

BEST DOCUMENT AVAILABLE

ACCEPTED
with COMMENTS
In EPA Letter Dated:

MAY 07 1984

Under the Fungicide, Insecticide,
and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

33173-3

Sanitizing of Food Processing Equipment and Other Hard Surfaces in Food Contact Locations: For sanitizing food processing equipment, dairy equipment, food utensils, dishes, silverware, glasses, sink tops, countertops, refrigerated storage and display equipment, and other hard, non-porous surfaces. **No Potable water rinse is required.**

Wash all articles thoroughly, then apply a solution of 1 oz. in 4 gallons of water (150ppm active). Surfaces should remain wet for at least one minute followed by adequate draining and air drying. Fresh solution should be prepared daily or when used solution becomes visibly dirty. For mechanical application, used solution may not be reused for sanitizing applications.

Apply to sink tops, countertops, refrigerated storage and display equipment and other stationary hard surfaces by cloth or brush or mechanical spray device. **No potable water rinse is required.**

Dishes, silverware, glasses, cooking utensils and other similar size food processing equipment can be sanitized by immersion in a 1 oz. in 4 gal. solution. **No Potable water rinse is required.**

At 100°C, solutions fulfill the criteria of Appendix F of the Grade "A" Pasteurized Milk Ordinance 1978 Recommendations of the U.S. Public Health Service in waters up to 800 ppm of hardness calculated as CaCO₃ when evaluated by the AOAC Germicidal and Detergent Sanitizer Method against *Escherichia coli* and *Staphylococcus aureus*.

The udders, flanks and teats of dairy cows can be sanitized by washing with a solution of 1 oz. in 4 gallons of warm water. **No Potable water rinse is required.** Use a fresh pail for each cow. Avoid contamination of milk by spraying solution on body and soil. Do not dip used udder back into sanitizing solution. When solution becomes visibly dirty, use a fresh solution.

Precautionary Statements

Hazards to Humans and domestic animals

DANGER

Keep out of reach of children. Corrosive. Causes eye and skin irritation. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful if swallowed. Do not breathe spray mist. Avoid contamination of food.

STORAGE AND DISPOSAL

- DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL
- OPEN DUMPING IS PROHIBITED
- DO NOT REUSE EMPTY CONTAINER

PESTICIDE DISPOSAL

PESTICIDE SPRAY MIXTURE OR RINSE WATER THAT CANNOT BE USED ACCORDING TO LABEL INSTRUCTIONS MUST BE DISPOSED OF ACCORDING TO FEDERAL OR APPROVED STATE PROCEDURES UNDER SUBTITLE C OF THE RESOURCE CONSERVATION AND RECOVERY ACT

CONTAINER DISPOSAL

TRIPLE RINSE (OR EQUIVALENT) THEN OFFER FOR RECYCLING OR RECONDITIONING, OR DISPOSE OF IN A SANITARY LANDFILL OR BY INCINERATION IF ALLOWED BY STATE AND LOCAL AUTHORITIES

GENERAL

CONSULT FEDERAL, STATE OR LOCAL DISPOSAL AUTHORITIES FOR APPROVED ALTERNATIVE PROCEDURES

QUAKER S-102 Disinfectant-Sanitizer

Active Ingredients

- Octyl decyl dimethyl ammonium chloride
- Didecyl dimethyl ammonium chloride
- Dioctyl dimethyl ammonium chloride
- Alkyls (C₁₄ 50%, C₁₂ 40%, C₁₆ 10%) dimethyl benzyl ammonium chloride

Inert Ingredients

KEEP OUT OF REACH OF CHILDREN

DANGER

Statement of Practical Treatment

In case of contact, immediately flush eyes or skin with plenty of water. If eyes, call a physician. Remove and wash contaminated clothing before use. If swallowed, drink promptly a large quantity of milk, egg whites, gelatin, or not available, drink large quantities of water. Avoid alcohol. Call a physician. **NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate measures against circulatory shock, respiratory depression, and coma. SEE LEFT PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

EPA Registration No.

EPA Establishment No.

