

Committed to Sustainability.

At DyStar, our products and services help customers worldwide reduce costs, shorten lead times and meet stringent quality and ecological specifications.



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DyStar LP
9844-A Southern Pine Blvd., Charlotte, NC 28273
Tel: 1-877-300-9545
DyStar-USA@dystar.com

Global Headquarters DyStar Singapore Pte Ltd
Tel: +65 66 71 28 00 Fax: +65 66 59 13 28
DyStar.Singapore@DyStar.com
www.DyStar.com


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087.0009.02.2207

econfidence[®]
from DyStar[®]



Industrial Foam Control Products

DyStar offers many chemistries to meet your foam control needs



Industrial Foam Control Products

DyStar[®] is a leader in providing customers with the right foam control solution. With over three decades of experience in foam control technology and technical expertise in coatings, industrial and other applications, our technical service team can assist you with your defoamer choices.

Foam Blast[®]

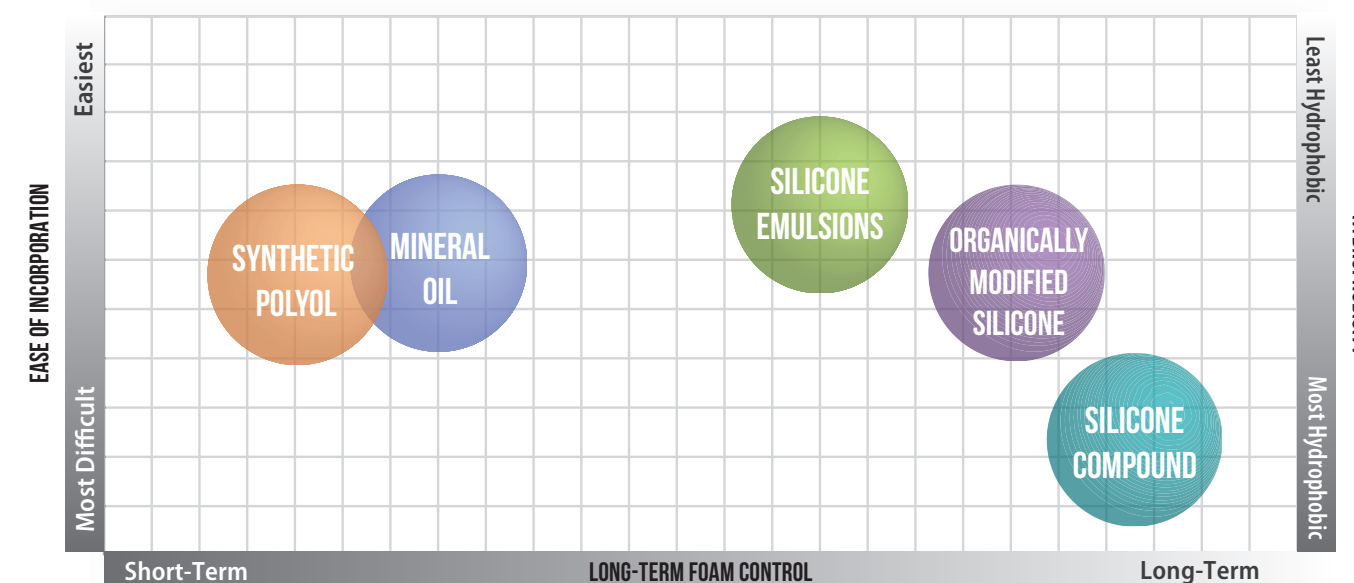
DyStar's Foam Blast[®] products provide the solutions to inhibit foam formation and knockdown foam that occurs during processing. Our foam control technology utilizes a broad range of chemistries to aid in compatibility and performance in different systems, resins, vehicles and additives. We offer foam control technology based on silicone, organo-silicone, mineral oil and synthetic chemistries to achieve the best performance at the best price.

MARKETS SERVED

- Paints & Coatings
- Adhesives & Sealants
- Ink & Graphic Arts
- Water Treatment
- Metal Working
- Oil & Gas
- Pulp & Paper
- Plastics Recycling
- Construction Grouts, Mortars & Muds
- Industrial Processing & Cleaning



PROPERTIES OF FOAM CONTROL CHEMISTRIES



A wide range of Foam Blast[®] defoamer types ensures the best balance of properties for each formulation: long-term foam control, ease of incorporation, and hydrophobicity (stability).

