

## 1.0 Purpose

To define the source of Mold & Mildew in fabrics.  
To define fabric industry standard recommendations as it pertains to methods of care to help prevent mold and mildew as well as actions that can be taken to mitigate continued growth of mold and mildew in CSI products.

## 2.0 What is Mold & Mildew

Mold and Mildew are common terms used to identify a wide range of microorganisms that survive on organic materials and can cause damage.

Associated with these organisms is a musty odor and their growth can appear as an irregular stain which can range from gray, to black, to red or oranges. These stains can result in permanent discoloration of the fabric.

Fungal spores are virtually everywhere in the air and soil.

Fungal spores enjoy relative humidity upwards of 65% along with warmer temperatures

When observed under microscope a germinated spore looks like a tiny plant with roots, stems and flowers.

## 3.0 Fabric conditions influencing growth

- Fiber content
  - All fibers support growth.
  - Natural fibers (I.E. cotton) are more susceptible
- Environmental conditions
  - Damp, warm environments foster growth
  - Poor air circulation exacerbates the problem.
- Cleanliness of surface
  - Textiles kept free of dust and food are less susceptible to growth
- Treatments
  - A mild mildew inhibitor is added to CSI fabrics at point of manufacture.
    - **This aids in resistance in marine environments but will not prevent growth.**

## 4.0 Detection

- One of the initial indication of a microorganism problem is a musty odor.

## 5.0 Damage

- Growth can permanently stain a fabric.
- A darkened area is most likely not repairable without radical treatments inappropriate for fabric.
  - There is a chance the stain can be lightened
- Appropriate health risk consideration must be considered when a infestation occurs and with any cleaning attempts.

## 6.0 Controlling outbreak

The most effective control of biodeteriation of the fabric is to prevent the growth of the spores.

- Cool, dry conditions
  - Temperature < 68 degree F
  - Humidity <65%
- Adequate ventilation
- Good housekeeping practices
- Gentle vacuuming
- Clean routinely per material manufacturers suggestions
- Marine industry approved biocide spray

## 7.0 Additional references

- Seasonal storage (WE-103)
- Waterproofing (WE-113)
- Vinyl Care (WE-114)
- CSI specific product section of web site
- CSI Unique environmental literature section of web site

## 8.0 Additional Source Materials

- Glenraven.com
- National park service conserve O gram July 1993