Net Contents

MANUFACTURED BY

QUAKER CHEMICAL CORP., CONSHOHOCKEN, PA.

For Sale For Use And Storage By Maintenance Personnel

3377 7-82

BEST DOCUMENT AVAILABLE

QUAKER S-102 Disinfectant-Sanitizer

| | |
|---|----------|
| Active Ingredients | |
| Octyl decyl dimethyl ammonium chloride | 2.250% |
| Didecyl dimethyl ammonium chloride | 1.175% |
| Dioctyl dimethyl ammonium chloride | 1.125% |
| Alkyl (C14 50% C12 40% C10 10%) dimethyl benzyl ammonium chloride | 3.060% |
| Inert Ingredients | |
| | 92.500% |
| | 100.000% |

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.
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MANUFACTURED BY
QUAKER CHEMICAL CORP., CONSHOHOCKEN, PA. 19428
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.

Apply with a cloth, mop or mechanical spray device. When applied with a mechanical spray device surface must be sprayed until thoroughly wetted. Treated surfaces must remain wet for 10 minutes. Fresh solution should be prepared daily or when the used solutions becomes visibly dirty.

Disinfection in Hospitals, Nursing Homes and Other Health Care Institutions. For disinfecting floors, walls, countertops, bathing areas, lavatories, bedframes, tables, chairs, garbage pails and other hard non-porous surfaces.

Add 3.5 oz. to 4.5 gallons water. Apply to previously cleaned hard surfaces. At this use level, is effective against *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Salmonella choleraesuis* in the presence of 5% blood serum when evaluated by the AOAC Use-Dilution test.

***Virucidal Performance.** At a 3.5 oz./4.5 gallon use level was evaluated in the presence of 5% serum and found to be effective against the following viruses: Herpes simplex, Vaccinia, and influenza A₂ (Hong Kong) on inanimate environmental surfaces.

Disinfection in Institutions, Industry and Schools. Add 2 oz. to 4.5 gallons of water.

Fungicidal Performance. At 0.5 oz. to 2.25 gallons of water use level is an effective fungicide against Trichophyton mentagrophytes (the athlete's foot fungus) when used on surfaces in areas such as locker rooms, dressing rooms, shower and bath areas and exercise facilities, utilizing the AOAC Fungicidal Test.

Disinfection of Poultry Equipment, Animal Quarters and Kennels. Poultry brooders, watering founts, feeding equipment and other animal quarters (such as stalls and kennel areas) can be disinfected after thorough cleaning by applying a solution of 2 oz. to 4.5 gallons of water. Small utensils should be immersed in this solution. Prior to disinfection, all poultry, other animals and their feed must be removed from the premises. This includes emptying all troughs, racks and other feeding and watering appliances. Remove all litter and droppings from floors, walls and other surfaces occupied or traversed by poultry or other animals.

After disinfection, ventilate buildings, coops and other closed spaces. Do not house poultry, or other animals or employ equipment until treatment has been absorbed, set or dried. All treated equipment that will contact feed or drinking water must be rinsed with potable water before reuse.

TECHNICAL DATA



QUAKER CHEMICAL CORPORATION CONSHOHOCKEN, PENNSYLVANIA

ACCEPTED
with COMMENTS
in EPA Letter Dated:

MAY 07 1984

QUAKER S-102

QUATERNARY SANITIZER

Insecticide,
Fungicide, and Disinfectant Act
to control the pesticide
registered under EPA Reg. No.

33173-3

QUAKER S-102 is a superior liquid sanitizer, fungicide and disinfectant. It provides a broad spectrum of activity against both gram positive and gram negative organisms. It has excellent hard water tolerance as well as substantial organic soil tolerance retention.

ADVANTAGES

- . Broad spectrum biocidal activity against both gram positive and gram negative organisms.
- . Excellent hard water tolerance.
- . Superior fungicidal performance.
- . Substantial organic soil tolerance (in accordance with the latest EPA requirements).

