

# MATERIAL SAFETY DATA

## Acousta-Stuf Nylon Fiber

### by Mahogany Sound

Acousta-Stuf is a Nylon Polyamide fiber used for sound absorption and damping in custom built home and auto high end stereo speaker systems, bass attenuation traps, and spot absorption panels. One of the leading textile manufacturers in the USA makes Acousta-Stuf to our specifications. Consult the specifications sheet for that data.

#### **Chemical Name:**

Adipic acidhexamethylenediamine fiber

**Freight Classification:** Fiber, Synthetic

#### **Occupational Control Procedures**

**Eye Protection:** Acousta-Stuf does not cause significant eye irritation or toxicity to require any special eye protection. But, you should avoid eye contact as a good industrial practice.

**Skin Protection:** Acousta-Stuf fiber does not present significant skin concern.

**Respiratory Protection:** Avoid breathing dust.

#### **Fire Protection Information**

**Flash Ignition Temp.:** 581° - 592°F

**Method:** ASTM-D 1929-77

**Auto Ignition Temp.:** 905°F

**Method:** ASTM-D 1929-77

**Extinguishing Media:**

Water or any other Class A extinguishing agent.

**Special Firefighting Procedures:** Firefighters and others who may be exposed to vapors or products of combustion should wear self-contained breathing apparatus and full protective clothing.

**Hazardous Decomposition Products:**

At temperatures above 660°F (or 349°C), decomposition products may included carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, and undefined hydrocarbons.

#### **Health Effects Summary**

To avoid misunderstanding, the data given in this section should be interpreted only by individuals trained in evaluation of this type of information.

**Human Experience:** Dermal contact is the primary route of occupational exposure to nylon fiber.

This material has not been reported to cause any

significant adverse health effects. Due to its chemical and physical properties, nylon fiber does not appear to possess any toxological properties which would require any special handling other than good industrial hygiene and safety practices employed with any material of this type.

**Toxological Data:** No toxicity studies have been conducted on this fiber since no toxological information was found in a reasonably extensive search of scientific literature.

**Additional Info:** Thermal decomposition products of nylon have been reported to be irritating to the mucous membranes and respiratory tract.

#### **Physical Data**

**Appearance:** Clear or White

**Odor:** Essentially odorless

**Melting Point:** 490° - 510°F

**Specific Gravity:** 1.14

**Solubility:** Slightly soluble in boiling water. If fiber is dyed, water temperature should be about 110° - 120°F

**Waste Disposal:** Nylon Fiber may be disposed of in an approved incinerator or landfill in compliance with all applicable local, state, and federal regulations. Consult your attorney or regulatory officials for information on such disposal.

#### **Additional Comments**

Nylon is man-made fiber and it is not biodegradable, but it can be **recycled**.

#### **Disclaimer:**

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# Acousta-Stuf Specifications

## by Mahogany Sound

- |                          |  |
|--------------------------|--|
| 1. What It Is            | - Nylon Polyamide<br>Sound Damping Fiber             |
| 2. Its Form              | - Loose Bulk Fiber<br>Sold By The Pound              |
| 3. Its Appearance        | - White Fiber<br>(Can Be Dyed)                       |
| 4. Stuffing Density      | - 1/2 pound per cubic foot<br>for most applications. |
| 5. Fiber Diameter        | - 48 Microns   |
| 6. Fiber Shape           | - Tri-Lobal  |
| 7. Young's Modulus       | - 250 PSI  |
| 8. Specific Gravity      | - 1.14   |
| 9. Crimps Per Inch       | - 8 - 16   |
| 10. Fiber Denure         | - 18   |
| 11. Moisture Absorption  | - 4%   |
| 12. Melting Temperature  | - 490° - 510°F                                       |
| 13. Ignition Temperature | - 581° - 592°F                                       |
| 14. Auto Ignition Temp.  | - 905°F  |
| 15. Extinguish With      | - Water or Other<br>Class A Agent                    |
| 16. Skin Irritation      | - None   |
| 17. Odor                 | - None   |
| 18. Toxicity             | - None   |
| 19. Health Hazards       | - None   |

### Sound Absorption Characteristics:

Acousta-Stuf is used as a sound absorption material in speaker systems, spot absorption panels, and bass attenuation traps. It offers better absorption characteristics across a wider frequency range than wool, because it has much more surface area. Acousta-Stuf gives your speakers deeper bass, cleaner midrange, and more dynamic extension.

### How To Use Acousta-Stuf:

Where wool tends to compress and form clumps, Acousta-Stuf has a natural tendency to expand. Wool needs to be suspended in netting and moth proofed, but just use 3M 77 Spray Adhesive to attach wads of Acousta-Stuf to the enclosure walls, and it will stay right where you put it. For sealed and vented speakers, you can cover three or four enclosure walls with a layer of fiber. Transmission lines should be stuffed along the entire length of the line with fiber.

### How Much You Need:

For most sealed and vented speakers, .5 lb./ft<sup>3</sup> of enclosure is adequate for damping. Sealed speakers may be loosely stuffed while vented systems should have the walls lined with a layer of fiber.

For short transmission lines you should order 1 lb./ft<sup>3</sup> to have enough fiber to experiment with the stuffing density to get proper loading.

