

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
1	KCC	All lines where it occurs			Ge	Amend the word standard to guideline throughout to stop any confusion on behalf of the reader that these documents are standards created under the multi stakeholder processes of the International Standards Organization (ISO)	Change the word standard to guideline throughout	Partially accepted, changed standards to specifications throughout the document.
2	NP	Header, 2, 7, Foreword 2nd paragraph, Foreword 4th paragraph, Foreword 5th paragraph, 114, 115, 121, 124, 125, 129, 135, 138, 160, 165, 167, 193, 195, 199, 203, 214, 219 (3x), 231, 234, 237, 257	Standard	Title	Ge	The term "standard" is not appropriate as this collection of terms, definitions, and test methodology reflect the consensus of various wastewater organizations globally. However, this work has not been authenticated or sanctioned by any standards body.	Term "standard" should be replaced with "guideline" throughout all relevant documents.	See comment 1
3	ANON1				GE	Previous initiatives to introduce flushability standards have been developed with the scope being wipes and non-woven products	IWSFG should consider collaboration with industry associations such as INDA and EDANA already engaged in developing	Noted as a general comment (Members of IWSFG have

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						and to distinguish between those products that are flushable and those that are not. This is an appropriate approach as also stated in IWSFG's definitions: toilet paper is tissue paper intended for sanitary use in a toilet. Evidence from multiple studies including a recent New York study show that materials found in drain clogs and blockage are 98% attributable to non-flushable materials. Therefore, in collaboration with experts from academia, consultancy, and wastewater, INDA and EDANA – associations of the non-woven fabrics industry, have already published multiply editions of guidelines assessing the flushability of non-woven products and publishing appropriate methodologies of flushability demonstration. It's important this IWSFG's guidance document is not conflicted or marginalizes standard practice efforts already in place with the publishing of materials by IWSFG.	guidelines and methodologies to continually improve efforts already initiated. The International Wastewater Services Flushability Group standards have the same goal as work already completed. The recommendation would be to collaborate beyond the perspective of this limited coalition.	previously been involved in discussions with INDA and EDANA over many years but without resolution.)
4	ANNA				Ge	<p>We regard that this "Standard" should be referred to as a "Guideline" of IWSFG. We are opposed to establishing it as the standard.</p> <p>In addition, we are also against the exclusion of regenerated cellulose fibers from the beginning which was based on misinterpretation and misconception.</p> <p>Although we oppose this Standard as stated above, we provide the following comments on rayon (Regenerated Cellulose fibers).</p>	Change the Name "Guideline" Rename this document as "Guideline."	See comment 1
5	WSL NZ					This document is referred to as a Standard while all other documents are referred to as PAS.		Accepted. Rename as PAS 1
6	WSL NZ					There is already a PAS 1 not sure of numbering for this document?		See comment 5

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
7	WSL NZ					Lower case is used for all words in title where other documents upper case is used.		Accepted. titles to be amended
8	AF& PA				Ge	AF&PA is concerned that no representatives of the pulp and paper industry (or its tissue segment) have been included in the deliberations. Therefore, this standard is not being developed consistent with the International Organization for Standardization (ISO)'s Guide 59 Code of Good Practice for Standardization. Part 6 of the Guide states: 6.1 Participation in standardization processes at all levels shall be accessible to materially and directly interested persons and organizations within a coherent process as described in this clause. (underline added)	Remove applicability to tissue, toilet paper and regenerated cellulose from the standard.	Not accepted, in the absence of an international disintegration test for toilet paper. However, IWFSG is willing to discuss specific comments needed
9	AF& PA				Ge	Guide 59 also requires that the organization developing the standard develop written procedures which "contain an identifiable, realistic and readily available appeals mechanism for the impartial handling of any substantive and procedural complaints." A true consensus process also has procedures to ensure balance, consideration of dissenting views, and appeals procedures. No such document appears to be available on the IWSFG website.	Develop and publish written procedures to handle appeals for any substantive and procedural issues.	Not accepted. No specific comment on PAS.
10	AF& PA				Ge	We understand that the intent of the IWSFG is to create <u>guidelines</u> on flushability testing and labeling. The document, however, establishes both an overarching <u>standard</u> as well as additional standards (called PAS's) articulating test methodologies.	The document should be revised to be clear that that this set of documents are intended to serve as guidelines	See comment 1
11	AF& PA				Ge	The methodology documents are called "Publicly Available Standards (PAS)." However, this term can be easily confused with the "Publicly Available Specifications (also PAS)" used by both BSI and ISO.	This terminology should be changed to avoid misleading the public.	See comment 1

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
12	PG				Ge	The IWSFG documents lack technical details linking the performance of any product (including toilet paper utilized as a benchmark) in any of the IWSFG PAS test methods, and the compatibility of that product with any portions of wastewater infrastructure.	Provide details of all testing (laboratory and field) where the established benchmarks were verified as appropriate and necessary for the protection of infrastructure.	Not accepted. No specific comment on PAS
13	PG				Ge	The IWSFG documents contain multiple technical errors that render the documents unfit for publication or use as laboratory test methods without significant revision. For example, IWSFG-PAS-5A-Aerobic-Biodisintegration-Test-2017 contains no laboratory controls for evaluating if the test results are acceptable- this is critical error and omission, and renders the method unusable as written.	Fix contradictions, error and omission of all Publicly Available Specification (PAS) test methods.	Not accepted. No specific comment on PAS
14	PG				Ge	Given the extent of the revisions necessary, the IWSFG Standard and associated PASs should be resubmitted for a second public comment period once all errors and omissions have been rectified.	Fix contradictions, error and omission of all Publicly Available Specification (PAS) test methods and resubmit for a second public comment period.	Not accepted. No specific comment on PAS However, IWFSG will undertake 2nd public comment round.
15	PG				Ge	The IWSFG documents contain no details regarding the processes that were followed in developing the IWSFG Standard and Publicly Available Specification (PAS), or the processes that will be followed for inclusion of public comments. Transparency regarding the processes that the IWSFG are following, including how the input of a range of stakeholders will be included, is necessary to understand whether the IWSFG standard has been developed appropriately.	Provide details of all test method and document development and approval processes being followed by the IWSFG.	Not accepted. No specific comment on PAS
16	PG				Ge	The International Standards Organization (ISO) provides the following information regarding a Publicly Available Specification: "Publicly Available Specifications have a	Clarify if the IWSFG documents were developed in accordance with an ISO process, or if not, if they were developed using an ISO framework.	Not accepted. No specific comment on PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						maximum life of six years, after which they can be transformed into an International Standard or withdrawn.” https://www.iso.org/deliverables-all.html#TR).	Provide the life cycle of the IWSFG PAS documents, including the maximum life of the IWSFG PASs.	
17	PG				Ge	While the Draft status of the IWSFG Standard and PAS documents is acknowledged, significant editing of both general and scientific content of the documents is required. The lack of editorial and scientific rigor of the documents makes commenting ineffective at this stage of development.	The IWSFG Standard and PAS documents should be recalled, revised then resubmitted for a second public comment period; the documents are not in a condition suitable for public review.	See comment 14
18	PG				Ge	The IWSFG Standard and each of the IWSFG PAS test methods contain numerous errors, as well as inter-method and intra-method contradictions regarding critical technical details, that render the methods incapable of interpretation, let alone use as written. A laboratory, whether they were ISO-accredited or not, would be incapable of conducting the PAS tests as currently written.	Revise all PAS test methods.	Not accepted. No specific comment on PAS
19	PG				Ge	The PASs contain numerous instances where different and contradictory “Acceptance Criteria” are provided, rendering the PAS unusable as currently written.	Revise PASs to eliminate contradictory procedures and “acceptance criteria”.	Not accepted. No specific comment on PAS
20	PG				Ge	Misuse of the word “standard,” and variations thereof, occurs frequently throughout the texts. The documents assembled by the IWSFG are neither a Standard, nor are they Publicly Available Specifications developed, for example, in accordance with the process set forth by the British Standards Institute (BSI). Revise all instances to utilize an appropriate term such as “Guideline” or equivalent. Alternatively, provide details of the national or international standards organization that is accrediting the documents as “standards” or as “Publicly Available Specifications.” This is a	Clarify if the IWSFG has developed Standard 1 and the associated PAS documents in accordance with a standard process in accordance with a third-party certification body (ISO or BSI, as examples). In the interest of transparency, clarify the stakeholders groups and organizations that participated in the development of the IWSFG Standard and PAS documents.	See comment 16 Not accepted Refer to IWSFG website

