



Microbial Control

Household, Industrial and Institutional Products: Preservation, Rapid Decontamination and Industrial Hygiene

Consumers put their trust in you on a daily basis. They believe your products are not only effective, but also protected from microbial contamination.

When you work with Dow Microbial Control, they are.

Our experts work hand in hand with you, offering a broad line of products, application expertise and new antimicrobial technologies. We are leading the charge in environmental responsibility.

Get the best-fit products for your application, as well as products listed by ecolabel to fit your regulatory requirements. Plus, our toxicology and regulatory experience are yours for the asking. So feel free to ask.

Because at Dow Microbial Control, we guard against microorganisms—and we protect reputations.

Ask more of us.



**Ask your local expert.
1-800-232-2436 (Dow)**

www.dowmicrobialcontrol.com



Product Selection Guide:

APPLICATION	PRODUCT RECOMMENDATIONS – Based on Antimicrobial Efficacy and Cost to Treat			PRODUCT RECOMMENDATIONS – Based on Specific Ecolabels			BEST OVERALL OPTION
	GOOD	BETTER	BEST	DESIGN FOR THE ENVIRONMENT (DfE)	GREEN SEAL*	ECOLOGO	
FABRIC SOFTENERS (pH UP TO 6)	KORALONE™ B-119 (0.12-0.15%/228-285ai)	BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai) BIOBAN™ BP-30 (0.050-0.090%/195-270ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) KORALONE™ N-105 (0.0455-0.0909%/25-50ai) BIOBAN™ 425 (0.030-0.050%/75-125ai) DOWICIL™ 75 (0.050-0.080%/320-512ai) KATHON™ CG/ICP (0.075-0.10%/11.25-15ai)	NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	KATHON™ CG/ICP
HEAVY DUTY LIQUIDS (pH 8.0 AND UP)	KATHON™ CG/ICP (0.075-0.10%/11.25-15ai) KORALONE™ B-119 (0.12-0.15%/228-285ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai) BIOBAN™ BP-30 (0.050-0.090%/195-270ai)	BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) DOWICIL™ 75 (0.050-0.080%/320-512ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai)	NEOLONE™ M-10 KORALONE™ B-119	UCARCIDE™ 50 NEOLONE™ M-10 KORALONE™ B-119	UCARCIDE™ 50 NEOLONE™ M-10 KORALONE™ B-119	DOWICIL™ 75 (If ecolabel prohibits, use NEOLONE™ M-10)
AUTOMATIC DISHWASHER DETERGENTS (pH 8.5 AND UP)	KORALONE™ B-119 (0.12-0.15%/228-285ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai) BIOBAN™ BP-30 (0.050-0.090%/195-270ai)	BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) DOWICIL™ 75 (0.050-0.080%/320-512ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai)	NEOLONE™ M-10 KORALONE™ B-119	UCARCIDE™ 50 NEOLONE™ M-10 KORALONE™ B-119	UCARCIDE™ 50 NEOLONE™ M-10 KORALONE™ B-119	BIOBAN™ CS-1135 (If ecolabel prohibits, use NEOLONE™ M-10)
HAND DISHWASHING LIQUID (pH UP TO 9.0)	BIOBAN™ BP-30 (0.050-0.090%/195-270ai) KORALONE™ B-119 (0.12-0.15%/228-285ai)	BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) DOWICIL™ 75 (0.050-0.080%/320-512ai) KATHON™ CG/ICP (0.075-0.10%/11.25-15ai)	NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	KATHON™ CG/ICP
WIPES/WIPE SOLUTIONS (pH UP TO 8.0)	BIOBAN™ BP-30 (0.050-0.090%/195-270ai) KORALONE™ B-119 (0.12-0.15%/228-285ai)	BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai) DOWICIL™ 75 (0.050-0.080%/320-512ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) KORALONE™ N-105 (0.0455-0.0909%/25-50ai) BIOBAN™ 425 (0.030-0.050%/75-125ai) KATHON™ CG/ICP (0.075-0.10%/11.25-15ai)	NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	KATHON™ CG/ICP (If more fungal protection is needed or there is a stability issue, add KORALONE™ N-105 (OIT) or BIOBAN™ 425 (MIT/OIT).)
WIPES/WIPE SOLUTIONS (pH 8.0 AND UP)	KATHON™ CG/ICP (0.075-0.10%/11.25-15ai) BIOBAN™ BP-30 (0.050-0.090%/195-270ai) KORALONE™ B-119 (0.12-0.15%/228-285ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai)	BIOBAN™ 425 (0.030-0.050%/75-125ai) BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) KORALONE™ N-105 (0.0455-0.0909%/25-50ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai) DOWICIL™ 75 (0.050-0.080%/320-512ai)	NEOLONE™ M-10 KORALONE™ B-119	UCARCIDE™ 50 NEOLONE™ M-10 KORALONE™ B-119	UCARCIDE™ 50 NEOLONE™ M-10 KORALONE™ B-119	NEOLONE™ M-10 (If fungal protection is needed, add KORALONE™ N-105 (OIT) or BIOBAN™ 425 (MIT/OIT).)
ALL PURPOSE CLEANERS (pH UP TO 8.0)	KORALONE™ B-119 (0.12-0.15%/228-285ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) BIOBAN™ BP-30 (0.050-0.090%/195-270ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai)	DOWICIL™ 75 (0.050-0.080%/320-512ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai) KATHON™ CG/ICP (0.075-0.10%/11.25-15ai)	NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	KATHON™ CG/ICP
ALL PURPOSE CLEANERS (pH 8.0 AND UP)	KATHON™ CG/ICP (0.075-0.10%/11.25-15ai) BIOBAN™ BP-30 (0.050-0.090%/195-270ai) KORALONE™ B-119 (0.12-0.15%/228-285ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai)	BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) DOWICIL™ 75 (0.050-0.080%/320-512ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai)	NEOLONE™ M-10 KORALONE™ B-119	UCARCIDE™ 50 NEOLONE™ M-10 KORALONE™ B-119	UCARCIDE™ 50 NEOLONE™ M-10 KORALONE™ B-119	NEOLONE™ M-10
I&I (JANITORIAL) (pH 2–12.5)	KORALONE™ B-119 (0.12-0.15%/228-285ai)	UCARCIDE™ 50 (0.020-0.050%/100-250ai) BIOBAN™ CS-1135 (0.050-0.080%/390-624ai) BIOBAN™ BP-30 (0.050-0.090%/195-270ai) BIOBAN™ IPBC 20 (0.050-0.10%/100-200ai)	KORALONE™ N-105 (0.0455-0.0909%/25-50ai) BIOBAN™ 425 (0.030-0.050%/75-125ai) DOWICIL™ 75 (0.050-0.080%/320-512ai) NEOLONE™ M-10 (0.050-0.080%/48.5-77.6ai) KATHON™ CG/ICP (0.075-0.10%/11.25-15ai)	NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	UCARCIDE™ 50 NEOLONE™ M-10 KATHON™ CG/ICP	DOWICIL™ 75

