

LONZA

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PRODUCT INFORMATION

501
6-23-76

LONZA FORMULATION S-23-15

**Non-Medical Institutional—Industrial Disinfectant Cleaner
With Organic Soil Tolerance**

1:64 aqueous dilution = 2 oz. per gallon of water

NOTE: Formula S-23-15 meets the current EPA organic soil contamination requirements which call for all efficacy testing to be carried out in the presence of 5% blood serum for one-step cleaner-disinfectants and non-food contact surface sanitizers. In addition, all efficacy testing demonstrating disinfectant, fungicidal and virucidal activity was carried out in water of 400 ppm hardness

<u>Active Ingredients</u>	<u>% wt/wt</u>
Bardac® 205M (50% active sol'n.) (Lonza Inc.)	8.0
<u>Inert Ingredients</u>	
Tetrasodium ethylenediamine tetraacetate (38% active sol'n.)	4.0
Sodium metasilicate 5•H ₂ O	0.5
Nonionic Surfactant ¹	2.0
Water	85.5

***Fragrance - Dye**

- ¹Linear primary alcohol polyglycol ether
9-12 moles average ethylene oxide
- Linear secondary alcohol polyglycol ether
9-12 moles average ethylene oxide
- Nonyl phenol polyglycol ether
9-13 moles average ethylene oxide

*Fragrance and dye should be tested for proper stability in the finished formulation

Microbiological Performance Properties of S-23-15

NOTE: All efficacy testing was carried out in accordance with current EPA organic soil contamination requirements (addition of 5% blood serum) for one-step cleaner disinfectants and non-food contact surface sanitizers. **In addition, all efficacy testing demonstrating disinfectant, fungicidal and virucidal activity was carried out in water of 400 ppm hardness.**

At a dilution of 1:64 or 2 oz. per gallon, Formulation S-23-15 is recommended for institutional disinfection.

2 oz. per gallon dilution yields 625 ppm active quaternary.

At the above dilutions, Formulation S-23-15 passes the required AOAC Use-Dilution Tests against:

Staphylococcus aureus ATCC No. 6538
 Salmonella choleraesuis ATCC No. 10708

The broad spectrum effectiveness of Formulation S-23-15 at the recommended use-dilution of 1:64 is shown by its germicidal action against the following additional organisms when tested by the AOAC Use-Dilution method.

	<u>ATCC No.</u>		<u>ATCC No.</u>
Brevibacterium ammonigenes	6871	Streptococcus pyogenes	12384
Enterobacter aerogenes	13048	Escherichia coli	11229
Salmonella typhi	6539	Shigella dysenteriae	9380
Klebsiella pneumoniae	4352	Streptococcus faecalis	11700
Serratia marcescens	274		

Fungicidal Activity

Fungicidal performance was confirmed via the AOAC Fungicidal test against:

Trichophyton mentagrophytes ATCC No. 9533

Fungistatic (mold and mildew control) activity was confirmed by the method for evaluation of mildewstats on hard surfaces against:

Aspergillus niger ATCC No. 6275

Virucidal Activity

Virucidal activity was confirmed by current EPA accepted protocol against:

Influenza Virus A/Brazil 11-78 (H1N1) E-7 1-8-79

obtained from the Respiratory Viral Unit of CDC, Atlanta, Georgia.

Non-Food Contact Surface Sanitizing Activity

For one-step sanitizing/cleaning, Formulation S-23-15 is recommended at 1.267 or 1oz. per 2 gallons.

1 oz. per 2 gallons dilution yields 150 ppm active quaternary.

Sanitizing activity was confirmed by current EPA protocol for sanitizers on both porous and non-porous surfaces against:

Staphylococcus aureus ATCC No. 6538
 Klebsiella pneumoniae ATCC No. 4352

Physical Performance Properties of S-23-15

pH of Concentrate	12.85
pH of 1:64 Dilution in Distilled Water	11.45
Freeze-thaw stability	okay
Storage stability 0°C 32°F	stable
Storage stability RT 70°F	stable
Storage stability 40°C 105°F	stable

If marketed for household use, the product must be sold with child-resistant packaging. Labels for this product must include the following information: "This product must contain the following statement: 'For household use only. For institutional use only.'"