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>critical element for understanding how the standard and associated PASs have been developed.</p> <p>Note to Entry:</p> <p>The first sentence of the British Standards Institute (BSI) definition of a standard requires agreement- not among a single organization or group of common stakeholders- but among “manufacturers, sellers, buyers, customers, trade associations, users or regulators.” The full definition reads (https://www.bsigroup.com/en-GB/standards/Information-about-standards/what-is-a-standard/): “In essence, a standard is an agreed way of doing something. It could be about making a product, managing a process, delivering a service or supplying materials – standards can cover a huge range of activities undertaken by organizations and used by their customers. Standards are the distilled wisdom of people with expertise in their subject matter and who know the needs of the organizations they represent – people such as manufacturers, sellers, buyers, customers, trade associations, users or regulators... They are designed for voluntary use so it’s up to you – you’re not forced to follow a set of rules that make life harder for you, you’re offered ways to do your work better. Standards are knowledge. They are powerful tools that can help drive innovation and increase productivity. They can make organizations more successful and people’s everyday lives easier, safer and healthier.”</p> <p>Note to entry: use of the word, or quotation of the word “Standard” or similar in comments does not imply agreement with the use of the</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						term in the IWSFG Standard 1 or PAS tests.		
21	PG				Ge	Per the BSI definition of the term “standard” (https://www.bsigroup.com/en-GB/standards/Information-about-standards/what-is-a-standard/) that the IWSFG Standard and PAS documents are voluntary, and that the IWSFG neither possesses, nor is chartered to develop, mechanisms for enforcing these documents.	Clarify.	See comment 1
22	PG				Ge	Misuse of the word “require,” and variations thereof, occurs frequently throughout the texts. The IWSFG documents can in no way require any action. Per the BSI definition of the term “standard” (https://www.bsigroup.com/en-GB/standards/Information-about-standards/what-is-a-standard/): “They are designed for voluntary use...” Note to entry: Use of the word, or quotation of the word “requirement” or similar in comments does not imply agreement with the use of the term in the IWSFG Standard 1 or PAS tests.	Revise to “recommend” or similar.	Accepted
23	PG				Ge	Contradictory use of words and phrases “test standards” “established IWSFG standard” or “Publicly Available Specification.”	Clarify the proper terminology to describe the documents the IWSFG has produced.	See comment 1
24	PG				Ge	It is unclear from the documents if a national or international standardization body has certified, or will certify, the “established IWSFG standard.”	Clarify if a national or international standardization body has certified, or will certify, the IWSFG documents.	See comment 1
25	PG				Ge	The goal of the IWSFG, as contained in IWSFG Standard 1 is to (emphasis added): “...identify those products that do not meet these test standards ,” implying that the PAS	Clarify the nature of the PAS documents as “test standards” or as “Publicly Available Specifications.”	See comment 1

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						documents are “test standards.”		
26	PG				Ge	<p>The “goal of the IWSFG” as described in the IWSFG Standard 1 document (“to identify those products that do not meet these test standards,”), differs from the “goal of the IWSFG” as stated in all the PAS documents:</p> <ol style="list-style-type: none"> 1. PAS-0, PAS-1, PAS-2C, PAS-3A, PAS-5A, PAS-3B, PAS-3C, PAS-4, PAS-5B: “...established IWSFG standards” 2. PAS-2A: “...these tests” 3. PAS-2B: “...the IWSFG’s standards” 	<p>Clarify and rectify inconsistencies. Specifically, whether the PAS are “test standards” “established IWSFG standards” “tests” or “IWSFG’s standard.”</p> <p>If deemed “standards,” clarify the national or international standards body that has accredited the PASs. Provide all documentation supporting the establishment of the PASs as standards.</p>	See comment 1
27	PG				Ge	<p>The IWSFG Standard or PAS documents contain no documentation of operational issues that have been experienced by IWSFG members, or the utilities they represent, that have been caused by flushable wipes. Further, no justification for how those issues would be resolved as a result of implementation of the IWSFG Standard and PASs for flushable wipes is provided.</p> <p>The IWSFG Standard clearly states that the purpose and intent of the standard is “to establish for the manufacturers the limits of what is acceptable to wastewater services for discharge via toilets into the wastewater transport and treatment systems.” It is critical to note that this statement from the IWSFG does not outline specific product attributes or performance that are required for products to be compatible with wastewater infrastructure, which would be the appropriate approach for setting limits. The IWSFG Standard therefore represents an opinion on what is acceptable to certain individuals without any justification</p>	<p>Delete all content that if based on opinion of what is acceptable to individuals without any supporting data, test results or justification of any kind beyond anecdote.</p> <p>Provide documentation of operational issues that have been experienced by IWSFG members, or the utilities they represent, that have been caused by flushable wipes.</p> <p>Clarify how those issues would be resolved as a result of implementation of the IWSFG Standard and PASs for flushable wipes.</p>	Not accepted. No specific comments on PAS


1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

IWSFG Template for Reviewer comments and IWSFG secretariat observations¹

Document reviewed: IWSFG Standard 1: 2017 - Criteria for recognition as a flushable product.	Due Date: 2017-09-01
---	-----------------------------

