoid alkaline pre-solutions. Cleaning of equipment is possible by rinsing with water.

Microbiological efficacy					
The efficacy of the product has been tested against the following microorganisms according to DGHM (German Society for Hygiene and Microbiology). Determination of the minimum inhibitory concentration in the serial dilution test produced the following values (MIC in % of the product):					
Bacteria (gram-negative)	MIC	Bacteria (gram-positive)	MIC	Yeasts	MIC
<i>Enterococcus faecium</i>	0.08	<i>Bacillus subtilis</i>	0.04	<i>Candida albicans</i>	< 0.01
<i>Escherichia coli</i>	0.08	<i>Staphylococcus aureus</i>	0.10	<i>Rhodotorula spp.</i>	< 0.01
<i>Klebsiella pneumoniae</i>	0.04			<i>Saccharomyces cerevisiae</i>	< 0.01
<i>Micrococcus luteus</i>	0.04				
<i>Proteus vulgaris</i>	0.04			Moulds	MIC
<i>Pseudomonas aeruginosa</i>	0.04			<i>Alternaria spp.</i>	< 0.01
<i>Pseudomonas fluorescens</i>	0.02			<i>Aspergillus niger</i>	< 0.01
<i>Pseudomonas putida</i>	0.02			<i>Penicillium funiculosum</i>	< 0.01
<i>Pseudomonas stutzeri</i>	0.02			<i>Trichoderma virens</i>	< 0.01

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Compatibility*		
	compatible	to be avoided
concentrate	high-alloyed stainless steel (e. g. 1.4571), polyethylene, polystyrene, polycarbonate, nitrile rubber	metals other than mentioned, fluoro-, chloroprene- and styrene butadiene rubber
aqueous dilution (0.2 %)	No significant difference to water	Water incompatible materials

\*Compatibility has to be proved in each case

Labelling	
R-phrases(s)	R20/21/22, R34, R43, R50/53
S-phrases(s)	S26, S28, S35, S36/37/39, S45
Labelling	C (Corrosive), N (Dangerous for the environment)
For further hazard instructions and safety advice please refer to the actual material safety data sheet.	

**Environmental information**  
 At a sufficient degree of dilution, all components of parmetol<sup>®</sup> K 60 are completely biodegradable. Dilutions of parmetol<sup>®</sup> K 60 do not normally interfere with the operation of waste water treatment plants. The canisters and drums used by schülke are made of polyethylene (HDPE) and are labelled accordingly. The 1000 kg containers are covered by a return scheme that ensures collection of the used containers free of charge and appropriate reuse all over Europe. The labels are made of PE. schülke packaging materials contain no PVC and can be recycled. For further information please ask for our detailed environmental report.

Listings and approvals of active ingredients
EINECS / ELINCS (Europe)
TSCA (USA)
ECL (Korea)
DSL / NDSL (Canada)
ENCS (Japan)
AICS (Australia)
PICCS (Philippines)
IECSC (China)

Transport & Storage	
Dangerous goods	Yes
UN number	1760
Packaging group	III
Package sizes	25 kg, 200 kg, 1000 kg
Shelf life	12 Months
Storage	Protect from frost, heat and direct sunlight. Store at room temperature in the original container.

Ecolabel			
	Basic criteria	Product type	max. use concentration
European Flower	2003/200/EC	Laundry detergents	0.04 %
European Flower	2005/344/EC	all-purpose cleaners and cleaners for sanitary facilities	0.04 %
European Flower	2005/342/EC	Hand dishwashing detergents	0.04 %

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Our recommendations regarding our products are based on in-depth scientific testing in our Research Department; they are given in good faith, but no liability can be derived from them. It is the responsibility of the final product manufacturer to assure that claims made for the final product are in conformance with all applicable local laws. In other respect our Conditions of Sale and Supply apply.

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