

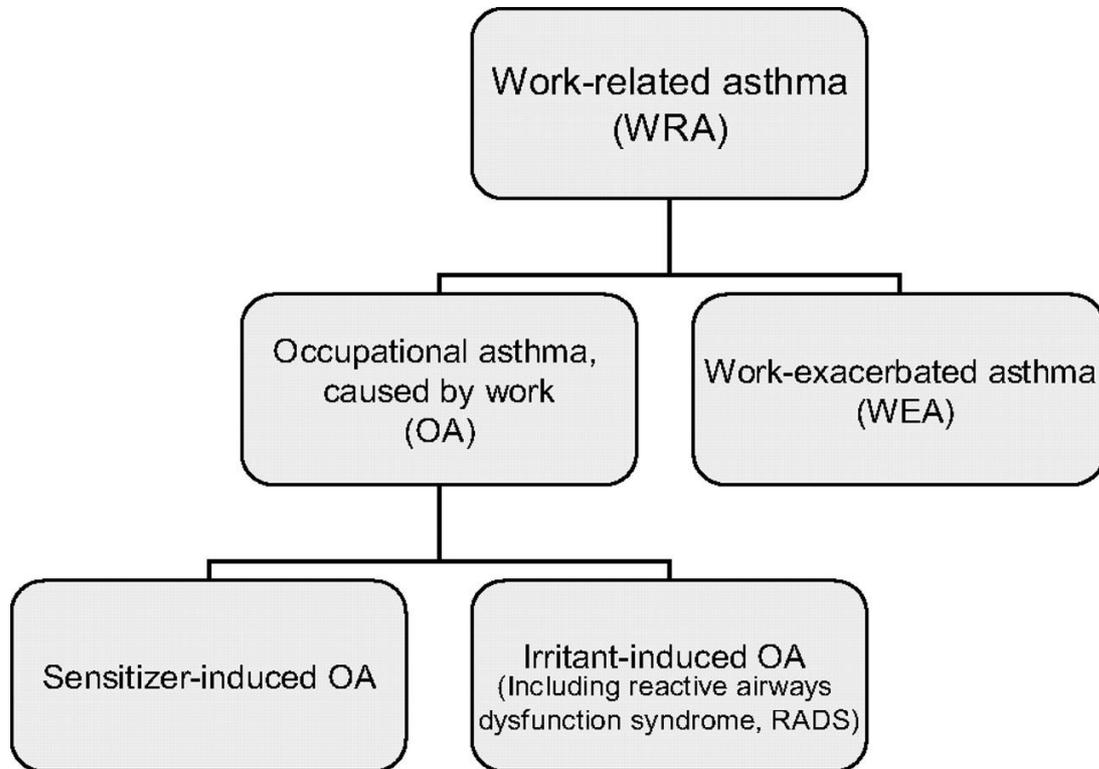
Biomonitoring California
Scientific Guidance Panel Meeting
Quaternary Ammonium Compounds