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>beyond anecdote. This is an unscientific process and is an unsuitable basis for establishing what is intended to be an international standard.</p> <p>Note to Entry:</p> <p>Consider Maximum Occupancy requirements as set out in state or local fire codes. For example, appended below is the Certificate of Operation for Place of Assembly in a building in New York City with a placeholder for the "Number of Persons" that are lawfully allowed to occupy the place of assembly:</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						 <p>(From: https://www1.nyc.gov/site/buildings/business/place-of-assembly.page)</p> <p>Per the NYC Department of Buildings: “•A Place of Assembly (PA) Certificate of Operation is required for premises where 75 or more members of the public gather indoors or 200 or more gather outdoors, for religious, recreational, educational, political, or social</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>purposes, or to consume food or drink.</p> <ul style="list-style-type: none"> •In order to have a legal Place of Assembly, certain Fire and Building Code requirements must be fulfilled.” <p>By way of example, for a place of assembly where the “Number of Persons” has been established at 100 persons per Fire and Building Code requirements for the New York City Department of Buildings, the entity responsible for the place of assembly could arbitrarily decide to set the “Number of Persons” at a number less than the value on the Certificate of Operation, for example determining that the “Number of Persons” that they will allow to occupy the room at 80 persons, or 20 less than the number permitted. It is possible that the entity responsible for the place of assembly could have based this lower number on the premise that the lower number (80 persons) was safer, based on their opinion regarding the number of individuals they wish to have occupy the place of assembly at any one point in time. This, however, does not make the number set in accordance with the NYC Fire & Property Maintenance Codes (100 persons) incorrect or unsafe. Establishing a value lower than a threshold value without evidence supporting the change in no way invalidates or alters the original value.</p> <p>Note to Entry:</p> <p>For example, consider the height requirements of Commercial Motor Vehicles (CMVs) in the United States. Were the Federal Department of Transportation (DOT) to utilize the same approach for setting height restrictions for CMVs that the IWSFG has attempted for flushable products, the height limit for CMVs</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>would be set at the height of the lowest bridge or other overhead crossing found globally. Clearly this approach would be inappropriate. Note that the Federal DOT in the United States doesn't even set a height requirement, instead ceding that responsibility to the States: "There is no Federal vehicle height requirement for CMVs. Thus, States may set their own height restrictions. Most height limits range from 13 feet, 6 inches (4.11 meters) to 14 feet (4.27 meters), with exceptions granted for lower clearance on particular roads." (From: https://ops.fhwa.dot.gov/freight/publications/size_regs_final_rpt/). First, note that there is no national height requirement in the United States for CMVs, due to the variability in infrastructure found throughout the continental United States. Second, and importantly, note that the height limits are not based on what is acceptable to the Federal DOT. Rather, these limits are set based on compatibility with infrastructure at the State level. Last, note that the worst-case scenario (for example 13 feet, 6 inches, or even lower for specific routes with lower overhead clearance) is not utilized to set CMV height nationally.</p> <p>Note to Entry:</p> <p>Similarly, consider the weight requirements of CMVs. "The bridge formula was introduced in 1975 to reduce the risk of damage to highway bridges by requiring more axles, or a longer wheelbase, to compensate for increased vehicle weight. The formula may require a lower gross vehicle weight, depending on the number and spacing of the axles in the combination vehicle." From (https://ops.fhwa.dot.gov/FREIGHT/sw/overview/index.htm). As with CMV height limits,</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						weight limits are set based on compatibility with infrastructure (in this example to reduce the risk of damage to highway bridges) not based on what is acceptable to the Federal DOT. Further, note that there exist State exemptions and variations: "In addition to the general standards described here, federal law includes provisions, exemptions, and variations applicable to particular states, routes, vehicles, or operations." Again, as with height limits, it is acknowledged that given the variability in infrastructure that exceptions and/or variations to the limits are necessary for specific instances. Further, and importantly, these exceptions have not utilized to set worst-case limits on weight limits for CMVs nationally.		
28	PG				Ge	<p>The IWSFG has provided no details regarding the process utilized to establish baseline performance. Specifically, no data regarding the performance of toilet paper in the PAS tests has been included in the documents available for public review. Further, no references to supporting documentation, test results, or other relevant substantiation demonstrating how and why toilet paper performance is required for infrastructure compatibility were provided for review. Without such documentation, IWSFG Standard 1 is a collection of unproven assumptions and untested hypotheses. As such, a thorough and complete review of the IWSFG Standard 1 cannot be conducted without access to relevant test results/data utilized to establish toilet paper as the benchmark in the IWSFG PAS tests.</p> <p>Note to Entry: Specifically with regards to the performance of toilet paper, the anecdotal performance of toilet paper is insufficient</p>	<p>Clarify the process utilized to establish baseline performance for the IWSFG standard and PASs.</p> <p>Provide reference to information that details how toilet paper performance, as measured via the PAS tests and correlated to operations and maintenance data for wastewater systems, is necessary, and represents an upper limit of, compatibility with wastewater infrastructure.</p>	Not accepted. No specific comments on PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>information for establishing a benchmark for testing. The assertion that “Since toilet papers historically have not caused clogging, or plugging, problems in wastewater systems” is vague and unsupported by any scientific data or reference, and therefore in unacceptable as the basis for establishing a benchmark for performance. Data establishing how toilet paper performance relates to infrastructure compatibility has not been provided, and as such, there is no evidence available to place toilet paper performance in context.</p> <p>Note to Entry: Provide details of benchmarking conducted, specifically the methodology utilized. See definition from ISO 17258:2015(E) Statistical methods — Six Sigma — Basic criteria underlying benchmarking for Six Sigma in organisations; First edition; 2015-01-15</p> <p>“Benchmarking is frequently used in various domains in connection with business activities. The Six Sigma methodology requires an evaluation step using a benchmarking process. In other words, a method for the comparison of levels of quality, performance, and productivity with the state-of-the-art is required. This International Standard establishes what to compare and develops a methodology to conduct a correct comparison between an organization’s levels of quality, performance, and productivity.</p> <p>The numbers given by the benchmarking can be integrated into any improvement programme to quantify any progress. They can also be used by other assessment processes in the organization such as regulation compliancy or financial performance</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>evaluation.</p> <p>Benchmarking is the whole process of collecting and processing data and information and comparing the results. The benchmark is the reference point for comparison.</p> <p>The main point of this benchmarking methodology, based on transparency and the universal principle of evaluation, is to give confidence to its calculating procedures and the results, so that comparisons between organizations are accepted by all parties.”</p>		
