

Executive Summary: Guidance Document for Assessing the Flushability of Nonwoven Consumer Products

Over recent years an increasingly diverse range of disposable hygiene products has become available for consumer use in the home. The growth of the markets for such products is evidence of their popularity with the public, but their increased use brings with it discussion about their disposal; especially the topic of flushability.

For disposable hygiene products which address public health and hygiene considerations, the wastewater system can be an appropriate as well as a preferred means of disposal. It is important to ensure that such products can be disposed of in this way without causing problems.

To date there has been no consistent or widely accepted approach for assessing what constitutes a 'flushable' nonwoven consumer product. As a result, companies have used their own definitions and methods to determine the flushability of their products.

This lack of consistency can lead to confusion in the market place and a lack of clarity about when it is appropriate for products to be disposed of via the wastewater system. This creates a higher risk that products which were never intended to be flushable are disposed via the wastewater system.

The nonwovens industry has published the first edition of the **Guidance Document for Assessing the Flushability of Nonwoven Consumer Products**. The publication is the result of collaboration between two industry associations: INDA, the US-based association of nonwoven fabrics industry and EDANA, the European-based international association serving the nonwovens and related industries. Technical experts have worked together to develop an overall approach and a set of test methods which are based on the pooled experience of individual companies and draw on expertise from academia, consultancy and the wastewater industry.

This flushability assessment approach was trialed by member companies prior to publication and the draft guidance document was also peer reviewed by experts in all aspects of wastewater disposal, conveyance and treatment.

It establishes a comprehensive approach for assessing the flushability of nonwoven consumer products. It is a first edition which will be updated as:

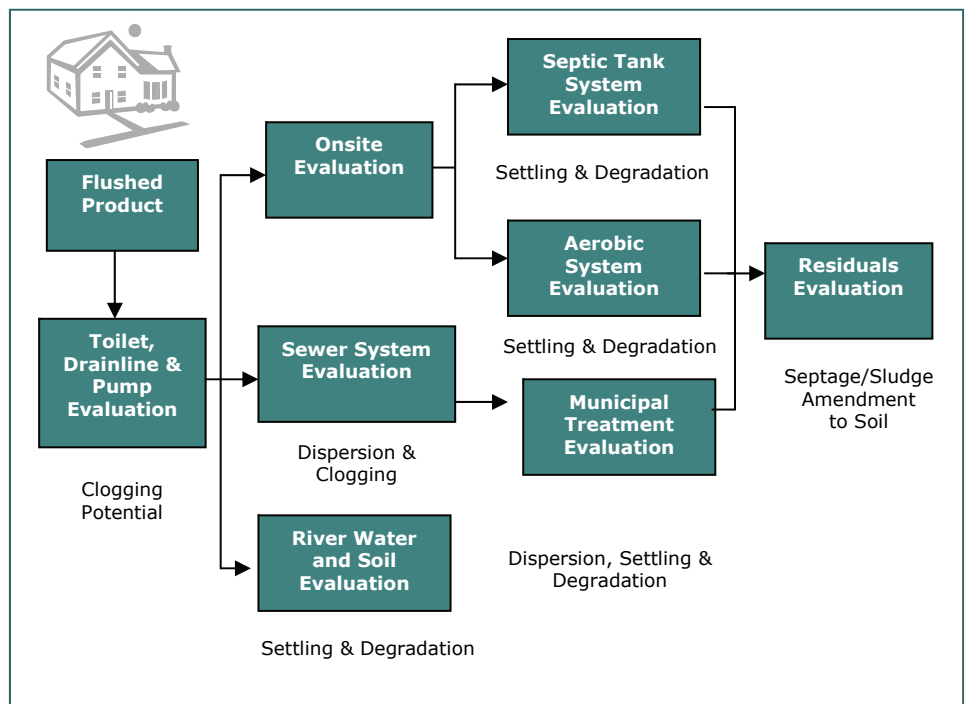
- ◆ new test methods become available;
- ◆ new technologies and approaches emerge in what is a rapidly changing industry;
- ◆ more is learned about specific problem areas;
- ◆ more experience is gained in the testing scheme.

The Approach

Flushability is determined by what happens to the product at each stage of the waste disposal and treatment system. To be flushable it must pass through the building's toilet and drainline system, be transported in wastewater conveyance systems, and be compatible with wastewater treatment systems where they exist, or in some regions, discharges of untreated wastewater. These generic processes are basically similar throughout the world, although there may be some regional or national variations.

"Providing technical guidance on what constitutes a flushable product is critical to ensuring compatibility of products with wastewater collection and treatment systems. Providing information to consumers that clearly indicates which products are and are not flushable is another important aspect. We will be working in partnership with relevant stakeholders to develop labelling guidelines and appropriate educational programs".

INDA and EDANA



The Disposal Routes for Products Flushed down the Toilet

What the Experts Say:

As a group ...

"The Peer Review Panel reviewed this document and concluded that it represents a sound first step for assessing the flushability of nonwoven consumer products. The panel also noted that on-going development of the document will be needed so that specific issues particular to local conditions and/or waste water systems can be addressed and to ensure that the guidance document keeps pace with emerging environmental concerns and the introduction of new technologies in wastewater management. Some procedures are still evolving and will benefit from further testing and evaluation. This document is viewed as an ongoing effort to ensure that nonwoven consumer products are compatible with wastewater conveyance and treatment systems and do not create an environmental or aesthetic nuisance."