CHEMISTRY PLATFORMS

SILICONE EMULSIONS

Efficient and easy to use, combining the strength of silicone with a unique pre-diluted form

MINERAL OIL

Excellent versatility, with many activity and dispersibility levels - a great starting point for general purpose foam control

SYNTHETIC POLYOL

Designed for mineral-oil-free applications, with broad options for active ingredient and spread rate

ORGANICALLY MODIFIED SILICONE

Excellent compatibility and handling, with the power of a silicone defoamer

SILICONE COMPOUND

Highly active and extremely efficient, even at very low dosages and in high-shear or challenging applications

DRY POWDER

Dry and free-flowing for de-aeration or use in a wide range of dry-blended products such as cements and drywall muds



SILICONE EMULSIONS *Zero VOC with high efficacy and ease of use*

Foam Blast® silicone emulsion foam control agents offer the strength of a silicone-based defoamer in a pre-diluted form to aid in incorporation and dispersion. This platform of products has a variety of activity levels. Each is designed to aid in maximizing both foam control and compatibility. It offers knockdown foam suppression as well as excellent long-term foam control.

SILICONE EMULSION Foam Blast Products	MARKETS						REGULATORY CLEARANCES (FDA CFR 21)							PRODUCT DESCRIPTION
	Industrial Coatings	Graphic Arts	Industrial Processing & Cleaning	Water Treatment	Plastics Recycling	Oil & Gas	173.340	175.105	175.300	176.170	176.180	176.200	176.210	
Foam Blast® 163	●	●	●	●										Water dilutable hybrid chemistry, designed with a balance of efficacy and compatibility in various aqueous systems; effectiveness equal to 30% silicone anti-foams for many industrial water-based ink and coating products and processes. Also effective in hot or cold applications and over a broad pH range (1 to 10).
Foam Blast 230	●	●	●	●				✓						Water dilutable, 12% active product designed for use in a wide variety of temperatures for efficient foam control, especially for producing defoamers for detergents. Dilutions of up to 6 parts water to 1 part form stable emulsions for high temperature and pressure applications.
Foam Blast 240	●	●	●	●	●								✓	20% active blend of silicone and synthetic technologies providing excellent initial and long term foam control at an economical price; generally metered neat to the foaming system, it is easily diluted with either warm or cold water.
Foam Blast 265	●	●	●	●										40% active, concentrated blend of silicone that offers high activity and free-rinsing characteristics. When diluted with 80-90 parts of pre-thickened water, provides a stable free-rinsing silicone defoamer that is effective in both atmospheric and jet dyeing without the side-effects of silicone spotting.
Foam Blast 269	●	●	●	●				✓						65% active concentrated defoamer solution designed for use in broad ranges of temperature and pH with enhanced compatibility.
Foam Blast 475	●		●	●	●									Economical defoamer using combination of hydrophobe technology to achieve the best of both silicone and biological foam control. Generally metered neat to the foaming system, dilutable with both cold and warm water.
Foam Blast 1051	●	●	●	●				✓	✓	✓	✓			Highly efficient 30% active product recommended for non-food-grade industrial and graphic art applications requiring fast knockdown and long lasting foam control. Effective in low to high pH systems and over a wide temperature range.
Foam Blast 2210			●	●		●								10% active silicone defoamer and anti-foaming agent intended for use in aqueous media where surfactants are present.
Foam Blast 2310			●	●		●	✓	✓				✓	✓	10% active FDA compliant silicone anti-foam emulsion. Typically used more for control than knockdown.
Foam Blast 2320			●	●		●	✓	✓				✓	✓	20% active FDA compliant silicone anti-foam emulsion. Typically used more for control than knockdown.
Foam Blast 2340			●	●		●	✓	✓				✓	✓	40% active FDA compliant silicone anti-foam emulsion. Typically used more for control than knockdown.
Foam Blast 2417			●	●	●	●	✓							Highly effective 20% active wetting/defoaming agent designed to provide excellent foam knockdown and durable foam suppression. Especially useful for continuous polyester flake washing and recycling.
Foam Blast 3550			●			●								5% active free-rinsing silicone emulsion designed for high pH and temperatures. Recommended for applications where scum build is a problem.