29	PG				Ge	<p>In a letter dated June 22, 2017, the Chief Executive Officer (CEO) of the National Association of Clean Water Agencies (NACWA) wrote the following regarding the IWSFG:</p> <p>“The International Water[sic] Services Flushability Group (IWSFG), made up of wastewater utilities from around the world, has developed draft flushability standards that will ensure flushable wipes are in fact safe for sewer systems. The draft standards will be published soon for public comment. Many wipes manufactured in Japan will pass these draft standards...”</p> <p>NACWA, a member of the IWSFG, appears to indicate in this letter that, in addition to toilet paper, benchmarking was done using Japanese wipes.</p> <p>Note to Entry:</p> <p>Similarly, a “Letter to the Editor” of the Northwest Current was published in December of 2016, jointly authored by the CEO of NACWA, and the General Manager of DC Water, and included the following: “While</p>	<p>Revise all text referencing benchmarks to provide details of all benchmarking activities conducted for establishing IWSFG Standard 1.</p> <p>Provide the results of all testing of Japanese wipes conducted by the IWSFG in establishing IWSFG Standard 1 and associated PASs.</p> <p>Provide the list of all ISO-accredited laboratories that conducted the testing utilizing the IWSFG PAS tests on behalf of the IWSFG to which NACWA refers in the June 22, 2017 letter.</p> <p>Provide the results of all testing of Japanese and Spanish wipes conducted by the IWSFG in establishing IWSFG Standard 1 and associated PASs prior to December 2016.</p> <p>Provide the list of all ISO-accredited laboratories that conducted the testing utilizing the IWSFG PAS tests on behalf of the IWSFG to which NACWA and DC Water prior to December 2016.</p>	Not accepted. No specific comments on PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						wipes sold in the U.S. would likely not meet standards set by D.C., Japanese and Spanish manufacturers produce wipes that are truly flushable, breaking down quickly after entering the sewer.” This implies that as early as December of 2016 that benchmark testing of wipes from Japan and Spain was being conducted.		
30	PG				Ge	The IWSFG Standard and associated PAS documents do not account for all pathways in wastewater infrastructure. Significant omissions include the lack pump testing, and the inclusion of only passing references to septic tanks, and only where septic tanks are described as a source of discharges to wastewater treatment plants. This is a significant oversight by the IWSFG.	Revise the IWSFG Standard 1 and associated PAS documents to demonstrate how the IWSFG documents account for compatibility with all relevant wastewater pathways including pumps (including household pumps where materials will commonly enter the pump intact) and septic tanks (as wholly self-contained treatment units, not as precursors to municipal wastewater treatment).	Not accepted. No specific comments on PAS
31	PG				Ge	Variations of the IWSFG and PAS documents can be developed by the IWSFG members, but no process is identified for how those would be available for review.	Provide details on the process for public commenting on alternate versions of PAS methods. Provide access on the IWSFG website to any country-specific alternate versions of PAS methods that currently exist but have not been made available for public comment.	Not accepted. No specific comments on PAS
32	PG				Ge	There is significant overlap of content (both verbiage and technical details) between the IWSFG documents and the current draft of the Technical Report being developed by Working Group 10 (WG10) of Technical Committee 224 (TC224) within the International Standards Organization (ISO). For example: the “Purpose” provided in the “Forward[sic]” of each PAS (“the hydraulic, mechanical and environmental conditions of	Provide a background section including details on the authors and review committee with respect to the drafting and review processes for the IWSFG documents. Provide copies of any relevant communication with ISO stakeholders where the use of draft versions of intellectual property being developed as part of a multi-stakeholder process in	Not accepted. No specific comments on PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>drain lines, various onsite treatment and wastewater collection and treatment systems as well as the receiving waters for treatment plant effluents”), bears a strong resemblance to the Title (“...the hydraulic, mechanical and environmental conditions generally found in wastewater transport systems from toilets through to wastewater treatment plants, and the related context.”) and Scope of the draft ISO TC224 WG10 Technical Report (“...the broad hydraulic, mechanical and environmental conditions found globally in wastewater transport and treatment systems and their components...”)</p> <p>Further, note the similarities between the Introductions of the ISO TC224 WG10 Technical Report (“provide the basis for wastewater services to delineate the qualities and characteristics of discharges to the wastewater system.”) the Purpose of the IWSFG Standard (“criteria for the quality and characteristics of product that may be disposed via the toilet.”)</p> <p>Further note there exist common technical details between the ISO TR (“The current practice of using 6 mm perforated plate screens appears to have optimized the mechanical condition of screening inlet works at treatment plants”) and the IWSFG documents (“Then the content of the beaker is poured onto a 6.3 mm perforated sieve to confirm its disintegration.”). Further examples exist of identical technical details in both the ISO TR (“the Technical Report recommends that designs for grill or pump encounters under continuously flowing conditions should be 2 hours.”) and with corresponding language from the IWSFG documents (“Place a single</p>	<p>TC224 WG10 by the IWSFG is licensed or otherwise allowed or condoned.</p> <p>Provide an explanation for how the IWSFG documents contain nearly identical language with the current draft of the Technical Report being drafted in ISO TC224 WG10.</p> <p>Provide an explanation for how specific technical details, including test durations, endpoints and acceptance criteria, are identical in both the IWSFG and ISO documents.</p> <p>Provide copies of any relevant communication with external (non-IWSFG) stakeholders, where content of the IWSFG Standard and PAS tests is licensed or otherwise allowed or condoned.</p>	

