Staron® Toxicity

Technical Data

1. Test method

• The University of Pittsburgh Test Protocol (Upitt)

For Measurement of Acute Lethality of Thermal Decomposition Products of Specimens
The major function of the UPitt laboratory test method is to provide a means of evaluating the lethal toxic potency of thermal decomposition products of test materials.

• Test procedure:

The test protocol call for samples to be subjected to continuously changing temperature conditions starting at 30ºC and increasing at a rate of 20ºC/min.
The test system generates decomposition products that continuously change in chemical composition as the temperature increases.
Animals are exposed to the decomposition products starting when the test sample loses one percent of its initial weight and continues for 30 min.
The UPitt protocol utilizes rodent (mouse) lethality as the primary source in evaluating the toxicity of combustion atmosphere produced by a material.
Groups of four animals at a time are exposed to the combustion gases generated from different initial quantities of the test material.
This establishes a concentration-response relationship.
From this relationship, the concentration estimated to produce lethality in 50 percent of the animals within the specified time is obtained by interpolation.
This concentration, commonly termed the LC50, is a measure of the toxic potency of combustion atmosphere.

• Evaluation:

The Building Code of the City of New York requires the materials to be “not more toxic than wood,” which requires a passing LC50 value of greater than or equal to 19.7g

2. Test result

TEST SAMPLE	LC_{50} value
Solid Color	84.4g
Patterned Color	81.8g

Thermal decomposition of Staron® Solid Surfaces was measured at a temperature greater than 300ºC (572ºF), which is most likely in case of fire. Staron® Solid Surfaces meet the requirements for interior finish material as defined by Title 27, Chapter 1, Subchapter 5, Article 5, of the Building Code of the City of New York.