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The following serves as a summary of findings by 3rd party entities & listing agencies regarding the safety & efficacy of the Vapor Pipe Shield delivery device, which utilizes a Cortec VpCI 308 pouch for dry & pre-action fire sprinkler systems.



ANSI/CAN/UL 2901B:2024

STANDARD FOR SAFETY

Vapor Corrosion Inhibitors for Use in Fire Sprinkler Systems

**LISTED
EX28503**

Vapor Pipe Shield is a fully UL-listed product for its use in Fire Sprinkler System(s). During the listing process, GAP worked with UL Solutions to obtain third-party, science-backed certification for the Vapor Pipe Shield System, which includes a Cortec Corporation VpCI-308 pouch. It was assessed for the following performance criteria:

- Toxicity
- Corrosion Rate
- Pit Depth Corrosion
- Stress Corrosion
- Compatibility with Polymeric Materials
- Exposure to Elastomeric Materials
- Delivery System Hydrostatic Strength Test

It should be noted that failure of ANY of the tests listed above during the UL evaluation process would have prohibited Vapor Pipe Shield from being UL Listed.

Manufacturers of
FIRE PROTECTION - COMPRESSED AIR TREATMENT - PROCESS COOLING
Equipment

118 Summit Drive, Exton PA 19341
(800) 345 8207 toll free / (610) 524 8965 fax / sales@generalairproducts.com
www.GeneralAirProducts.com



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Additional Information Regarding UL's Report on Vapor Pipe Shield Testing:

Regarding Aquatic Toxicity of Vapor Components:

- "ToxServices (independent lab) concludes that the Vapor Pipe Shield formulation vapor does not warrant classification as an acute or chronic aquatic toxicant following dilution in water."
- "In conclusion, the Vapor Pipe Shield formulation vapor **is not classified as acutely or chronically hazardous to the aquatic environment under the GHS criteria**. Therefore, its use in dry pipe and/or pre-action fire sprinkler systems is not expected to lead to significant adverse environmental impacts in the event it is released to surface water."

Regarding Backflow:

- "The module housing the Vapor Pipe Shield powder is located within the non-water part of dry pipe sprinkler systems and could not be released to water during sprinkler discharge, in the event of water backflow, or during testing."
- "Scenarios pertaining to release into potable water via a backflow device and release into the natural environment are not relevant for this specific product."

Regarding Toxicity of Vapor Product During Sprinkler Activation:

- "Release of General Air Products Vapor Pipe Shield during sprinkler activation is unlikely to result in adverse environmental effects."

Regarding Human Health:

- "Since the product is a vapor rather than a liquid, ToxServices determined that ingestion is not likely."
- "In conclusion, dermal or inhalation exposures of General Air Products' Vapor Pipe Shield vapor constituents during sprinkler discharge or during the commissioning phase (purge) are unlikely to result in increased risk of systemic toxicity among adults or children."

From Cortec Corporation, Regarding PFAS:

- "...none of our Cortec products contain any Per- and polyfluoroalkyl substances (PFAS) nor any related derivative or salt as intentional additives."
- The attached document provides certification of their findings.

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No SDS Sheet Required for VPCI-308 Pouches



There is no SDS Sheet required for this product as defined by OSHA, Canada's, and Europe's Hazard Communication Standards. The VpCI-308 Pouch used in Vapor Pipe Shield is an "article" according

to these Standards. The attached document from Cortec Corporation reviews this in detail:

"Article means a manufactured item other than a fluid or particle

1. which is formed to a specific shape during manufacture
2. which has an end use function dependent in whole or in part upon its design during end use
3. **which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees."**

VpCI-308 Pouches used in General Air Products' Vapor Pipe Shield, meet all of these conditions, and does not require an SDS Sheet

U.S. Environmental Protection Agency (EPA)



The U.S. Environmental Protection Agency has repeatedly evaluated and approved the use of Vapor Phase Corrosion Inhibitors for their safety in individual applications.

