

Executive Summary: Third Edition Guidance Document for Assessing the Flushability of Nonwoven Disposable Products

Since 2004 fiber suppliers, roll goods suppliers, converters and marketers of disposable nonwoven products have been working together through their industry associations, INDA in the US and EDANA in Europe, to collaborate with relevant wastewater agencies to advance the shared objective of reducing the amount of non-flushable materials in the wastewater stream. To do this, we have established Guidelines to define what is flushable, and established a “Do Not Flush” labeling practice for products not meeting the Guidelines. The challenge is three-fold and involves ensuring that:

1. Any product that is marketed as ‘flushable’ can be flushed into the wastewater system without adversely impacting plumbing or wastewater infrastructure and operations;
2. The general public is made aware of the importance of using the wastewater system to dispose only toilet paper and nonwoven products which have been established to be flushable through the INDA/EDANA Flushability Guidelines Assessment process;
3. Products which do not meet the criteria in these guidelines are appropriately labeled in accordance with the INDA/EDANA Code of Practice: Communicating Appropriate Disposal Pathways for Disposable Nonwoven Products to Protect Wastewater Systems.

“ We represent over ninety percent of the total volume of nonwoven consumer products in the market in North America and greater Europe; we will encourage all our member companies to use this flushability assessment approach before marketing products as flushable, and to use the Do Not Flush logo on those that are not. The goal is that the Guidance Document will become the industry norm for assessing the flushability of nonwoven disposable products. Further, for those products that are used in a bathroom setting but are not designed to be flushed are labeled as “Do not flush” according to the INDA / EDANA code of practice”.

INDA and EDANA

The Third Edition Guidance Document (June 2013) streamlines and improves on the previous work of the Second Edition (July 2009) and the First Edition (June 2008) to address the challenge outlined in the box on the left. In response to peer feedback, the original tiered approach of 23 tests have been replaced by a more transparent, rigorous straight-line assessment using only 7 core tests, all of which must be passed to support a flushable claim. All core test methods have been reviewed, updated and options which introduced uncertainty removed. Significant stakeholder and peer concerns are now addressed with the introduction of the following:

- Clearer labeling code of practice with single “Do Not Flush” logo.
- Use of Pass/Fail Criteria for Slosh Box Disintegration Test.
- Inclusion of Municipal Sewage Pump test for all regions.
- 14 day Aerobic Biodisintegration test time which aligns more closely with municipal treatment residence time.
- Clearer scope for assessment with decision tree.

The Approach

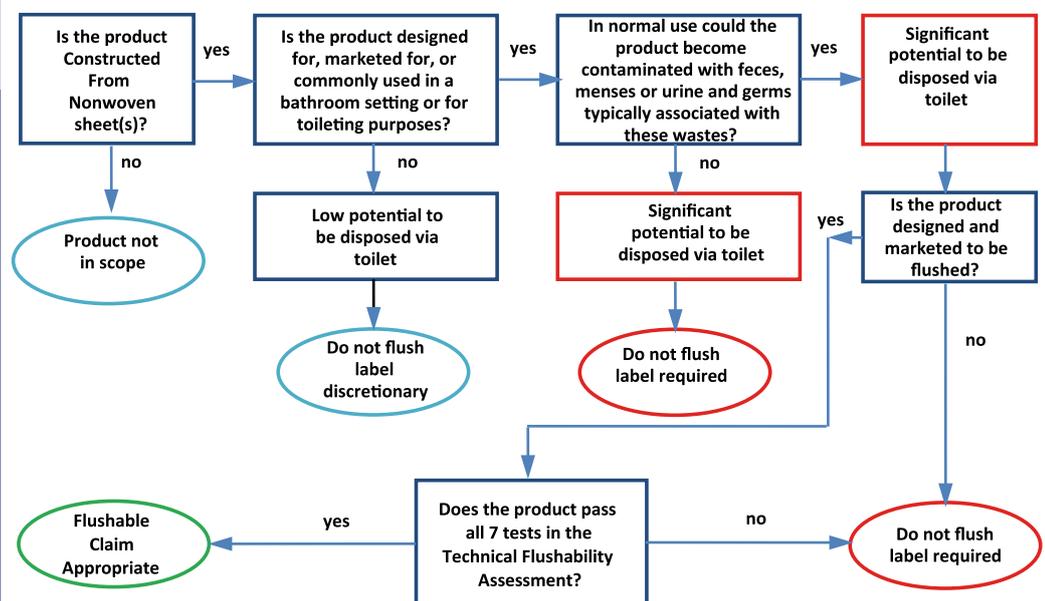
In the Third Edition, a simple framework is provided for assessing flushability. Four questions need to be answered in the affirmative for a disposable nonwoven product to come under the scope of this Flushability Assessment and the Code of Practice. These questions are:

1. Is the product constructed from nonwoven sheet(s)?
2. Is the product designed for, marketed for, or commonly used in a bathroom setting or for toileting purposes?
3. In normal use could the product become contaminated with feces, menses, urine or germs typically associated with these wastes?
4. Is the product designed and marketed to be flushed?