Product concentrations are given as (% product/ppm active ingredient).

Please note: KORALONE™ N-105 and BIOBAN™ IPBC 20 are fungicides and are not substitutes for antibacterial biocides. These fungicides may be used in combination with effective bactericides for robust protection of HI&I products.

This table was created based on common trends in preservation, and individual product performance is matrix-dependent. Contact a Dow Microbial Control expert for more information about your specific application and matrix.

* Depending on the Green Seal standard a customer wishes to follow, formaldehyde donors and bronopol are allowed (ex: GS-8). For GS-37, less than 100 ppm active of CTAC (DOWICIL™ 75 active ingredient) and bronopol is allowed.

Product Selection Guide Continued

Dow Microbial Control Preservative products for use in **Design for the Environment (DfE)**-approved customer products for Household, Industrial and Institutional applications such as all-purpose cleaners, surface wipe solutions, laundry detergents, fabric softeners, polishes and car care products*:

Product	Active Ingredient(s)	Description	pH Use Range	Effective Against Bacteria (B) Fungi (F)
NEOLONE™ M-10	9.7% 2-methyl-4-isothiazolin-3-one (MIT)	Liquid	2-12	B
KATHON™ CG/ICP	1.5% 5-chloro-2-methyl-4-isothiazolin-3-one/ 2-methyl-4-isothiazolin-3-one (CMIT/MIT)	Liquid	<8.5	B/F
BIOBAN™ ULTRA BIT 20 LE (Low-VOC Formulation)	19% w/w 1, 2-benzisothiazolin-3-one (BIT)	Liquid	2-12	B
KORALONE™ B-119	19% 1,2-benzisothiazolin-3-one (BIT)	Liquid	2-12	B
KORALONE™ N-105	5.5% 2-n-octyl-4-isothiazolin-3-one (OIT)	Liquid	4-9	F
BIOBAN™ 425 (Future Offering)	25% 2-methyl-4-isothiazolin-3-one (MIT) / 2-n-octyl-4-isothiazolin-3-one (OIT)	Liquid	2-10	B/F