● = Suggested Applications ● = Limited Applications



MINERAL OIL *Diverse regulatory clearances with high versatility*

Foam Blast® mineral oil-carried foam control agents offer the formulator a wide variety of activity and dispersibility levels. This platform of products is an ideal starting point for general purpose foam control. It offers a balance of excellent foam control and compatibility with most aqueous systems. It ranges from highly dispersible products designed for immediate foam knockdown to robust concentrates designed for long-term foam control.

MINERAL OIL Foam Blast Products	MARKETS						REGULATORY CLEARANCES (FDA CFR 21)								PRODUCT DESCRIPTION
	Architectural Coatings	Industrial Coatings	Adhesives	Graphic Arts	Industrial Processing, Cleaning & Wastewater	Emulsion Polymerization	175.105	175.300	176.170	176.180	176.200	176.210	177.1200	178.3120	
Foam Blast® 301S	●	●	●	●	●	●	✓		✓	✓	✓	✓			Highly dispersible general-purpose foam control agent formulated for various industrial applications. Especially effective in latex paint and coating systems where foam is generated from a high concentration of latex/acrylic polymers and surfactants.
Foam Blast 304	●	●	●	●	●	●	✓		✓		✓	✓		✓	Designed specifically for use in the latex manufacturing and latex paints and coatings systems. Excellent value grind defoamer. Also meets EPA requirements under regulation 180.1001, Section D (growing crops) and is non-toxic and safe to handle.
Foam Blast 325	●	●	●	●	●	●	✓	✓	✓						Self-emulsifying nonionic defoamer; highly compatible and stable in most standard acrylics and latexes; also effective as a defoamer and/or anti-foam for many liquid polymers used both in the industrial and graphic arts markets.
Foam Blast 331E	●	●	●	●		●	✓	✓	✓	✓	✓	✓	✓	✓	Self-emulsifying water-dispersible nonionic defoamer. Highly compatible and stable in most standard latex paint formulations. Effective as a defoamer and aeration aid for many liquid polymers used in industrial and graphic arts markets.
Foam Blast 381		●	●	●	●		✓		✓	✓	✓	✓		✓	Dual hydrophobe, non-silicone designed for use in broad pH rang (4-12) both hot and cold systems. Effective in high polymer or starch content systems.
Foam Blast 384E	●	●	●	●	●	●	✓					✓		✓	Self-emulsifying, dual hydrophobe water-dispersible defoamer highly compatible and stable in most latex paint formulations and overprint varnishes. Also effective in monomer stripping.
Foam Blast 386	●	●	●	●	●		✓					✓			100% active foam control agent with enhanced spread rate for quick foam suppression in water-based acrylics and adhesives. Excellent performance in pigment grinds, whether it involves grinding chips or pigment dispersions into resin. Unlike silicones and silicone emulsions, can be used in grind in one shot.
Foam Blast 389	●	●	●	●	●										Dual hydrophobe product designed for quick foam suppression and compatibility.
Foam Blast 397					●		✓		✓	✓	✓	✓		✓	100% active, non-silicone defoamer with excellent stability to salinity, acid and alkalinity. Well suited for as jet dye defoamer and in other preparations such as bleaching and scouring.
Foam Blast 4011	●	●	●	●	●	●	✓	✓	✓	✓	✓	✓	✓	✓	Readily dispersible dual hydrophobe product designed for quick foam suppression and efficacy in recirculating systems. Highly compatible and stable in water based ink and paints. Effective in monomer stripping process.
Foam Blast 4321				●	●										100% active, nonionic, non-silicone defoamer for use in aqueous systems. Especially suited for textile dye-baths and print pastes. Quick foam killing properties often needed in printing operations, as well as long lasting anti-foaming properties required in batch dyeing.

● = Suggested Applications ● = Limited Applications



SYNTHETIC POLYOL *Mineral oil free with high performance*

Provides a broad range of foam control active ingredients. The use of synthetic polyols adds to the activity of the products and offers a broad array of spread rates. The Synthetic Polyol Platform offers particulate free products, highly dispersible products designed for immediate foam knockdown as well as robust concentrates for long term foam control.