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Cross-contamination is of major housekeeping concern in schools, non-medical institutions and industry. **LONZA FORMULATION S-23-15** has been formulated to aid in the reduction of cross-contamination in these areas.

LONZA FORMULATION S-23-15 is a one-step disinfectant cleaner that is effective against a broad spectrum of bacteria, is virucidal, fungicidal and will prevent the growth of mold and mildew and their odors when used as directed.

LONZA FORMULATION S-23-15 is an effective one-step sanitizer-cleaner for use on non-food contact surfaces.

When used as directed, **LONZA FORMULATION S-23-15** will deodorize surfaces in toilet areas, behind and under sinks and counters, garbage cans and garbage storage areas and other places where bacterial growth can cause mal odors.

Precautionary Statements

Hazards to Humans and domestic animals

DANGER

Keep out of reach of children. Corrosive. Causes severe eye and skin damage. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed or absorbed through the skin. Avoid contamination of food.

STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL.

OPEN FLAMING IS PROHIBITED.

DO NOT REUSE EMPTY CONTAINERS.

PESTICIDE DISPOSAL

PESTICIDE SPRAY THAT REELECTRONSATE THAT CAN NOT BE REUSED OR OTHERWISE REPRODUCED SHOULD BE DISPOSED OF IN A LANDFILL APPROVED FOR PESTICIDES OR BURIED IN A SAFE PLACE AWAY FROM WATER SUPPLIES.

CONTAINER DISPOSAL

TRIPLE RINSE (OR EQUIVALENT) AND DISPOSE IN AN INCINERATOR OR LANDFILL APPROVED FOR HAZARDOUS CONTAINERS, OR BURIED IN A SAFE PLACE.

GENERAL

CONSULT FEDERAL, STATE OR LOCAL HEALTH AUTHORITIES FOR APPROVED ALTERNATIVE DISPOSAL METHODS.

LONZA FORMULATION S-23-15

Disinfectant-Cleaner-Sanitizer-Fungicide
Mildewstat-Virucide*-Deodorizer for Schools,
Non-Medical Institutional and Industrial Use

Effective in hard water up to 400 ppm hardness
(calculated as CaCO₃) in the presence of 5% serum
contamination

Active Ingredients

Octyl decyl dimethyl ammonium chloride	1.2%
Dioctyl dimethyl ammonium chloride	0.6%
Didecyl dimethyl ammonium chloride	0.6%
Alkyl (C ₁₂ , 50%; C ₁₄ , 40%; C ₁₆ , 10%) dimethyl benzyl ammonium chloride	1.6%

Inert Ingredients

96.0%
100.00%

KEEP OUT OF REACH OF CHILDREN
DANGER

Statement of Practical Treatment

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse.

If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution; or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsion may be needed.

SEE LEFT PANEL FOR ADDITIONAL
PRECAUTIONARY STATEMENTS

EPA Registration No. 6836-76

EPA Establishment No. 6836-IL-1

Net Contents

MANUFACTURED BY
LONZA INC., 22-10 Route 208, Fair Lawn, N.J. 07410

For Sale For Use And Storage
By Maintenance Personnel Only

Directions for Use

GENERAL CLASSIFICATION

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

LONZA FORMULATION S-23-15 is a proven, one-step disinfectant, cleaner, sanitizer, fungicide, mildewstat, virucide which is effective in water up to 400 ppm hardness in the presence of 5% serum contamination.

Apply **LONZA FORMULATION S-23-15** to walls, floors and other hard (inanimate) non-porous surfaces such as tables, chairs, countertops, sinks, tile, porcelain, and bedframes with a cloth, mop or mechanical spray device so as to thoroughly wet surfaces. For heavily soiled areas, a preliminary cleaning is required. Prepare a fresh solution daily or when use solution becomes visibly dirty.

Disinfection - To disinfect hard non-porous surfaces, add 1/2 oz per gallon of water. Treated surfaces must remain wet for 10 minutes. At this use-level, **LONZA FORMULATION S-23-15** is a virucidal, fungicidal and fungistatic.

Sanitizing - To sanitize porous and non-porous non-food contact surfaces, add 1/2 oz per 2 gallons of water. Treated surfaces must remain wet for 60 seconds.