RECOMMENDED APPLICATIONS

QUAKER S-102 is recommended for sanitizing of food processing equipment and other hard surfaces in food contact locations. It is also recommended for sanitizing dairy equipment, food utensils, dishes, silverware, glasses, sink tops, countertops, refrigerated storage and display equipment and other hard non-porous surfaces. No potable water rinse is required.

Wash and rinse all articles thoroughly, then apply a solution of 1 ounce QUAKER S-102 in 4 gallons of water. (150 ppm active). Surfaces should remain wet for at least one minute followed by adequate draining and air drying. Fresh solution should be prepared daily or when use solution becomes visibly dirty. For mechanical application, use solution may not be reused for sanitizing applications.

Apply QUAKER S-102 to sink tops, countertops, refrigerated storage and display equipment and other stationary hard surfaces by cloth or brush or mechanical spray device. No potable water rinse is required.

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TECHNICAL DATA

QUAKER S-102

Page 2

Dishes, silverware, glasses, cooking utensils and other similar size food processing equipment can be sanitized by immersion in a 1 ounce/4 gallon solution of QUAKER S-102. No potable water rinse is required.

At 1 ounce/4 gallons, QUAKER S-102 fulfills the criteria of Appendix F of the Grade "A" Pasteurized Milk Ordinances 1978 Recommendations of the U. S. Public Health Services in waters up to 800 ppm of hardness calculated as CaCO₃ when evaluated by the AOAC Germicidal and Detergent Sanitizer Method against Escherichia coli and Staphylococcus aureus.

The udders, flanks and teats of dairy cows can be sanitized by washing with a solution of 1 ounce QUAKER S-102 in 4 gallons of warm water. No potable water rinse is required. Use a fresh towel for each cow. Avoid contamination of sanitizing solution by dirt and soil. Do not dip used towel back into sanitizing solution. When solution becomes visibly dirty, discard and provide fresh solution.

PHYSICAL PROPERTIES

| | |
|---------------------------|----------------------|
| Average Molecular Weight: | 342 |
| pH (10% Solution): | 6.5 - 9.0 |
| Physical State: | Liquid |
| Color: | Clear to light amber |
| Flashpoint: (Seta Flash): | 116°F |
| Specific Gravity @ 25°C: | 7.89 lbs./gal. |

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SAFETY INSTRUCTIONS

Do not mix QUAKER S-102 with other soaps or detergents. Safe to use on most surfaces. Do not discharge used solution into lakes, streams or ponds. Always rinse empty container thoroughly with water and discard.

Contact with the skin and eyes should be avoided. If skin contact should occur, rinse thoroughly with water and wash with a mild soap. Should eye contact occur, rinse thoroughly with water and seek medical attention.

NOTE: Germicidal and virucidal activity information available upon request.

The information contained and the recommendations made in this data sheet are based upon data collected and believed by us to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made herein with respect to the merchandise described and we assume no responsibility for the results or the use thereof.



QUAKER CHEMICAL CORPORATION □ CONSHOHOCKEN, PENNSYLVANIA □ U.S.A

GERMICIDAL ACTIVITY

Important Note: All microbiological evaluations were performed in the presence of an organic soil load represented by 5% blood serum; proposed EPA guidelines--Subpart G, Supplemental Recommendations #4, p 111-112, June 22, 1979. The serum was added to the inoculum prior to the carrier drying step (or other appropriate procedure).

Disinfectant Activity Determined by AOAC Use-Dilution Tests

The minimum concentration of QUAKER S-102 required for effective disinfection is determined by the AOAC, 13th Edition, paragraph 4.007-4.011 (1980) procedure commonly known as the Use-Dilution Test.

| <u>Test Organism</u> | <u>ATCC #</u> | <u>Minimum Effective Concentration</u> |
|-------------------------|---------------|--|
| Staphylococcus aureus | 6538 | 250 ppm active quaternary |
| Salmonella choleraesuis | 10708 | 250 ppm active quaternary |
| Pseudomonas aeruginosa | 10524 | 450 ppm active quaternary |