SYNTHETIC POLYOL Foam Blast Products	MARKETS								REGULATORY CLEARANCES (FDA CFR 21)							PRODUCT DESCRIPTION
	Coatings	Paper Processing	Adhesives	Graphic Arts	Industrial Processing & Cleaning	Emulsion Polymerization	Oil & Gas	Water Treatment	175.105	175.300	176.170	176.180	176.200	176.210	178.3120	
Foam Blast® 327	●		●	●	●	●			✓	✓	✓	✓	✓	✓		100% active multiple hydrophobe product designed for versatility and compatibility. Does not contain petroleum oils and will not cause swelling of rubber rollers or polymer print plates.
Foam Blast 332	●	●			●		●	●								100% active product incorporating a blend of organic and synthetic materials. This pulping defoamer concentrate does not cause problems downstream and is effective in hot or cold applications over a broad pH range (1 to 10).
Foam Blast 338	●		●	●	●	●			✓	✓	✓	✓	✓	✓	✓	100% active product designed for ease of use and long term foam control at low levels compared to paraffinic oil-based defoamers used in inks and coatings. Proven effective as a foam control agent for polyvinyl alcohols. Generally more economical than silicone defoamers while offering similar or better performance.
Foam Blast 349	●			●									✓	✓		100% active and highly effective grind defoamer at relatively low use levels, compared to mineral oil-based defoamers. Proven effective in low VOC systems and effective in high gloss sheens.
Foam Blast 469		●					●	●								25% active synthetic emulsion product designed for quick foam suppression.
Foam Blast 476		●		●	●	●		●	✓					✓	✓	100% active product controls mechanical and biological foam. High spread rate for knockdown and excellent stamina. Works in most industrial and municipal effluent systems in digestors, aeration ponds, flumes and the river outfall. Also an effective paper machine defoamer.
Foam Blast 550	●		●	●						✓						100% active, particulate and silicone free product designed for aqueous and energy curable systems, i.e. UV curable oligomers, inks and coatings. Comparable or superior to silicone anti-foam compounds in foam control. Does not interfere with the application of top coats or adhesives to cured films. Reactive functionality becomes incorporated into the macromolecule as the film is cured.
Foam Blast 590E	●					●			✓	✓	✓	✓		✓		Developed for water-based coatings, adhesives and inks. Excellent age stability very low (less than 1%) VOC. Will not cause swelling of rubber rolls or flexographic printing plates.

ORGANICALLY MODIFIED SILICONE *Zero VOC and powerful with increased compatibility*

Offers a combination of the power of a silicone foam control agent with increased compatibility and ease of handling. These products are designed to aid the formulator in difficult to defoam media and have minimal to no impact on the gloss and clarity of the target formulation. They can be incorporated under medium to high shear.

ORGANICALLY MODIFIED SILICONE Foam Blast Products	MARKETS					REGULATORY CLEARANCES (FDA CFR 21)	PRODUCT DESCRIPTION
	Architectural Coatings	Industrial Coatings	Graphic Arts	Industrial Detergents	Metal Working	176.210	
Foam Blast® 295	●	●	●	●	●		55% active emulsion designed for excellent clarity and compatibility. Developed for use as a foam control agent for aqueous systems such as printing fountain solutions, aqueous resins, and surfactant systems. Does not create haze and does not separate and form a ring or surface layer.
Foam Blast 552	●	●	●	●	●		50% active emulsion designed for quick and long term foam control in metalworking fluids, water-based hydraulics, soluble oil and semi-synthetic fluids. Good compatibility in most semi-synthetic and soluble oil metalworking concentrates.
Foam Blast 554	●	●	●	●	●		30% active, cost effective emulsion designed for quick and long term foam control in metalworking lubricants, water-based hydraulics, synthetic and semi-synthetic fluids and heavy duty detergents. For coatings, controls foam both in pigment grind and in the let-down. Can be pre-diluted with a solvent or a component of the coating for each of incorporation.
Foam Blast 4201	●	●	●	●		✓	35% active emulsion workhorse with minimal impact on gloss or clarity. Compatible with most organic water-based systems and stable under high shear. Suited for liquids that contain suspended particles such as pigment grinds for water-based inks, coatings and paints. Ages well in inks and coatings, maintaining its effectiveness over a long period of time.
Foam Blast 4205	●	●	●				100% active workhorse for semi-gloss and high gloss formulations. Works well at both grind and let down to control micro-foam and macro-foam. Provides leveling effects for high film smoothness and recovery after foam tap testing.

