Facts about Hexane and Soyfoods

FACT: Soyfoods you eat are not manufactured with hexane.
Soyfoods, including veggie burgers, are not manufactured with hexane. Hexane is safely applied much earlier in the processing of soybeans, as a solvent to separate the oil from the other soybean components. (A solvent is a compound that is used to dissolve a specific material.) Hexane has been commonly used for over 70 years to extract oil from soybeans, corn, canola, cotton seed, safflower seeds, sunflower seeds and other oilseeds. It is also commonly used to produce other ingredients like flavorings and spice extracts. After oil extraction, the remaining components go through an evaporation process that removes substantially all the hexane from the oil and defatted flour. This flour may be further separated into protein concentrates or isolates that are used in making veggie burgers and many other meat alternatives. The multiple steps to making soyfoods further eliminate residual hexane from the finished ingredients.

FACT: Processing of ingredients with hexane is recognized as safe.
In processing all soy ingredients, manufacturers follow applicable food regulations. The Food and Drug Administration has repeatedly supported the safety of using hexane as a method in processing food ingredients. The Environmental Protection Agency monitors the use and emissions of hexane in processing and has found no reason for concern. Companies employ strong controls to recover and reuse the hexane and comply with regulations of the Occupational, Safety, and Health Administration Guidelines for n-Hexane. Based on the available public information from regulatory agencies, there are no health concerns for soy ingredients resulting from hexane extraction of oil from oilseeds.

In addition, both Canada and the European Union have evaluated the use of hexane to extract oil from oilseeds, and both governments have approved these processes in the production of food ingredients. Specifically, Health Canada completed a screening assessment of hexane in August of 2009 and concluded that hexane "is not entering the environment in a quantity or concentration or under conditions that constitute or may constitute a danger in Canada to human life or health."  

FACT: Some soyfoods are made with ingredients that do not undergo hexane processing.
There are other ways to separate the oil from the protein in soybeans including the use of machines called expellers that mechanically squeeze oil out of the beans. There is also a water processing approach that can be utilized. These methods produce different qualities of soy ingredients that may have varying nutritional, functional and compositional properties.

Some soyfoods are made from the whole soybean ingredients that do not require a processing step to separate the oil from the bean. Most tofu, tempeh, miso, tamari, soymilks, soy yogurts, soy frozen desserts (made from whole soybean soymilk) as well as whole soy nutrition bars are some examples of these products. To find out more information about the processing method your favorite soyfood utilizes, please contact the manufacturer directly.

FACT: Hexane processing has been found to be safe for the environment and safe for workers.
The Environmental Protection Agency (EPA) reports extraction of food ingredients with hexane will not harm the environment. In addition, EPA has found that workers who engage in hexane processing are safe as long as the processing is conducted in well ventilated facilities. Soy ingredient makers follow all Federal regulations to ensure worker safety and environment preservation.

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1 There are two very recent GRAS petitions for specialty soybeans, GRN No. 306 (dated April 7, 2010) and GRN No. 283 (dated September 4, 2009), in which hexane extraction is used and to which the FDA had "no questions" of the petitioner’s assertion that the product meets GRAS standards.
Experts to contact for further information:

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