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>preconditioned test specimen into each box, place lids on the boxes and oscillate the mixture for 120 minutes.”).</p> <p>Copyright issues notwithstanding, note that the work of the ISO group is in draft form, and the process has not resulted in consensus agreement among the participating experts.</p>		
33	AF&PA				Ge	<p>The Purpose IWSFG Standard 1 states that it is to establish “criteria for the quality and characteristics of products that may be disposed via the toilet.” The issue of Environmental Health and Safety requirements is in outside the scope of these standards and guidelines. Such issues should be under the purview of appropriate regulatory bodies (e.g. EPA or State EPD), not by IWSFG.</p> <p>Legislation based on environmental harm should be enacted consistent with applicable law.</p>	Remove references to Environmental Health and Safety throughout this document.	Not accepted.
34	KCC				Ed/TE	<p>If 3 disintegration test methods are offered, then all 3 tests must be capable of providing the same outcome when tested in one lab or multiple labs.</p> <p>Based on a the same quick Interlab study using 5 toilet Papers ,there is evidence that within a single lab, all 3 tests do not provide the same outcome– see Code G at KC lab and Code S at Industry Lab.</p> <p>See data table below showing data for Codes F,G,I</p>		Accepted, PAS documents to be consolidated.

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat																																																																																																																																																																																																																																						
						<table border="1"> <thead> <tr> <th>Code</th> <th>Lab</th> <th>PAS 3A % passing 6mm</th> <th>PAS 3B % Passing 6mm</th> <th>PAS 3C % Passing 6mm</th> </tr> </thead> <tbody> <tr><td>Code F</td><td>3rd Party Lab</td><td>70.15%</td><td>89.95%</td><td></td></tr> <tr><td>Code F</td><td>3rd Party Lab</td><td>71.01%</td><td>86.62%</td><td></td></tr> <tr><td>Code F</td><td>3rd Party Lab</td><td>71.14%</td><td>89.65%</td><td></td></tr> <tr><td>Code F</td><td>3rd Party Lab</td><td>65.63%</td><td>89.70%</td><td></td></tr> <tr><td>Code F</td><td>3rd Party Lab</td><td>70.85%</td><td>89.97%</td><td></td></tr> <tr><td>Code F</td><td>KC</td><td>72.10%</td><td>66.82%</td><td>95.14%</td></tr> <tr><td>Code F</td><td>KC</td><td>61.57%</td><td>66.33%</td><td>96.09%</td></tr> <tr><td>Code F</td><td>KC</td><td>75.56%</td><td>74.76%</td><td>93.77%</td></tr> <tr><td>Code F</td><td>KC</td><td>73.40%</td><td></td><td></td></tr> <tr><td>Code F</td><td>KC</td><td>79.79%</td><td></td><td></td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>91.54%</td><td>74.49%</td><td>70.98%</td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>93.39%</td><td>73.28%</td><td>80.82%</td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>90.91%</td><td>72.34%</td><td>74.09%</td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.99%</td><td>99.68%</td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.96%</td><td>99.61%</td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.93%</td><td>99.23%</td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.96%</td><td>98.65%</td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.80%</td><td>98.33%</td><td></td></tr> <tr><td>Code G</td><td>KC</td><td>99.39%</td><td>92.48%</td><td>96.03%</td></tr> <tr><td>Code G</td><td>KC</td><td>100.00%</td><td>97.53%</td><td>98.87%</td></tr> <tr><td>Code G</td><td>KC</td><td>99.43%</td><td>94.64%</td><td>97.13%</td></tr> <tr><td>Code G</td><td>KC</td><td>99.80%</td><td></td><td></td></tr> <tr><td>Code G</td><td>KC</td><td>99.75%</td><td></td><td></td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> </tbody> </table>	Code	Lab	PAS 3A % passing 6mm	PAS 3B % Passing 6mm	PAS 3C % Passing 6mm	Code F	3rd Party Lab	70.15%	89.95%		Code F	3rd Party Lab	71.01%	86.62%		Code F	3rd Party Lab	71.14%	89.65%		Code F	3rd Party Lab	65.63%	89.70%		Code F	3rd Party Lab	70.85%	89.97%		Code F	KC	72.10%	66.82%	95.14%	Code F	KC	61.57%	66.33%	96.09%	Code F	KC	75.56%	74.76%	93.77%	Code F	KC	73.40%			Code F	KC	79.79%			Code F	Industry Lab	91.54%	74.49%	70.98%	Code F	Industry Lab	93.39%	73.28%	80.82%	Code F	Industry Lab	90.91%	72.34%	74.09%	Code F	Industry Lab	100.00%			Code F	Industry Lab	100.00%			Code G	3rd Party Lab	99.99%	99.68%		Code G	3rd Party Lab	99.96%	99.61%		Code G	3rd Party Lab	99.93%	99.23%		Code G	3rd Party Lab	99.96%	98.65%		Code G	3rd Party Lab	99.80%	98.33%		Code G	KC	99.39%	92.48%	96.03%	Code G	KC	100.00%	97.53%	98.87%	Code G	KC	99.43%	94.64%	97.13%	Code G	KC	99.80%			Code G	KC	99.75%			Code G	Industry Lab	100.00%	100.00%	100.00%	Code G	Industry Lab	100.00%	100.00%	100.00%	Code G	Industry Lab	100.00%	100.00%	100.00%	Code G	Industry Lab	100.00%			Code G	Industry Lab	100.00%			Code I	3rd Party Lab	100.00%	100.00%		Code I	3rd Party Lab	100.00%	100.00%		Code I	3rd Party Lab	100.00%	100.00%		Code I	3rd Party Lab	100.00%	100.00%		Code I	3rd Party Lab	100.00%	100.00%		Code I	KC	100.00%	100.00%	100.00%	Code I	KC	100.00%	100.00%	100.00%	Code I	KC	100.00%	100.00%	100.00%	Code I	KC	100.00%			Code I	KC	100.00%			Code I	Industry Lab	100.00%	100.00%	100.00%	Code I	Industry Lab	100.00%	100.00%	100.00%	Code I	Industry Lab	100.00%	100.00%	100.00%	Code I	Industry Lab	100.00%			Code I	Industry Lab	100.00%				
Code	Lab	PAS 3A % passing 6mm	PAS 3B % Passing 6mm	PAS 3C % Passing 6mm																																																																																																																																																																																																																																										
Code F	3rd Party Lab	70.15%	89.95%																																																																																																																																																																																																																																											
Code F	3rd Party Lab	71.01%	86.62%																																																																																																																																																																																																																																											
Code F	3rd Party Lab	71.14%	89.65%																																																																																																																																																																																																																																											
Code F	3rd Party Lab	65.63%	89.70%																																																																																																																																																																																																																																											
Code F	3rd Party Lab	70.85%	89.97%																																																																																																																																																																																																																																											
Code F	KC	72.10%	66.82%	95.14%																																																																																																																																																																																																																																										
Code F	KC	61.57%	66.33%	96.09%																																																																																																																																																																																																																																										
Code F	KC	75.56%	74.76%	93.77%																																																																																																																																																																																																																																										
Code F	KC	73.40%																																																																																																																																																																																																																																												
Code F	KC	79.79%																																																																																																																																																																																																																																												
Code F	Industry Lab	91.54%	74.49%	70.98%																																																																																																																																																																																																																																										
Code F	Industry Lab	93.39%	73.28%	80.82%																																																																																																																																																																																																																																										
Code F	Industry Lab	90.91%	72.34%	74.09%																																																																																																																																																																																																																																										
Code F	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code F	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code G	3rd Party Lab	99.99%	99.68%																																																																																																																																																																																																																																											
Code G	3rd Party Lab	99.96%	99.61%																																																																																																																																																																																																																																											
Code G	3rd Party Lab	99.93%	99.23%																																																																																																																																																																																																																																											
Code G	3rd Party Lab	99.96%	98.65%																																																																																																																																																																																																																																											
Code G	3rd Party Lab	99.80%	98.33%																																																																																																																																																																																																																																											
Code G	KC	99.39%	92.48%	96.03%																																																																																																																																																																																																																																										
Code G	KC	100.00%	97.53%	98.87%																																																																																																																																																																																																																																										
Code G	KC	99.43%	94.64%	97.13%																																																																																																																																																																																																																																										
Code G	KC	99.80%																																																																																																																																																																																																																																												
Code G	KC	99.75%																																																																																																																																																																																																																																												
Code G	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code G	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code G	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code G	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code G	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	KC	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	KC	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	KC	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	KC	100.00%																																																																																																																																																																																																																																												
Code I	KC	100.00%																																																																																																																																																																																																																																												
Code I	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code I	Industry Lab	100.00%																																																																																																																																																																																																																																												