If the answer is affirmative in every case and the product passes the technical assessment it is deemed flushable and a “Flushable Claim” is appropriate.

If these answers are affirmative but the product is not designed to be flushed or it fails the technical assessment, the product should be disposed to the solid waste stream and the packaging should include Do Not Flush instructions and symbols in accordance with the Decision Tree contained in Figure 1 and the INDA/EDANA Code of Practice: Communicating Appropriate Disposal Pathways for Disposable Nonwoven Products to Protect Wastewater Systems.

Figure 1: Decision Tree for the use of the INDA/EDANA Flushability Assessment and for labeling products in accordance with the Code of Practice



Code of Practice:

Communicating Appropriate Disposal Pathways for Disposable Nonwoven Products to Protect Wastewater Systems

INDA and EDANA are committed to communicating to consumers when the toilet is an appropriate disposal route for finished products containing nonwoven materials. We recognize that the context or location of their usage can inadvertently and sometimes incorrectly encourage flushing as the means for disposal.

This code outlines the commitment of the associations and their members companies to:

- Use the guidelines for evaluating flushability prior to making a “flushable” claim.
- Only identify products as “flushable” when they meet all of the criteria in the guidelines.
- Clearly label with the “Do Not Flush” logo all products that are not designed to be flushed or do not pass the flushability assessment of the guidelines.



Do Not Flush Logo



Tidyman Logo

- Communicate the appropriate disposal information for such products in print and on websites.
- Encourage retailers to subscribe to the code of practice when sourcing private label products.
- Support work at national and local levels to increase awareness of proper disposal practices.

“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 jointly develop educational materials which leverage the Do Not Flush logo to raise awareness and reduce disposal of non-flushable materials into wastewater infrastructure.”

INDA and EDANA

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Definition of Flushability

For a product to be deemed flushable there must be evidence indicating that it:

- Clears toilets and properly maintained drainage pipe systems when the suppliers’ recommended usage instructions are correctly followed;
- Passes through wastewater conveyance systems and is compatible with wastewater treatment, reuse and disposal systems without causing system blockage, clogging or other operational problems;
- Is unrecognizable in effluent leaving onsite and municipal wastewater treatment systems and in digested sludge from wastewater treatment plants that are applied to soil.

The Technical Assessment is designed to evaluate the ability of a product to conform with each of these above criteria. Consequently, when a product fulfills the requirements in the Assessment, it is considered flushable and can be labeled as such in accordance with the INDA/EDANA Code of Practice.

The Assessment

When a product is disposed of via the wastewater system it is first flushed down the toilet, then it is conveyed via drainage pipes in order to be treated either in an on-site treatment system or in municipal treatment systems. The assessment process provides evidence of potential that a product will be compatible with toilets, drainlines, conveyance and treatment systems and be unrecognizable in post treatment effluent which is applied to soil.

We have adopted a new straight line approach to the assessment. While the previous tiered testing approach is commonly used in risk assessments, it can be complex and difficult to understand. The new straight line approach requires a yes/no answer to each of the technical questions with those answers needing to be answered in the affirmative to establish flushability. It eliminates much of the ambiguity in previous editions, is far easier to follow, and now directly addresses an additional wastewater infrastructure concern with inclusion of a Municipal Sewage Pump Test and a Disintegration Test.

The questions in the technical assessment are answered by conducting the tests in the boxes below, in figure 2. The acceptance criteria for a specific test demonstrate either compatibility with the wastewater disposal system or that the product cannot be considered to be flushable. All questions must be answered in the affirmative for a flushable claim to be made.

The full test methods and supplementary guidance documents for use in laboratories are available at INDA/EDANA websites.

FIGURE 2: TECHNICAL ASSESSMENT FLOW CHART

Test		Assessment and Action
Toilet and Drainline Clearance Test FG 501 ↓ Pass	Fail →	Not Flushable. “Do Not Flush” label required.
Slosh Box Disintegration Test FG502 ↓ Pass	Fail →	Not Flushable. “Do Not Flush” label required.
Household Pump Test FG 503 ↓ Pass	Fail →	Not Flushable. “Do Not Flush” label required.
Settling Test FG504 ↓ Pass	Fail →	Not Flushable. “Do Not Flush” label required.
Aerobic Biodisintegration/Biodegradation Tests FG505 ↓ Pass	Fail →	Not Flushable. “Do Not Flush” label required.
Anaerobic Biodisintegration/Biodegradation Tests FG506 ↓ Pass	Fail →	Not Flushable. “Do Not Flush” label required.
Municipal Sewage Pump Test FG 507 ↓ Pass	Fail →	Not Flushable. “Do Not Flush” label required.
Flushable Claim Appropriate		

This approach provides a straightforward process for an assessor to follow in establishing the flushability of an individual product.

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.

The flushability assessment contained within the Guidance Document is a tool for manufacturers and distributors of nonwoven disposable 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 system for public health and hygiene reasons will not block toilets, drainage pipes, water conveyance and treatment systems or become an aesthetic nuisance in surface waters or soil environments, and products that do not meet these guidelines are appropriately labeled “ Do Not Flush”.