As individuals ...

"A most valuable piece of evidence of all the efforts the industry makes to assure the good use of its products". **Professor Willy Verstraete, University of Gent, Belgium.**

"An impressive document and worthy of publication as the "First Edition". **Professor Herschel A. Elliott, Pennsylvania State University, USA.**

"Robust and, provided they are updated in light of practical experience and developing technologies, the Guidelines will serve their intended purpose well." **Alan Spray, Hyder Consulting, UK.**

"We represent over ninety percent of the total volume of nonwoven consumer products on the market in North America and Europe; we will encourage all our member companies to use this flushability assessment approach before marketing products as flushable. The goal is that the Guidance Document will become the industry norm for assessing the flushability of nonwoven consumer products".
INDA and EDANA

For Further Information and to order your copy of the Flushability Guidance Document contact:

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Definition of Flushability

For a product to be flushable it must:

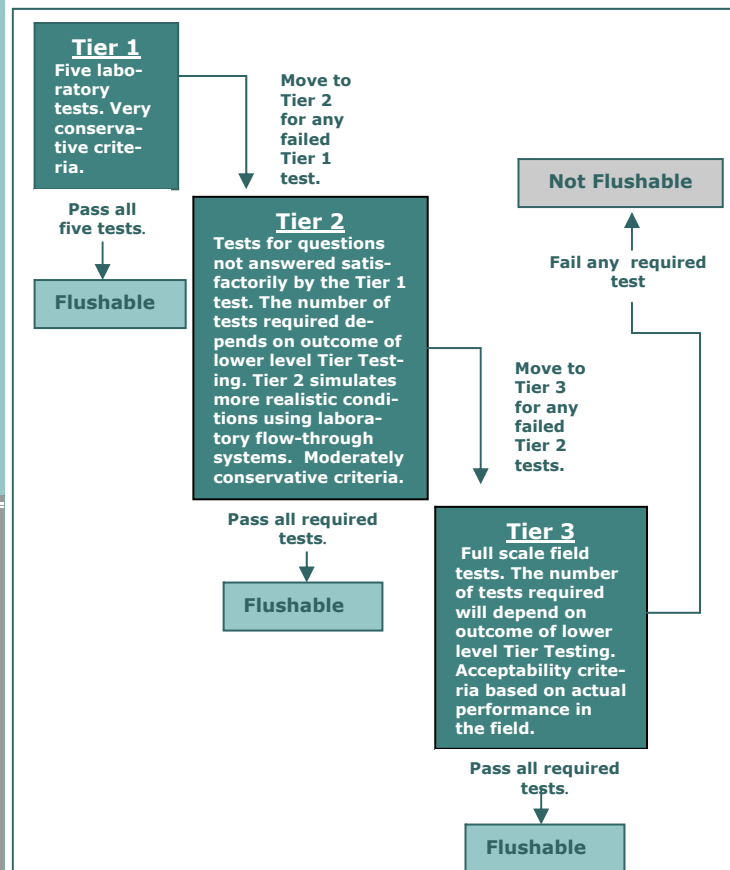
- ◆ Clear toilets and properly maintained drainage pipe systems under expected product usage conditions;
- ◆ Be compatible with existing wastewater conveyance, treatment, reuse and disposal systems; and
- ◆ Become unrecognizable in a reasonable period of time and be safe in the natural receiving environments.

The Assessment

The Flushability Guidance Document contains flow charts of key questions that need to be answered for each route a product could follow post-flushing. The questions in the flow charts are answered by conducting a series of tests. Acceptance criteria for each test and for each question have been set; they either demonstrate compatibility with the disposal system or determine whether further testing would be required before flushability could be clearly established.

The testing approach used is based on the tiered technique outlined below. The acceptance criteria for the Tier 1 laboratory tests are set conservatively high so they are challenging to pass. The acceptance criteria for the Tier 2 pilot-scale tests are still conservative, but less so than the Tier 1 criteria. Tier 3 testing is conducted in the field using full-scale systems. While it produces definite results because the acceptance criteria reflect actual performance, it is both time and resource intensive and is likely to be used only where Tier 1 and 2 level test results are inconclusive.

Schematic of the Testing Scheme



This approach provides a straightforward process for an assessor to follow in establishing the flushability of an individual product. The detailed test methods are provided in the Guidance Document.

To assess the safety of product components and ingredients in the environment, the Guidance Document recommends companies adopt the established principles outlined in existing EU and US guidance on assessing ecological risk.

How it Works in Practice

Two examples of how the flushability assessment works in practice are provided in the Guidance Document. The first demonstrates the assessment process for a non-flushable product; the second demonstrates the process for a product that is flushable.

Summary

The flushability assessment contained within the Guidance Document is a tool for manufacturers and distributors of nonwoven consumer products. It provides a framework that individual companies can use to help them decide whether, and under what circumstances, to market a product as flushable. By following these guidelines they can ensure that under normal conditions, products that are best disposed of via the wastewater systems for public health and hygiene reasons will not block toilets, drainage pipes, water conveyance and treatments systems or become an aesthetic nuisance in surface waters or soil environments.