The broad spectrum germicidal activity of QUAKER S-102 was confirmed by the AOAC Use-Dilution evaluations against the following organisms:

| <u>Test Organism</u> | <u>ATCC #</u> | <u>Minimum Effective Concentration</u> |
|-----------------------------|---------------|--|
| Escherichia coli | 11229 | 250 ppm active quaternary |
| Serratia marcescens | 8101 | 250 ppm active quaternary |
| Brevibacterium ammoniagenes | 6871 | 250 ppm active quaternary |
| Salmonella typhi | 6539 | 250 ppm active quaternary |

Disinfectant Activity Determined by AOAC Use Dilution Tests
In the Presence of Hard Water and Organic Soil

| <u>Test Organism</u> | <u>ATCC #</u> | <u>Hard Water Concentration</u> | <u>Min. Effective Concentration</u> |
|-------------------------|---------------|---------------------------------|-------------------------------------|
| Pseudomonas aeruginosa | 10524 | 0 ppm/CaCO ₃ | 450 ppm active quaternary |
| | | 300 ppm/CaCO ₃ | 850 ppm active quaternary |
| | | 400 ppm/CaCO ₃ | 850 ppm active quaternary |
| | | 500 ppm/CaCO ₃ | 1000 ppm active quaternary |
| Salmonella choleraesuis | 10708 | 0 ppm/CaCO ₃ | 250 ppm active quaternary |
| | | 300 ppm/CaCO ₃ | 600 ppm active quaternary |
| | | 400 ppm/CaCO ₃ | 600 ppm active quaternary |
| | | 500 ppm/CaCO ₃ | 700 ppm active quaternary |

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VIRUCIDAL ACTIVITY

The virucidal activity of QUAKER S-102 was confirmed by current EPA accepted protocol against Influenza A₂ (Hong Kong), Herpes simplex and Vaccinia at 450 ppm active quaternary.

Sanitizing Performance/Hard Water Tolerance

QUAKER S-102 has been cleared by the FDA as an "Indirect Food Additive" under 21CFR178.1010 "Sanitizing Solutions" at a concentration of 150-400 ppm active, and requires no potable water rinse. This clearance covers the usage of QUAKER S-102 on food processing equipment and utensils and food contact surfaces in public eating places. In addition, the use of sanitizing solutions based on QUAKER S-102 fulfills the criteria of the Grade "A" Pasteurized Milk Ordinance 1978 Recommendations of the United States Public Health Service.

The hard water tolerance of QUAKER S-102 is measured by the AOAC Germicidal and Detergent Sanitizer Method, 13th Edition, paragraph 4.023-4.032 (1980), commonly called the hard water tolerance test. Exposure of 100 million organisms of Escherichia coli (#11229) to 150 ppm QUAKER S-102 for 30 seconds at 25°C in 800 ppm of water hardness results in the required reduction of 99.999% of the bacteria.

Calcium and magnesium salts are typical hard water components; however, other electrolytes may be present during actual field applications.

| <u>Test Organism</u> | <u>Concentration of QUAKER S-102 Required for 99.999% Reduction</u> | <u>Hard Water Ceiling</u> |
|------------------------------|---|---------------------------|
| Escherichia coli, #11229 | 150 ppm | 800 ppm hard water |
| | 200 ppm | 1100 ppm hard water |
| Staphylococcus aureus, #6538 | 150 ppm | 800 ppm hard water |
| | 200 ppm | 1100 ppm hard water |

Non-Food Contact Application

The non-food contact surface sanitizing activity of QUAKER S-102 was determined by the following test methodology; EPA DIS/TSS-10, February 6, 1979 and the Guidelines for Registering Pesticides in the United States, Subpar G - Product Performance, June 22, 1979 Drait, Recommended Method #8 (Sanitizers-Non-Food Contact Surfaces), p 101-102.

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33173-3

| <u>Test Organism</u> | <u>Concentration of QUAKER S-102 for 99.999% Reduction</u> | <u>Water Ceiling</u> | <u>Contact Time</u> |
|---------------------------------------|--|--------------------------|-------------------------|
| Staphylococcus aureus (ATCC #6538) | 150 ppm (active) 200 ppm (active) | 800 ppm 1100 ppm | 2 min. 1 min. |
| Klebsiella pneumoniae (ATCC #4352) | 150 ppm (active) 200 ppm (active) | 800 ppm 1100 ppm | 2 min. 1 min. |

Fungicidal Performance as Determined by the AOAC Fungicidal Test

Possessing superior fungicidal activity, QUAKER S-102 effectively passes the AOAC Fungicidal test at one-eighth the concentration required for conventional alkyl benzyl quaternaries.