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Clinical classification



These groupings are not mutually exclusive; e.g. OA can be followed by WEA

CHEST

Supplement

DIAGNOSIS AND MANAGEMENT OF WORK-RELATED ASTHMA: ACCP CONSENSUS STATEMENT

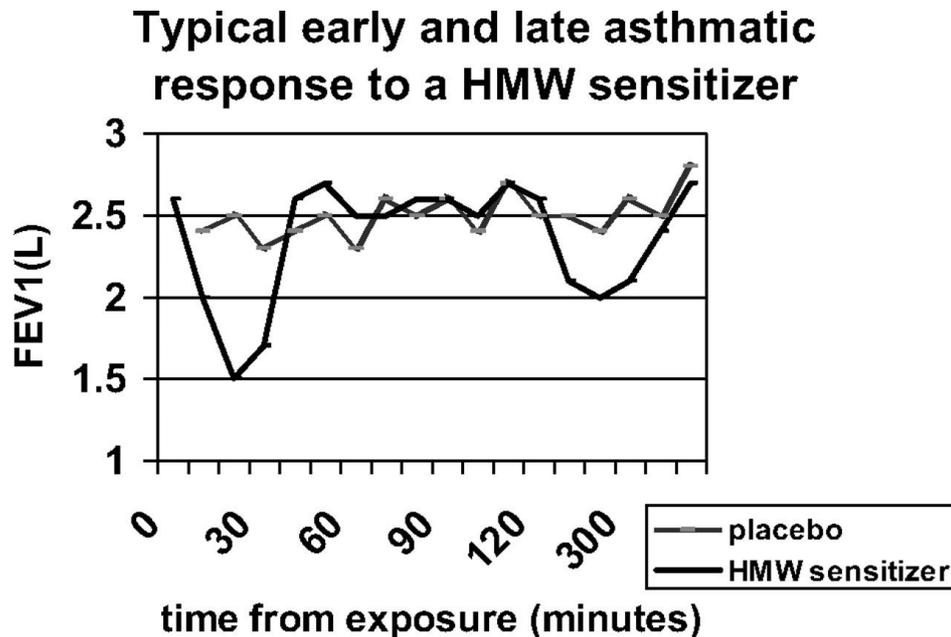
Diagnosis and Management of Work-Related Asthma*

American College of Chest Physicians
Consensus Statement

*Susan M. Tarlo, MBBS, FCCP; John Balmes, MD, FCCP;
Ronald Balkissoon, MD; Jeremy Beach, MD; William Beckett, MD, MPH, FCCP;
David Bernstein, MD; Paul D. Blanc, MD, FCCP; Stuart M. Brooks, MD;
Clayton T. Cowl, MD, MS, FCCP; Feroza Daroowalla, MD, MPH, FCCP;
Philip Harber, MD, MPH; Catherine Lemiere, MD, MSc;
Gary M. Liss, MD, MS; Karin A. Pacheco, MD, MSPH;
Carrie A. Redlich, MD, MPH, FCCP; Brian Rowe, MD, FCCP;
and Julia Heitzer, MS*

Tarlo et al; Chest 134: 1S-41S; 2008

Diagnosis: sensitizer-induced



Tarlo et al; Chest 134: 1S-41S; 2008

- Symptoms occur months to years after exposure onset
- Early, late or biphasic responses
- HMW: early and biphasic
 - LMW: late and biphasic

Cleaning agent exposure - hospital



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53355
00203

HILLYARD
ARSENAL® **16**

#816

RE-JUV-NAL®

***KILLS HIV-1 (AIDS VIRUS) AND HBV (HEPATITIS B VIRUS) AND HCV (HEPATITIS C VIRUS) OF PRECLEANED, ENVIRONMENTAL SURFACES/ OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS** in health care settings or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood/body fluids, and in which the surfaces/objects likely to be soiled with blood/body fluids can be associated with the potential for transmission of Human Immunodeficiency Virus Type 1 (HIV-1) (associated with AIDS) or Hepatitis B Virus (HBV) or Hepatitis C Virus (HCV).

SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST HIV-1 (AIDS VIRUS) OR HBV OR HCV OF SURFACES/OBJECTS SOILED WITH BLOOD/BODY FLUIDS:

Personal Protection: Disposable protective gloves, gowns, face masks, or eye coverings, as appropriate, must be worn during all cleaning of blood/body fluids and during decontamination procedures.

Cleaning Procedures: Blood/body fluids must be thoroughly cleaned from surfaces/objects before application of disinfectant.

Contact Time: HIV-1 (AIDS virus) is inactivated after a contact time of 4 minutes at 25°C (77°F) (room temperature). HBV and HCV are inactivated after a 10 minute contact time. Use a 10-minute contact time for other viruses, fungi and bacteria listed.

Disposal of Infectious Materials: Blood/body fluids should be autoclaved and disposed of according to federal, state and local regulations for infectious waste disposal.

See product insert for additional directions for use.