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat																																																																																																																																																											
						<table border="1"> <thead> <tr> <th>Code</th> <th>Lab</th> <th>PAS 3A % passing 6mm</th> <th>PAS 3B % Passing 6mm</th> <th>PAS 3C % Passing 6mm</th> </tr> </thead> <tbody> <tr><td>Code S</td><td>3rd Party Lab</td><td>71.40%</td><td>87.62%</td><td></td></tr> <tr><td>Code S</td><td>3rd Party Lab</td><td>77.58%</td><td>90.21%</td><td></td></tr> <tr><td>Code S</td><td>3rd Party Lab</td><td>70.28%</td><td>91.11%</td><td></td></tr> <tr><td>Code S</td><td>3rd Party Lab</td><td>61.80%</td><td>81.92%</td><td></td></tr> <tr><td>Code S</td><td>3rd Party Lab</td><td>59.36%</td><td>86.29%</td><td></td></tr> <tr><td>Code S</td><td>KC</td><td>89.26%</td><td>63.72%</td><td>87.48%</td></tr> <tr><td>Code S</td><td>KC</td><td>90.30%</td><td>63.89%</td><td>85.89%</td></tr> <tr><td>Code S</td><td>KC</td><td>88.91%</td><td>69.81%</td><td>88.08%</td></tr> <tr><td>Code S</td><td>KC</td><td>88.88%</td><td></td><td></td></tr> <tr><td>Code S</td><td>KC</td><td>84.30%</td><td></td><td></td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>92.75%</td><td>82.40%</td><td>95.37%</td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>94.30%</td><td>89.07%</td><td>97.39%</td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>96.60%</td><td>84.89%</td><td>98.46%</td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>88.71%</td><td></td><td></td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>89.58%</td><td></td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>76.44%</td><td>78.63%</td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>71.02%</td><td>77.54%</td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>69.34%</td><td>76.28%</td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>78.26%</td><td>66.78%</td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>63.47%</td><td>77.58%</td><td></td></tr> <tr><td>Code W</td><td>KC</td><td>86.09%</td><td>53.99%</td><td>64.97%</td></tr> <tr><td>Code W</td><td>KC</td><td>84.71%</td><td>50.89%</td><td>65.15%</td></tr> <tr><td>Code W</td><td>KC</td><td>87.95%</td><td>56.41%</td><td>63.47%</td></tr> <tr><td>Code W</td><td>KC</td><td>85.81%</td><td></td><td></td></tr> <tr><td>Code W</td><td>KC</td><td>85.07%</td><td></td><td></td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>91.68%</td><td>78.53%</td><td>90.43%</td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>96.91%</td><td>77.85%</td><td>77.89%</td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>91.10%</td><td>74.47%</td><td>80.01%</td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>91.21%</td><td></td><td></td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>89.39%</td><td></td><td></td></tr> </tbody> </table> <p>Furthermore, across labs, Method PAS3C has generated a pass and fail outcome for Code S when looking at KC and the Industry lab. See data table below</p>	Code	Lab	PAS 3A % passing 6mm	PAS 3B % Passing 6mm	PAS 3C % Passing 6mm	Code S	3rd Party Lab	71.40%	87.62%		Code S	3rd Party Lab	77.58%	90.21%		Code S	3rd Party Lab	70.28%	91.11%		Code S	3rd Party Lab	61.80%	81.92%		Code S	3rd Party Lab	59.36%	86.29%		Code S	KC	89.26%	63.72%	87.48%	Code S	KC	90.30%	63.89%	85.89%	Code S	KC	88.91%	69.81%	88.08%	Code S	KC	88.88%			Code S	KC	84.30%			Code S	Industry Lab	92.75%	82.40%	95.37%	Code S	Industry Lab	94.30%	89.07%	97.39%	Code S	Industry Lab	96.60%	84.89%	98.46%	Code S	Industry Lab	88.71%			Code S	Industry Lab	89.58%			Code W	3rd Party Lab	76.44%	78.63%		Code W	3rd Party Lab	71.02%	77.54%		Code W	3rd Party Lab	69.34%	76.28%		Code W	3rd Party Lab	78.26%	66.78%		Code W	3rd Party Lab	63.47%	77.58%		Code W	KC	86.09%	53.99%	64.97%	Code W	KC	84.71%	50.89%	65.15%	Code W	KC	87.95%	56.41%	63.47%	Code W	KC	85.81%			Code W	KC	85.07%			Code W	Industry Lab	91.68%	78.53%	90.43%	Code W	Industry Lab	96.91%	77.85%	77.89%	Code W	Industry Lab	91.10%	74.47%	80.01%	Code W	Industry Lab	91.21%			Code W	Industry Lab	89.39%				
Code	Lab	PAS 3A % passing 6mm	PAS 3B % Passing 6mm	PAS 3C % Passing 6mm																																																																																																																																																															
Code S	3rd Party Lab	71.40%	87.62%																																																																																																																																																																
Code S	3rd Party Lab	77.58%	90.21%																																																																																																																																																																
Code S	3rd Party Lab	70.28%	91.11%																																																																																																																																																																
Code S	3rd Party Lab	61.80%	81.92%																																																																																																																																																																
Code S	3rd Party Lab	59.36%	86.29%																																																																																																																																																																
Code S	KC	89.26%	63.72%	87.48%																																																																																																																																																															
Code S	KC	90.30%	63.89%	85.89%																																																																																																																																																															
Code S	KC	88.91%	69.81%	88.08%																																																																																																																																																															
Code S	KC	88.88%																																																																																																																																																																	
Code S	KC	84.30%																																																																																																																																																																	
Code S	Industry Lab	92.75%	82.40%	95.37%																																																																																																																																																															
Code S	Industry Lab	94.30%	89.07%	97.39%																																																																																																																																																															
Code S	Industry Lab	96.60%	84.89%	98.46%																																																																																																																																																															
Code S	Industry Lab	88.71%																																																																																																																																																																	
Code S	Industry Lab	89.58%																																																																																																																																																																	
Code W	3rd Party Lab	76.44%	78.63%																																																																																																																																																																
Code W	3rd Party Lab	71.02%	77.54%																																																																																																																																																																
Code W	3rd Party Lab	69.34%	76.28%																																																																																																																																																																
Code W	3rd Party Lab	78.26%	66.78%																																																																																																																																																																
Code W	3rd Party Lab	63.47%	77.58%																																																																																																																																																																
Code W	KC	86.09%	53.99%	64.97%																																																																																																																																																															
Code W	KC	84.71%	50.89%	65.15%																																																																																																																																																															
Code W	KC	87.95%	56.41%	63.47%																																																																																																																																																															
Code W	KC	85.81%																																																																																																																																																																	
Code W	KC	85.07%																																																																																																																																																																	
Code W	Industry Lab	91.68%	78.53%	90.43%																																																																																																																																																															
Code W	Industry Lab	96.91%	77.85%	77.89%																																																																																																																																																															
Code W	Industry Lab	91.10%	74.47%	80.01%																																																																																																																																																															
Code W	Industry Lab	91.21%																																																																																																																																																																	
Code W	Industry Lab	89.39%																																																																																																																																																																	
35	KCC				Ge	<p>Throughout all the IWSFG documents, toilet paper is consistently put forward as exemplar material. There is no mention that any toilet paper is a problem, and that it is the more recent advent of 'wipes' in particular which have created problems.</p> <p>Given that Toilet Paper is in scope it would be</p>	Please provide evidence by way of reports, studies which confirm that US toilet paper is causing any issues in wastewater treatment.	Not accepted. No specific comments on PAS																																																																																																																																																											

