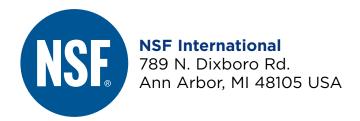- A critical review conducted by a sustainability expert is conducted to determine whether the methodology or study findings follow accepted life cycle analysis (LCA) principles.

- The applicant addresses NSF and critical reviewer findings and submits a final report.

- P352 clients must recertify every three years to keep their methodology validation and study verification current.

**Q: Who helped develop the protocol?**

**A:** NSF convened an expert panel of sustainability and eco-efficiency professionals including academicians from the Georgia Institute of Technology and Michigan Technological University, plus three independent sustainability consultants, a Wal-Mart representative, and a BASF representative.

**Q: How do you know if an eco-efficiency methodology or study meets the requirements of NSF Protocol P352?**

**A:** Look for the NSF Mark on literature associated with the study. Also visit the NSF Listings Page www.nsf.org/info/eco_efficiency.

**NSF International**
789 N. Dixboro Rd.
Ann Arbor, MI 48105 USA

**1-800-NSF-MARK   P:** 734.769.8010   **F:** 734.769.0109
**W:** www.nsf.org   **E:** info@nsf.org

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# NSF

Questions & Answers
about the new
NSF Protocol P352:

## Validation and Verification of Eco-Efficiency Analyses

NSF International, The Public Health and Safety Company™, has recently released Protocol P352, Validation and Verification of Eco-Efficiency Analyses.

Following an extensive protocol development and validation process, NSF was pleased to announce that BASF Corporation's Eco-Efficiency Analysis Methodology is the first to achieve the protocol requirements.

Herein you will find helpful questions and answers about NSF, the new Protocol and the validation process.

**Q: Who is NSF International?**

**A:** NSF International, formerly the National Sanitation Foundation, is an independent, not-for-profit standards development and testing and certification organization. For over 65 years, NSF's mission has been to protect public health. Headquartered in Ann Arbor, Michigan, NSF has offices across Europe, Asia, and South America.

**Q: What is an NSF Protocol? How is it useful?**

**A:** A protocol is a document that establishes standardized methodologies for evaluation a particular class of product. Protocols are developed collaboratively by NSF and a technical panel of regulators, scientists and industry experts. Conformance to a protocol is voluntary, and serves as a means to demonstrate that an independent, third-party evaluation has been performed.

**Q: How long has NSF been doing this? Is NSF accredited?**

**A:** NSF has developed over 50 standards and protocols, and annually tests and certifies over 225,000 products in 100 countries. NSF's standards are accredited by the American National Standards Institute (ANSI) and the company is accredited the International Accreditation Service (IAS), the International Standardization Organization (ISO) and Standards Council of Canada (SCC), among others.

**Q: What is an Eco-efficiency Analysis?**

**A:** Eco-efficiency analysis (EEA) is a method of quantifying relative environmental and economic impacts of product or process alternatives through their anticipated life cycles. First used by the World Business Council for Sustainable Development (WBCSD) in 1992, the term eco-efficiency is, in the simplest terms, a management philosophy which strives to create more goods and services while reducing resource consumption, waste and pollution.

**Q: What are the requirements for NSF Protocol P352: Validation and Verification of Eco-Efficiency Analyses?**

**A:** An eco-efficiency analysis that meets the requirements of P352 evaluates a product and alternatives that would address an end user's need. The product and alternatives are evaluated to determine their relative economic and environmental impacts (including Emissions (Air, Water, Waste); Energy Consumption; Land Use; Raw Materials Consumption; Risk Potential; and Toxicity Potential) across their respective life cycles, which are normalized and reported in accordance with documented procedures established by the applicant.

NSF Protocol P352 is divided into two separate sections: Part A is the validation of EEA methodologies, and Part B is the verification of EEA studies. A company may use the same EEA methodology to conduct multiple EEA studies, however a methodology must be validated by NSF before the associated studies can be verified.

**Q: How does NSF validate EEA methodologies and verify EEA studies?**

**A:** NSF uses the same general process for validating EEA methodologies and verifying EEA studies:

- A company applies and submits information pertaining to their study methods.

- NSF evaluates the contents of the application package against P352 requirements of to ensure completeness and representativeness.

- NSF performs a quality assessment on data and calculations to ensure accuracy. Selected data may undergo an independent audit, if necessary.

- NSF evaluates the documentation report or study findings to ensure transparency.