One-Step Disinfectant

Germicidal Detergent and Deodorant

Disinfectant Pseudomonacidal Staphylocidal Salmonellacidal
Bactericidal Fungicidal Mildewstatic *Virucidal

Active Ingredients:

Didecyl dimethyl ammonium chloride.....	2.54%
n-Alkyl (C ₁₄ 50%, C ₁₂ 40%, C ₁₆ 10%)	
dimethyl benzyl ammonium chloride.....	1.69%
Inert Ingredients:.....	95.77%
Total:.....	100.00%

EPA Reg. No. 47371-131-1658 EPA Est. No. 1658-MO-1

**KEEP OUT OF REACH OF CHILDREN
DANGER**

See side panel for Precautionary Statements and First Aid

HILLYARD INDUSTRIES, INC.
St. Joseph, MO 64502 U.S.A.

Tel: 816-233-1321
www.hillyard.com



NET CONTENTS: 2 QT. OR 1.9 LITERS

STRIKE BAC NON ACID BOWL CLEANER

Disinfectant-Cleaner-Sanitizer-Fungicide-Mildewstat Virucide*-Deodorant
for Hospitals, 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:

Quaternary dimethyl ammonium chloride:.....

INERT INGREDIENTS:.....

TOTAL INGREDIENTS:.....

KEEP OUT OF REACH OF CHILDREN

DANGER

PELIGRO

SEE BACK PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

STATEMENT OF PRACTICAL TREATMENT : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and discard contaminated clothing.

SUPER SHINE-ALL®

REORDER #HI0080822

*This product meets the Green Seal™ environmental standard for industrial and institutional cleaners based on its reduced human and aquatic toxicity and reduced smog production potential.

**HMIS Rating: Health = /1,
Flammability = 0, Reactivity = 0**

WARNING

CONTAINS: WATER (CAS #7732-18-5); TALL OIL SOAP, POTASSIUM (CAS #61790-44-1); AMMONIUM PARETH SULFATE (CAS #67762-19-0); TRIETHANOLAMINE (CAS #102-71-6). Do not get in eyes, on skin, or on clothing. Avoid breathing spray mist. Use with adequate ventilation. Wash thoroughly after handling. Do not take internally. Keep container closed when not in use.

FIRST AID: In case of contact, immediately flush eyes or skin with plenty of water for 15 minutes, while removing contaminated clothing and shoes. For eyes get medical attention. For skin get medical attention if irritation persists.

See Material Safety Data Sheet for additional information.

**Clasificación HMIS: Salud = /1,
Inflamabilidad = 0, Reactividad = 0**

ADVERTENCIA

CAUSA IRRITACION EN LOS OJOS Y LA PIEL
CONTIENE: AGUA (CAS #7732-18-5); JABON DE ACEITE DE PULPA DE MADERA, POTASIO (CAS #61790-44-1); SULFATO PARETH DE AMONIO (CAS #67762-19-0); TRIETANOLAMINA (CAS #102-71-6). Evite el contacto con los ojos, la piel o la ropa. Evite inhalar los vapores del rociado. Aplíquelo bajo condiciones de ventilación adecuadas. Lávese bien después de manejar el producto. No lo ingiera. Mantenga el envase cerrado cuando no esté en uso.

PRIMEROS AUXILIOS: En caso de contacto con los ojos o la piel, enjuáguese inmediatamente con agua abundante durante 15 minutos, y quítese las ropas y calzado contaminados. Si ocurre el contacto con los ojos, busque asistencia médica. Si ocurre el contacto con la piel y la irritación persiste, también busque asistencia médica. Consulte con la hoja de datos de seguridad del material para obtener información adicional.

**MANTENGASE FUERA DEL ALCANCE
DE LOS NIÑOS**

DISCLAIMER OF WARRANTY makes no

RENUNCIA DE GARANTIA: El fabricante



TAKE DOWN NON ACID BOWL
 Cleaner - Sanitizer - Fungicide - Disinfectant for Hospitals, Institutional and Industrial. Also used on up to 400 ppm for metal cleaning in the presence of 1% sodium carbonate.

KEEP OUT OF REACH OF CHILDREN

CAUTION
 See back panel for additional precautions.

#466 TAKE DOWN CHERRY CEREZA

CAUTION/CUIDADO
 MAY BE HARMFUL IF SWALLOWED
 EYE IRRITANT
 KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 32 FL. OZ. (1 QT.)