● = Suggested Applications ● = Limited Applications

SILICONE COMPOUND 100% active with Zero VOC

These products are extremely efficient at controlling foam, even at very low dosages. Designed for high shear applications and difficult to defoam systems, these products can be utilized in aqueous, solvent and energy curable systems. They perform best when incorporated under high shear to maximize dispersion into the media.

SILICONE COMPOUND Foam Blast Products	MARKETS								REGULATORY CLEARANCES (FDA CFR 21)							PRODUCT DESCRIPTION
	Architectural Coatings	Industrial Coatings	Adhesives	Graphic Arts	Energy Curable	Oil & Gas	Pulp & Paper	Water Treatment	175.105	175.300	176.170	176.180	176.200	176.210	178.3120	
Foam Blast® 5	●	●	●	●	●			●	✓	✓			✓	✓	✓	Compound product formulated for indirect food contact. Does not separate, even after long periods of time. Can be cut with solvents or let down into emulsions.
Foam Blast 20F		●		●	●				✓	✓			✓	✓	✓	Robust compound product designed to provide maximum foam control. Developed to provide maximum foam control in UV and EB-cured inks and coating systems. Exhibits no phase separation, even after a long period of storage.
Foam Blast 148		●		●	●	●	●	●								100% active silicone concentrate, multi-hydrophobe foam control agent with excellent compatibility in most pulping processes and in most environmental conditions. For industrial and construction coatings, can be added under high shear and provides excellent process and application foam control. Can be used neat in high shear situations, or in diluted from in a variety of applications.

● = Suggested Applications ● = Limited Applications

DRY POWDER Designed for dry mix Building Products

This chemical family of foam control agents is designed to perform as anti-foam agents and de-aerators. These products are based on different types of calcined clays which are formulated with unique surface treatments that allow for use in a wide range of dry blended products. They are delivered as a dry, free flowing powder.

DRY POWDER Foam Blast Products	PRODUCT DESCRIPTION
Foam Blast® E37	Go-to product for gypsum drywall muds. Excellent workhorse powder defoamer, designed for broad use in dry systems such as modified portland cement mortars, grout, and caulk, EIFS coatings, and powdered adhesives and glues.
Foam Blast E39	Designed for increased dispersion and spread rate. Proven performance in stucco and plasters.

CHOOSING THE RIGHT DEFOAMER

Let DyStar® be your partner for selecting the optimal cost-effective foam control package for your application. There are many things to consider when selecting a defoamer to have best economics. Several chemistries can be effective for an application, and DyStar makes a full range to meet the specific needs of our customers.

From **water treatment** to **coatings**, our state-of-the-art testing labs are designed with the end-application in mind.

- We routinely:
- Screen and test products in our customers’ products
 - Provide technical service as ladder studies to aid in defoamer selection and determine the minimum level that can be used to still achieve optimal results

OUR LAB REGULARLY TESTS DEFOAMERS FOR CUSTOMERS

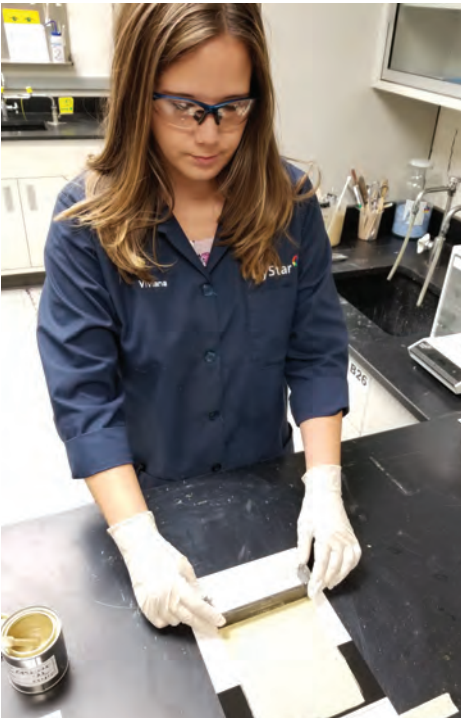
For **coatings** and **inks**, we routinely test:

DEFOAMER COMPATIBILITY:

Are there any adverse effect on the appearance or quality of the finished product such as gloss, clarity, and ease of incorporation?

DEFOAMER EFFICIENCY:

How much of the defoamer is needed to control foam?



Drawdown of a paint formulation with DyStar defoamer



Testing of a defoamer in a surfactant foaming media