Excellent supplemental chemistries for Household, Industrial and Institutional applications, including products for rapid decontamination as well as long-term preservation:

Product	Active Ingredient(s)	Description	pH Use Range	Effective Against Bacteria (B) Fungi (F)
DOWICIL™ QK-20 (For Rapid Decontamination and Industrial Hygiene)	20% 2,2-dibromo-3-nitropropionamide (DBNPA)	Liquid	2-10	B/F
UCARCIDE™ 50 (For Rapid Decontamination and Long-term Preservation)	50% glutaraldehyde	Liquid	3-9.5	B/F
DOWICIL™ 75	64% cis/trans 1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride (CTAC)	Solid	2-12.5	B
BIOBAN™ BP 30 LE (Low-VOC Formulation)	30% 2-bromo-2-nitro-1,3-propanediol (bronopol)	Liquid	3-8	B
BIOBAN™ BP-30	30% 2-bromo-2-nitro-1,3-propanediol (bronopol)	Liquid	3-8	B
BIOBAN™ BP-PLUS	99% 2-bromo-2-nitro-1,3-propanediol (bronopol)	Solid	3-8	B
KATHON™ CG/ICP II (Low-salt Formulation)	1.5% 5-chloro-2-methyl-4-isothiazolin-3-one/ 2-methyl-4-isothiazolin-3-one (CMIT/MIT)	Liquid	<8.5	B/F
KATHON™ ICP III (Salt-free Formulation)	1.5% 5-chloro-2-methyl-4-isothiazolin-3-one/ 2-methyl-4-isothiazolin-3-one (CMIT/MIT)	Liquid	<8.5	B/F
BIOBAN™ CS-1135	78% 4,4-dimethyloxazolidine (DMO)	Liquid	7-11	B
BIOBAN™ CS-1246	97.0% 7-ethyl-bicyclooxazolidine (EBCO)	Liquid	7-11	B
DOWICIL™ 150	96% cis 1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride (CTAC)	Solid	2-12.5	B
BIOBAN™ IPBC 20	20% w/w 3-Iodo-2-propynylbutylcarbamate (IPBC)	Liquid	4-10	F
DOWICIDE™ 1E	99.5% o-phenylphenol (OPP)	Solid	>8	B/F
CANGUARD™ OPP 63	63% o-phenylphenol (OPP)	Liquid	>8	B/F
DOWICIDE™ A	71.7% Sodium o-phenylphenol (NaOPP)	Solid	>8	B/F
DOWICIDE™ 25L	25.3% Sodium o-phenylphenol (NaOPP)	Liquid	>8	B/F

* Confirmed by DfE May 2010. Assumed all other ingredients in customer products meet DfE Standards.

Global Technical Team and R&D Centers of Excellence

North America

Our broad portfolio of antimicrobial solutions, combined with our state-of-the-art microbiological testing capabilities, allows you to formulate global ecolabel compliant products without sacrificing antimicrobial performance.

- Our customer application centers in Buffalo Grove, IL, Spring House, PA, and throughout the rest of the world provide our customers with superior testing capabilities including TAUNOVATESM High Throughput technology. Our experts make recommendations to meet your specific product needs.
- Dow Microbial Control offers guidance on Industrial Hygiene (IH) practices, including regular IH plant audits, which helps you to manufacture products that are free of microbial contamination while maximizing the performance of your preservative package.
- Our extensive portfolio of active ingredients allows us to provide you with unique solutions for all your long-term preservation, rapid decontamination and industrial hygiene needs.