HILLYARD ARSENAL 16 RE-JUV-NAL

#81

One-Step Disinfectant and Deodorizer
 Germicidal Detergent and Deodorizer
 Disinfectant - Fungicide - Sanitizer - Deodorizer

Active Ingredients:
 Ethyl dimethyl ammonium chloride 2.54%
 n-Alky (C₁₂, C₁₄, C₁₆, C₁₈, C₂₀) 1.00%
 Isopropyl alcohol 80.00%
 Fragrance 6.46%

EPA Reg. No. 47371-131-1000 EPA Est. No. 1608-A-0000000

KEEP OUT OF REACH OF CHILDREN
DANGER

CAUTION/CUIDADO
 PROLONGED CONTACT MAY CAUSE EYE IRRITATION
 KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 2 QT. OR 1.9 LITERS



HILLYARD ARSENAL GREEN SELECT GLASS CLEANER

CONCENTRATED CLEANER FOR ALL GLASS SURFACES
 Contains No Hazardous Ingredients* - Non-Toxic, Phosphate Free, Biodegradable, Non-Foam

27

Directions:
 1. For use with Hillyard Arsenal Push Button Dispenser: Insert into bottom of dispenser until it locks into place.
 2. Dispense diluted product into a quart spray bottle.

SPECIAL INSTRUCTIONS: For use only with Hillyard Arsenal sensitive electrical equipment always spray on paper towel to be cleaned. Use trigger sprayer, holding 6-8 inches from surface. For best results use micro fiber cloth. To conserve one ounce per square foot.

CAUTION/CUIDADO
 PROLONGED CONTACT MAY CAUSE EYE IRRITATION
 KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 2 QT. OR 1.9 LITERS



HILLYARD ARSENAL 33 SUPROX

PEROXIDE CLEANER
 LIMPIADOR A BASE DE PERÓXIDO

Directions:
 1. For use with Hillyard Arsenal Push Button Dispenser: Insert into bottom of dispenser until it locks into place.
 2. Dispense diluted product into a quart spray bottle.

SPECIAL INSTRUCTIONS: For use only with Hillyard Arsenal sensitive electrical equipment always spray on paper towel to be cleaned. Use trigger sprayer, holding 6-8 inches from surface. For best results use micro fiber cloth. To conserve one ounce per square foot.

DANGER/PELIGRO
 HARMFUL IF SWALLOWED - CAUSES EYE BURNS
 MAY CAUSE SKIN IRRITATION - MAY CAUSE RESPIRATORY IRRITATION
 KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 2 QT. OR 1.9 LITERS



HILLYARD ARSENAL 8 SUPER SHINE-ALL #808

Directions for Use:
 1. For use with Hillyard Arsenal Push Button Dispensers: Remove shipping cap and insert container into bottom of dispenser until it locks into place.
 2. Fill soap bucket or automatic scrubber.

NOTICE: For use only with Hillyard Arsenal Dilution System.

WARNING/ADVERTENCIA
 CAUSES EYE AND SKIN IRRITATION
 KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 2 QT. OR 1.9 LITERS

Preventing WRA



- Primary prevention
 - Substitute with less hazardous substances
 - Change work processes
 - Reduce exposure: engineering controls, PPE as last resort
 - Worker education and training

Preventing WRA



- Secondary prevention
 - Detect early to minimize severity and duration
- Tertiary prevention
 - Provide appropriate health care: workers compensation claims
 - Early removal from exposure
 - Permanent impairment guidelines (ATS 1993)
 - Long-term follow-up

Preventing WRA: workplace surveillance



- Early detection works to prevent morbidity and disability (Tarlo 1999)
- Medical surveillance: symptom questionnaires, spirometry, PEF records, skin-prick testing for HMW antigens (flours, proteolytic enzymes, animal proteins)
- Exposure monitoring of hazards

Chemical policies



- “Green chemistry” initiatives
- “Cradle to grave” or “life cycle”
and the workplace
- Occupational and environmental
advocacy