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>normal and appropriate that any toilet paper should pass this test with a safety factor of 2 or 3, to allow for variability.</p> <p>Simple screening of toilet papers from the USA shows a significant number which will not only fail all 3 disintegration tests, but will fail by a significant margin. This is absurd.</p>		
36	NP	Foreword			Ge	In the foreword 4th paragraph, it states that “the task of the group was to prepare standards reflecting the above purpose.” It does not state that this group accomplished that goal. Did they?	Please clarify.	See comment 1
37	GT		Forward		Ge	<p>While this document is presented as a “standard,” IWSFG is not organized, nor does it conduct itself, in the manner of a typical Standards Development Organization (“SDO”). However, the IWSFG is not an SDO and has not been recognized or accredited by any national or international standards body as an SDO.</p> <p>Voting membership in the IWSFG is very limited. Just to provide one example, manufacturers of the very products this document seeks to set criteria for are denied voting membership. It is completely inappropriate for the IWSFG to attempt to set criteria for the “socially responsible and environmentally sustainable” conduct of manufacturers and distributors while explicitly excluding them from having a meaningful (i.e., voting) role in the process of setting those criteria. Interestingly, the document does not commit the members of the IWSFG to act in a socially responsible or sustainable manner.</p> <p>Further, the process by which IWSFG drafts and creates its documents is not transparent.</p>	<p>Throughout the document (including the title), the term “standard” should be replaced with “criteria” to avoid misleading readers into concluding that this document is the product of a formally established and accredited Standards Development Organization.</p> <p>In the first line of the indented text beginning with “The criteria for flushability . . .”, delete the term “global.”</p> <p>In the fifth paragraph, delete the second sentence beginning with “The group expects . . .”</p> <p>Throughout the document, use the term “criteria” rather than standard.</p>	<p>See comment 1</p> <p>Not accepted</p> <p>Not accepted</p> <p>See comment 1</p>

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>The participants, dates of meetings, meeting resolutions, etc., are all kept from the public eye. Though IWSFG has invited public comment on its documents, it has not made any commitment as to a process that fairly, transparently and impartially addresses and takes those comments into account.</p> <p>It is also inappropriate to suggest that any document produced by IWSFG represents a “global consensus.” Even by its own terms, the IWSFG represents only a fraction of the global wastewater utility sector, as it includes only the wastewater service associations from Spain, Australia, Canada, Japan and one association from the U.S. Therefore, this “global consensus” does not include most of Europe, and has no representation from continental Asia, Africa, the Middle East or South America.</p> <p>Lastly, this document uses the ISO standards format and style, and even appropriates significant amount of text from ISO drafts, and thus potential users might have the mistaken impression that this is a standard written by a recognized national or international standards body. Which is not accurate.</p>		
38	KCC		Forward		ED	<p>Forward should be Foreword</p> <p>https://www.merriam-webster.com/dictionary/foreword</p>	Correct	Accepted
	WSL NZ	2				Title: IWSFG Standard 1:2017 - Criteria for recognition as a flushable product		
39	PG	4		Paragraph	Ge	Per the British Standards Institute (BSI) definition of the Publicly Available Specification (PAS) process, the public comments must be addressed to ensure that the content is	In keeping with the designation of these documents as PAS, confirm the IWSFG will modify the Standard and associated PASs to the satisfaction of a wide range of	See comment 1

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						satisfactory to “a wide range of stakeholders.” From BSI (https://www.bsigroup.com/LocalFiles/en-GB/PAS/The%20PAS%20Process/BSI-PAS-0-2012-Principles-of-PAS-standardization-UK-EN.pdf): “Final consensus and publication: Comments arising from the public consultation are discussed by the steering group, with the aim of achieving a document underpinned by consensus (see 4.6)...In common with all BSI standardization documents, publication is subject to approval by the Director of Standards who will seek evidence that the final text of the document commands support from a wide range of stakeholders.”	stakeholders.	
40	PG	4			Ge	The PAS process is intended to be transparent.	Given that the PAS process is intended to be transparent, provide details regarding the process the IWSFG will follow for revising the documents.	Not accepted, no reference to PAS
41	PG	6-7		Copyright Notice	Ge	IWSFG has attempted to copyright material that is currently under copyright protection. For example, consider the following definition from BSI (https://www.bsigroup.com/LocalFiles/en-GB/PAS/The%20PAS%20Process/BSI-PAS-0-2012-Principles-of-PAS-standardization-UK-EN.pdf): “2.2 essential intellectual property rights (essential IPR) intellectual property rights that have been included within a PAS such that it would be impossible to implement the PAS without making use of those rights, and the only way to avoid an infringement of the rights in respect of implementation of the PAS is therefore to request a licence from the owner.”	Provide evidence of consent/license on the IWSFG for all copyrighted content the IWSFG has utilized that was not developed by the IWSFG.	Noted and agreed. Revisions to PAS will avoid this. Where copyright cannot be avoided then permission will be sought to publish.
42	GT	6 - 12			Ge	I am concerned about the copyright statement because a significant amount of the text of this	IWSFG should remove the copyright claims	Accepted, copyright issues will be addressed by either

