



Agricultural-Based Spray Foams

Question: Are you using an agricultural-based spray foam or a petroleum-based spray foam? Answer: Yes. The fact of the matter is that virtually all commercially available spray foams are formulated using **both** renewable agricultural products and petroleum based products.

Spray polyurethane foam is produced on site from the reaction of two components: A-component (polymeric isocyanate) and R-component (a blend of polyols and other materials).

NCFI has formulated spray polyurethane foams using sucrose-based, agriculturally derived polyols since the mid-1960's. The percentage varies from system to system.

The A-component (polymeric isocyanate) is manufactured from petroleum feed stocks. Therefore, every spray polyurethane foam system is, at a minimum, half petroleum-based.

The R-component is more difficult to define because it is formulated with the following ingredients:

- Polyols
- Blowing agents
- Flame retardants
- Catalysts
- Surfactants

The blowing agents, flame retardants, catalysts and surfactants are the products of complex chemical manufacturing steps employing a myriad of feed stocks. In general, these materials can be categorized as being petroleum- or mineral-based.

Most polyols are manufactured from sucrose-based or oil-based agricultural materials or from recycled post-consumer and post-industrial PET (polyethylene terephthalate). These agricultural and recycled materials are reacted with petroleum-based reactants to form the polyol mixtures used in spray polyurethane foams.

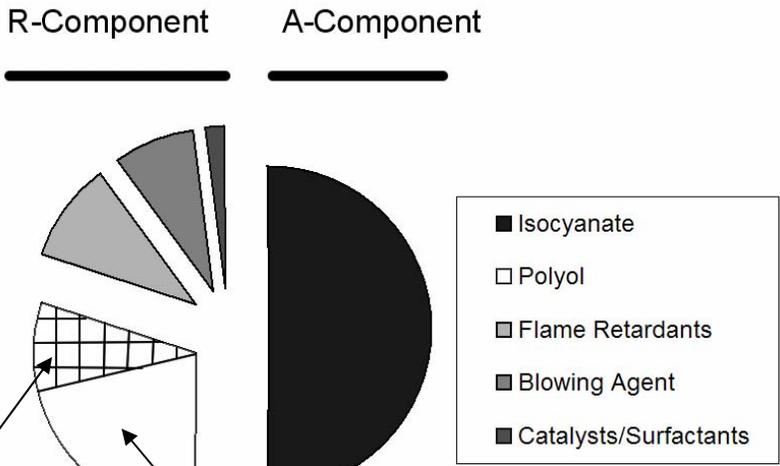
Therefore, the only portion of the spray polyurethane foam formulation that contains agricultural products is a fraction of the polyol. The remainder of the mix is petroleum/mineral-based.

Since virtually all spray polyurethane foams contain agricultural-based polyols, the only questions remaining are: What crops? How much?

Some agricultural-based polyols are manufactured from oils derived from soy beans. Others are manufactured from sucrose (sugars) derived from corn, sugar beets or sugar cane. In any event, all these polyols employ renewable, agricultural raw materials.

These agricultural oils and sugars must be reacted with petroleum-based materials to form the polyols needed to make spray polyurethane foam. Therefore, only a portion of the polyol is actually derived from agricultural materials.

The percentage of agricultural materials in the final foam mix depends on many factors and varies from formulation to formulation. Generally, spray polyurethane foams will contain 10 to 20% agriculturally derived materials by weight.



This portion of the polyol is petroleum-based.

Only this portion of the Spray Polyurethane Foam mix can contain agricultural-based materials (10 to 20 %).

WHEN JUST INSULATION ISN'T ENOUGH®

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