2 oz per gallon use-level - The broad spectrum activity of **LONZA FORMULATION S-23-15** has been evaluated and found to be effective against the following organisms by the AOAC Use-Dilution Test:

- Staphylococcus aureus
- Salmonella choleraesuis
- Escherichia coli
- Streptococcus pyogenes
- Klebsiella pneumoniae
- Enterobacter aerogenes
- Streptococcus faecalis
- Shigella dysenteriae
- Brevibacterium ammoniagenes
- Staphylococcus
- Micrococci

AOAC Fungicidal Test - **LONZA FORMULATION S-23-15** is an effective fungicide against Trichophyton mentagrophytes, Microsporum canis, and Aspergillus fumigatus. It is also effective against mold and mildew on surfaces in areas such as locker rooms, dressing rooms, shower and toilet areas with satisfactory results.

Mold and Mildew Control - At 2 1/2 oz per gallon, **LONZA FORMULATION S-23-15** will effectively inhibit the growth of mold and mildew and the odors caused by them when applied to hard non-porous surfaces (as indicated in general instructions above). Allow to dry on surface and repeat when necessary with fresh solution.

Virucidal Performance - At 1/2 oz per gallon use-level, **LONZA FORMULATION S-23-15** was evaluated and found to be effective against the following: A Broad spectrum of non-porous hard surfaces.

Sanitizing-Non-Food Contact Surfaces (such as floors, walls, tables, etc.) - At 1/2 oz per 2 gallons use-level, **LONZA FORMULATION S-23-15** is effective against a broad spectrum of bacteria on non-porous hard surfaces.



IMPORTANT — PLEASE READ CAREFULLY!

Production Formula and Procedure of Preparation for Formulation S-23-15

The formula you are manufacturing is EPA registered, thus specifying by law the correct amounts of active ingredients to be present in your finished product. Therefore, the amounts and directions for the proper production of the formula given below must be followed explicitly.

The greatest accuracy in preparing this formulation is achieved when all ingredients are added by weight. If this is not possible, measure the liquids and weigh the solids.

The amounts given are for a production batch of 1,000 lbs. In order to produce larger or smaller batches, merely add multiples or fractions of the amounts listed.

The specific gravity density of the ingredients required to correctly produce Formulation S-23-15 have been taken into account in the amounts given below:

**Formulation S-23-15
1,000 lb. batch**

<u>Ingredients</u>	<u>Density lb./gal.</u>	<u>% wt/wt</u>	<u>If Addition is by Weight, add in lbs.</u>	<u>If Addition is by Volume, add in gallons</u>
Bardac 205M	7.89	9.0	80.0	10.14
Tetrasodium ethylene diamine tetraacetate (38% solution)	10.6	4.0	40.0	3.77
Sodium metasilicate 5•H ₂ O	N A	0.5	5.0	—
Nonionic Surfactant*	8.35	2.0	20.0	2.40
Water	8.34	85.5	855.0	102.52
Total	—	100.0	1,000.0 lbs.	118.83 gals.

- Specific Gravity at room temperature = 1.009
- Density at room temperature of 8.42 lbs/gal.

*The above calculations are based on an average density which applies to linear primary and secondary alcohol ethoxylates. For nonylphenol ethoxylates, the density figure is 8.80 and the volume of nonionic becomes 2.77 gal. to give a total volume of 118.70 gallons of finished product.

Production Procedure for Formulation S-23-15

Add the nonionic surfactant to the water at room temperature and stir until the surfactant has been completely dissolved. During continued stirring, add tetrasodium ethylene diamine tetraacetate and sodium metasilicate. When the salts are dissolved, add Bardac 205M. Continue stirring for approximately 15 minutes or until solution is clear.

NOTE: If fragrance and/or dye are to be added to your formulation, only approved fragrances or dyes whose stability, compatibility has been established by prior evaluation should be used. Failure to do so may lead to a non-efficacious product.

The above information is given for informational purposes only. It is not intended to be used as a substitute for the instructions on the product label. The buyer assumes all responsibility for the proper use of the product. The manufacturer makes no representation or warranty as to the results of the use of the product other than indicated above. The buyer assumes all responsibility for the proper use of the product. The manufacturer makes no representation or warranty as to the results of the use of the product other than indicated above.