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in EPA Letter Dated:

MAY 02 1984

Product of Quaker Chemicals,
Fungicide, Fungicide Act
registered under EPA Reg. No.

33123-3

| | | |
|--|---------------------------|------------------|
| U.S. ENVIRONMENTAL PROTECTION AGENCY OFFICE OF PESTICIDES PROGRAMS REGISTRATION DIVISION (311) 407 WASHINGTON, D.C. 20460 | EPA REGISTRATION NO. | DATE OF ISSUANCE |
| | TERM OF ISSUANCE | 07 MAY 1984 |
| NOTICE OF PESTICIDE: | NAME OF PESTICIDE PRODUCT | |
| Under the Federal Insecticide, Fungicide, and Rodenticide Act, 1947 | | |
| NAME AND ADDRESS OF REGISTRANT (include ZIP code) | | |
| <p style="text-align: center;"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </p> | | |
| <p>NOTE: Changes in label, formula, formula, or substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number.</p> | | |
| <p>On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.</p> | | |
| <p>A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.</p> | | |
| <p>Registration is in no way to be construed as an endorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.</p> | | |
| <input type="checkbox"/> ATTACHMENT IS APPLICABLE | | |
| SIGNATURE OF APPROVING OFFICIAL | | DATE |

- c. We recommend that you verify your EPA Establishment No. with your Regional EPA office located in Philadelphia, PA, for the appropriate EPA Establishment No. An application form is enclosed for your convenience.
 - d. For the label size submitted, the STORAGE AND DISPOSAL heading and the Child Hazard Warning "KEEP OUT OF REACH OF CHILDREN" would require a 12 point type size minimum and the signal word DANGER (front panel only) would require an 18 point type size minimum.
 - e. Revise the statement: (middle left panel)

Causes eye and skin irritation.

to read:

Causes eye damage and skin irritation.

The statement "FOR SALE FOR USE AND STORAGE BY MAINTENANCE PERSONNEL ONLY" must be at least the same type size as the "KEEP OUT OF REACH OF CHILDREN" statement (front panel).
 - g. Delete the asterisk next to the statement:

Virucidal Performance
3. Make the labeling changes below before you release the product for shipment (Technical Data Bulletin):
- a. Revise the statement (page 2 - Virucidal activity section):

"...Herpes Simplex..."

to read:

"...Herpes Simplex Type 1 and Type 2."
 - b. Expand the Fungicide Performance section (page 3) to include the following:
 - 1. The name of the organism: Trichophyton mentagrophytes (pathogenic fungi).
 - 2. The ATCC # for the above organism.
 - 3. The minimum effective concentration in terms of ppm for a 10-minute contact time.

5317-1-2

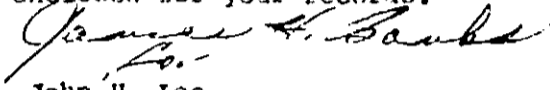
-3-

- c. We have no records to indicate that this product has been cleared by FDA as an Indirect Food Additive (page 2 - second paragraph). The ingredients may be cleared or this product may meet the requirements under 21 CFR 178.1010 but the CFR citation makes no direct reference to Quaker S-102. Please revise accordingly.

Submit five (5) copies of your final printed labeling before you release the product for shipment. Refer to the A-79 Enclosure for a further description of final printed labeling.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.



John H. Lee
Product Manager (31)
Disinfectants Branch
Registration Division (TS-767C)

Enclosure

DIS-RD:DCR-04928:J.Lee:GG:Raven:557-2226:RD-55:4/24 84:Del.5/8/84
REVISED:DCR-04967:J.Lee:mar:Raven:557-2226:RD-55:4/26/84:Del.5/8/84