Those approvals have included:

- Open-water applications
- Ground-water runoff disposal
- Rated for Standard Waste Disposal (regular trash can)
- VpCI-308 Pouches are a biodegradable product

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To: Whom It May Concern
Subject: Safety Data Sheets (SDS)
Date: January 9, 2023

VpCI®: 101, 105, 111, 125, 126, 126 CorrCap, 130, 131, 132, 133, 134, 136, 137, 143, 144, 145, 146, 148, 149, 150, 170, 220 E, 229, 308 Pouch, 309 Pouch,

Cor-Pak®: 1-Mul Pouch, 8-Mul Pouch, Ex Film, Fabric, VpCI®-125 Green Bubbles, VpCI®- 126 Blue Bubbles

Cor-Pak® VpCI®: Caps, Corrugated PE Sheeting, Polycoated Paper, Reinforced Paper, Stretch Film

Anti-Skid Linerboard, BioEmitter®, BioPad®, BioPouch®, CorNetting™, Corr Seal®, VpCI® Film, CorrCap VpCI® Protective Cover, CorrLam® LD, CorroLogic® CorrPlug®, CorroLogic® Emitter, CorroLogic® Tube Strips, Corrosorber® Capsule, Corrosorber® Cup, Corrosorber® Pouch, Corrosorber® Paper, CorrTainer®, CorrTube®, CorShield® VpCI®-146, CorShield® VpCI®-146 Creped Paper, CorShield® VpCI® Packaging Fabric, Desicorr® VpCI®, Desicorr®, Desicorr® NW, EcoCorr®, EcoDevice®, EcoEmitter®, Eco Film®, EcoPouch®, EcoShield® Heat Sealable Paper, EcoShield® VpCI®-226 Film, EcoShield® Fabric, EcoShield® Linerboard, EcoShield® Paper, EcoSol®, EcoSonic® ESD Paper powered by Nano-VpCI®, EcoWeave®, Eco Works® AD, Eco Works® Biodegradable & Compostable Films and Bags, Eco Works® Resin, MCI® Construction Film, MCI® Fibers, MilCorr® VpCI® Shrink Film, MilCorr® FR VpCI® Shrink Film, OGshield VpCI® Wrap, PTC Emitters

BullFrog®: Gun Sleeves, Emitter Strips, Emitter Cups, Emitter Shield, Motorcycle and Automotive Cocoons

We have discontinued providing SDSs for the above listed products as we consider these products “articles” as defined by OSHA’s, Canada’s, and Europe’s Hazard Communication Standards. Therefore, they are exempt from the safety data sheet requirements of these regulations. OSHA Section 1910.1200 of Title 29 of the Code of Federal Regulations specifically states that its Hazard Communications section does not apply to “articles.” An “article” is defined as follows:

Article means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

Article 3(3) of the REACH regulation defines an article as “an object which during production is given a special shape, surface, or design, which determines its function to a greater degree than its chemical composition.” After assessment according to ECHA Guidance on requirements for substances in articles (Version 4-2017) including process described in Figure 2, it has been determined the above products fall under the category of articles according to REACH. In addition, none of the above products contain SVHC above 0.1wt%.

Thank you for your interest in our products. If you have any further questions or need additional information, please contact compliance@cortecvci.com.

Sincerely,

THE CORTEC® CORPORATION





Cortec Corporation
4119 White Bear Parkway
St. Paul, MN 55110 USA

Bruce Washington
Compliance Specialist
Tel: (651) 429-1100

Date: 1/4/2023

Subject: PFAS; Cortec Products

To whom it may concern,

Based on the information available to us from our raw material suppliers and based on generation during production, we wish to confirm that none of our Cortec products contain any Per- and polyfluoroalkyl substances (PFAS) nor any related derivative or salt as intentional additives.

If you have any further questions or need additional information, please contact us.

Thank you,



Bruce Washington
Compliance Specialist

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For more information on this product contact General Air Products at
sales@generalairproducts.com or 800-345-8270