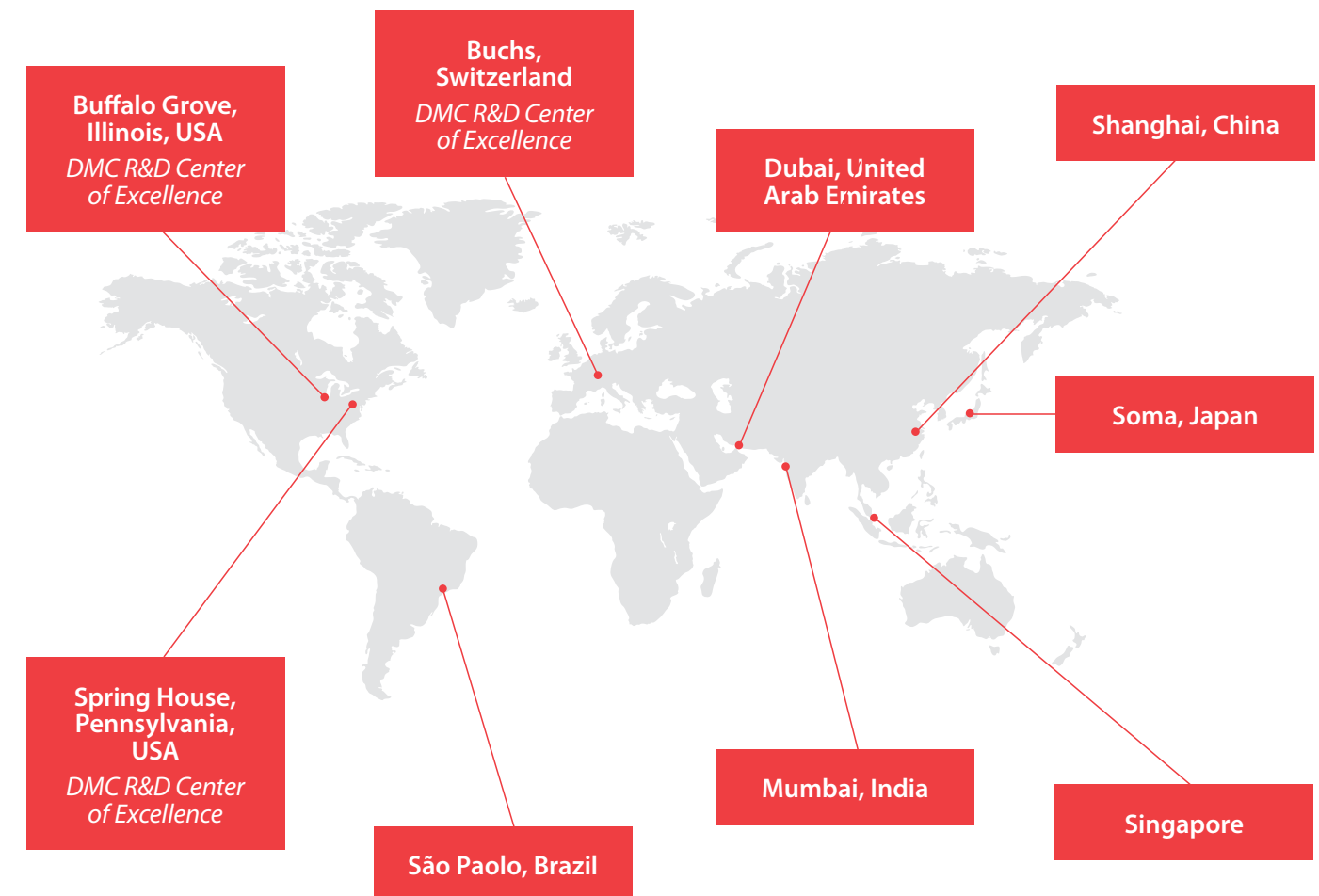
CMIT/MIT	OIT	EBCO	DBNPA	OPP
MIT	CTAC	GLUT	IPBC	NaOPP
BIT	DMO	Bronopol		

- Dow Microbial Control offers comprehensive regulatory and registration support.

Where required, Dow Microbial Control maintains appropriate product approvals with the following governmental agencies:

- United States Environmental Protection Agency (US EPA)
- Health Canada
- United States Food and Drug Administration (US FDA)

 **José Mosquera**
Global Strategic Marketing
Manager for the HI&I Market
Dow Microbial Control





This document is designed as a general overview of Dow Microbial Control products and chemistries. Not all products are registered in all geographical locations for all applications. Please contact your local representative for detailed technical information applicable to your individual requirements.

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Please note that not all products are registered in all regions for all applications. Please contact your local Dow representative for detailed technical information applicable to your individual situation.

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