

Ammonia/Formaldehyde Filter Quick Tips



1 The PAPRFC5 Product

What is the Product?

- The product is a filter cartridge design to work with the EVA PAPR and the following contaminants:

Ammonia	Formaldehyde	Methylamine
Chlorine	Chlorine Dioxide	Hydrogen Chloride
Hydrogen Fluoride	Sulfur Dioxide	Particulates (HEPA)

What are the Bullard Advantages?

- **The EVA PAPR**
 - High airflow, active flow technology, lithium battery, fuel gauge, brushless motor, two speed operation, & dual alarms.
- **Simplicity of Single Filter Design**
 - MSA Optim Air TL requires 2 filters
 - North Compact Air Plus 200 requires 3 filters
 - 3M Breathe Easy requires 3 filters
 - 3M Jupiter requires 2 filters
- **Both AM and FM approval in a single filter cartridge**
 - 3M GVP 444 is for Ammonia/HEPA only
 - 3M GVP 445 is for Formaldehyde/HEPA only
 - Bullard PAPRFC5 has Ammonia, Formaldehyde, Methylamine, Chlorine, Chlorine Dioxide, Hydrogen Chloride, Sulfur Dioxide, Hydrogen Fluoride, and Particulates all in one

2 Target Customers/Industries

What Are the Target Industries for Formaldehyde? (CAS#: 50-00-0)

OSHA Fact Sheet On Formaldehyde - www.osha.gov/OshDoc/data_General_Facts/formaldehyde-factsheet.pdf

American Chemistry Council Fact Sheet - www.formaldehydefacts.org/health_safety

- **Wood Product Manufacturing (NAICS 321 & 337)**
 - Used in resins of particle board and furniture
- **Pharmaceutical Manufacturing (NAICS 325412)**
 - Formaldehyde is used to create hard capsules that are used to deliver drugs in the form of pills to millions of people worldwide
- **Research Labs (NAICS 5417)**
 - Used as a tissue preservative and in processes that identify proteins, DNA and RNA
- **Textiles and Apparel (NAICS 313, 314, 315)**
 - Permanent Press Fabrics
 - Carpet
- **Animal Sciences (NAICS 5417)**
 - Formaldehyde is used to preserve specimens
- **Healthcare/Other (NAICS 622)**
 - Nurses, doctors, dentists use it as a fungicide, germicide, and disinfectant
 - Embalmers use it as a tissue preservative

Ammonia/Formaldehyde Filter Quick Tips

2

Target Customers/Industries continued

What are the Target Industries for Ammonia? (CAS#: 7664-41-7)

NIOSH Fact Sheet on Ammonia - <http://www.cdc.gov/niosh/topics/ammonia>

- **Research Labs - University, Public, Private. Animal Science. (NAICS 5417)**
 - Waste from animal research subjects produces ammonia
- **Agricultural (NAICS 111, 112, 115)**
 - About 80% of the ammonia produced by industry is used in agriculture as fertilizer
 - Farms have high levels of ammonia due to animal waste storage
- **Chemical Processing (NAICS 325)**
 - The biggest industrial use of ammonia is in the production of fertilizer
 - Neutralizing acid constituents of crude oil during the refining process
- **Pharmaceutical Manufacturing (NAICS 325412)**
 - *Top Medicines That Contain Ammonia - www.drugs.com/inactive/ammonia-186.html*
 - Amoxicillin, Divalproex, Etodolac, Fluoxetine, and Gabapentin all contain Ammonia
- **Food Processing (NAICS 3111)**
 - Ammonia is used to clean machines and as refrigeration method
 - As a source of hydrogen for hydrogenation of oils and fats
- **Sewage treatment plants (NAICS 22132)**
 - May also release high levels of ammonia used as a purification agent
- **Power & Energy (NAICS 21 and 22)**
 - Purification of smoke gas in coal-fired or oil-fired power plants. With the presence of ammonia in a reactor the nitrogen oxides are converted into nitrogen and water while passing the reactor. In combination with chlorine, ammonia is also used for water purification
- **Mining & Metallurgy (NAICS 212)**
 - Extraction of copper, nickel, and molybdenum from their ores
 - Also used as a protective atmosphere for metal heat treatment
- **Pulp & Paper (NAICS 322)**
 - Substitute for calcium in the pulping of wood
- **Rubber & Plastics (NAICS 326)**
 - Ammonia is used in the rubber industry for stabilization of raw latex to prevent coagulation during transportation and storage
- **Electronics (NAICS 335)**
 - High purity ammonia is used for electronic and semiconductor applications

Americas:
Bullard
1898 Safety Way
Cynthiana, KY 41031-9303 • USA
Toll-free within USA: 877-BULLARD (285-5273)
Tel: +1-859-234-6616
Fax: +1-859-234-8987

Europe:
Bullard GmbH
Lilienthalstrasse 12
53424 Remagen • Germany
Tel: +49-2642 999980
Fax: +49-2642 9999829

Asia-Pacific:
Bullard Asia Pacific Pte. Ltd.
LHK Building
701, Sims Drive, #04-03
Singapore 387383
Tel: +65-6745-0556
Fax: +65-6745-5176

©2014 Bullard. All rights reserved.

Breathe Easy and Jupiter are trademarks of 3M.
OptimAir is a registered trademark of MSA.
Compact Air is a registered trademark of Honeywell/North.

8516 (0514)