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						document is drawn, word-for-word, from existing drafts created by ISO/TC224/WG10, which are similarly copyrighted. In particular, much of the text of this document is identical to ISO/TC224/WG10 N398 and N217. The IWSFG does not acknowledge these sources, nor is it apparent that IWSFG sought permission from ISO to extract large portions of text from these documents without attribution to ISO.	from this document.	removing text or seeking approval to publish.
43	INDA	16	Forward		ED	<p>“The group expects the manufacturers and distributors of their products to act in a socially responsible and environmentally sustainable manner by adhering to the established standards.”</p> <p>This statement is presumptuous. The IWSFG implies that not adhering to this standard precludes the possibility of being socially responsible or environmentally sustainable. The IWSFG has neither the expertise nor the authority to define what is meant by “socially responsible” and “environmentally sustainable”. At best, this can be stated as an opinion of the IWSFG.</p>	Remove statement or reword to reflect this is an opinion of the IWSFG.	Not accepted
44	PG	16		Forward [sic]	Ge	<p>General and technical content in the IWSFG Standard and associated PASs, and the current Draft Technical Report (TR) from TC224 WG10, share a common source.</p> <p>The “purpose” included in the forward[sic] of the IWSFG Standard 1 contains language identical to the Scope of the ISO TC224 WG10 TR.</p>	<p>Describe how the membership of the IWSFG differs from the wastewater stakeholders in International Standards Organization (ISO) Technical Committee (TC) 224 Working Group 10 (WG10).</p> <p>Declare for all common details between the IWSFG and ISO documents, if the IWSFG or ISO are the rightful copyright owners.</p>	<p>Not accepted, no reference to PAS</p> <p>Accepted. All copyrighted material will be referenced or deleted</p>
45	PG	16		Forward [sic]	Ge	<p>Sentence describing wastewater services is hyperbole.</p> <p>Expectations of the IWSFG are irrelevant to</p>	Delete the following sentence: “Wastewater services are organizations acting for the public good as a public service. The group expects the manufacturers and distributors	Not accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						the document.	<p>of their products to act in a socially responsible and environmentally sustainable manner by adhering to the established standards.”</p> <p>If the sentence is retained, for context, provide the IWSFG’s position on “blending,” specifically how the practice of blending protects the public good and represents environmentally sustainable operation by wastewater services.</p> <p>Note to entry: “The [US Environmental Protection Agency] EPA issued guidance in the mid-2000s banning a technique used by some utilities in which some wastewater is routed around the treatment process before being blended with treated flows and then discharged into areas in the receiving waters known as mixing zones. The practice is used to keep the high volumes of wastewater, such as those during storms, from overwhelming the treatment plant. The agency said blending and the use of mixing zones violate the Clean Water Act.” (from: https://www.bna.com/wastewater-practice-mostly-n57982084593/). “Opponents argue that the blending ban raises costs for wastewater utilities.” (From https://www.wateronline.com/doc/epa-s-wet-weather-policies-debated-in-court-0001)</p>	
46	AFGC	50 - 77			E	Seems to be a repeat of the contents		Not accepted
47	PG	82-85	1	Introduction	Ge	Hyperbole. Wastewater services operate wastewater infrastructure. As noted in comments regarding Line 16, wastewater services also undertake actions that have	Revise to read: “Wastewater services operate wastewater infrastructure.”	Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						economic drivers that are neither for the public good, nor to protect the environment. Wastewater services operate wastewater infrastructure within budgetary and technological, not ideological, frameworks.		
48	GT	84-85	1.0		Te	The statement that the principal task of wastewater services is to receive, collect, etc. "sanitary discharges" is incorrect. Particularly in industrial economies throughout the world, including those of the members of the IWSFG, a major task of wastewater services is also to receive and treat industrial wastewater, not just sanitary (i.e., sewage) discharges. This is a significant omission, since many of the challenges faced by the wastewater services sector, including the discharge of pollutants into the environment, are related to such industrial discharges.	Their principal task is to receive, collect, transport and treat sanitary and industrial discharges from the customers residents of the areas they serve.	Accepted add industrial discharges and change residents to customers
49	DPI	85	1		Ge	Suggest replacing 'residents' with 'community' and edit the relevant sentences accordingly		See comment 48
50	KCC	89-92			GE	This does not provide any context to the scale of the problem which the non-conforming product may represent. To go to the length of producing a 'standard' then there needs to be an intelligible problem statement which is relevant to impact. Many numbers have been used historically in WG10 intro and MD280 Testimony	Replace with a problem statement which can be substantiated and is based on impact.	Not accepted, no reference to PAS
51	KCC		6.4 Section		ED	Creating alternate Do not flush logo requirements when there is already in existence a jointly agreed by NACWA, WEF, CWWA, APWA, INDA and EDANA is wasteful.	Suggest IWSFG adopt the INDA/EDANA Code of Practice Edition 2.	Accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
52	PG	89-92	1	Introduction	Te	Example is vague and only tangentially related to the issues currently faced by wastewater utilities.	Delete and replace with an estimate of annual costs associated with maintenance, rehabilitation and replacement of wastewater infrastructure (i.e., an actual sewer system and wastewater treatment plant). If retained, provide a reference to the source of the data for the calculation(s) utilized for determining the replacement value.	Accepted for deletion
53	PG	89-92	1	Introduction	Te	IWSFG Standard contains no details or evidence of impacts to wastewater infrastructure caused by flushable wipes. Note to Entry. An independent collection study conducted on behalf of the New York City Department of Environmental Protection and the New York City Law Department determined that less than 2% of materials recovered from the sewer were determined to be flushable wipes. Note to Entry. The collection study was conducted by independent consultants utilizing a procedure developed by the National Association of Clean Water Agencies (NACWA). Despite the use of NACWA protocol, the CEO of NACWA disparaged the study in a June 22, 2017 letter, providing no evidence for his derision, writing that “this study is an unreliable representation of the situation in sewer systems in D.C. and nationwide... The study consisted of an analysis of only two 5-gallon buckets of materials.” It is emphasized that this criticism from NACWA is puzzling, as it is directed at a study conducted in accordance with a protocol developed by NACWA.	Members of the IWSFG have claimed in testimony that damages resulting from wipes cost utilities of up to \$1 billion dollars annually. Provide a detailed cost analysis of this estimate, including all sources of values utilized in calculations. Further, based on forensics and associated data, provide the costs specifically attributable to flushable wipes.	See comment 52

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>Note to Entry. The letter goes on to state that the study was “conducted after two days of heavy rainfall, which likely washed additional trash into [the] system.” This is an incorrect, and unscientific interpretation of how trash is transported during rainfall events in general, and the precipitation leading up to the collection study, in particular. First, heavy rainfall would <i>clear</i> the sewer of trash, due to a phenomenon referred to as a “first flush.” Were the rainfall to have been heavy, as described in the letter, a significant majority of the trash and other materials in the sewer would have been transported to the Wards Island pumping stations (or discharged to a receiving water body via a combined sewer overflow) well in advance of the collection study. Importantly, the precipitation in the two days preceding the collection was not “heavy.” In fact, evaluation of the rainfall in the days leading up to the collection study reveals that the storms were low-intensity- all having return frequencies of less than one-year (i.e., typical, not heavy precipitation). Precipitation in New York City on February 16th ended at approximately 4PM, or 14 hours before the Collection Study began on February 17th. Therefore, based on comparison to historic records, it can be concluded that flow would have returned to baseline levels during the evening hours of February 16th, well before the Collection Study. As a result, the materials collected, including trash on February 17th, represents typical loading to the New York City sewer system, unaffected by the precipitation. Further, it should be emphasized that the amount of trash in the sewer would in no way impact the number of flushable wipes present or recovered.</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat																
						<p>Note to entry: The following table provides a comparison of the rainfall intensity on February 16, 2016 (the day before the Collection Study) to National Oceanic and Atmospheric Administration storm return frequencies (i.e., 100-year storm). As shown, the rainfall was of low intensity when compared to 5-minute, 1-hour and 2-hour maximum intensities:</p> <table border="1"> <thead> <tr> <th>Rainfall Intensity (in)</th> <th>February 16, 2016*</th> <th>1-year storm[@]</th> <th>2-year storm[@]</th> </tr> </thead> <tbody> <tr> <td>5-minute maximum (in)</td> <td>0.15**</td> <td>0.354</td> <td>0.424</td> </tr> <tr> <td>1-hour maximum (in)</td> <td>0.58</td> <td>1.07</td> <td>1.28</td> </tr> <tr> <td>2-hour maximum (in)</td> <td>0.86</td> <td>1.43</td> <td>1.69</td> </tr> </tbody> </table> <p>* - Weather History for KNYC- February, 2016 https://www.wunderground.com/history/airport/KNYC ** - Weather History for KLGA- February, 2016 https://www.wunderground.com/history/airport/KLGA [@] - National Oceanic and Atmospheric Administration – National Weather Service Hydrometeorological Design Studies Center Precipitation Frequency Data Server; NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: NY</p> <p>Note to Entry: Further evaluation of the rainfall on February 16, 2016 is possible through comparison to previously recorded rainfall in New York City- specifically, use of data from a rainfall event</p>	Rainfall Intensity (in)	February 16, 2016*	1-year storm [@]	2-year storm [@]	5-minute maximum (in)	0.15**	0.354	0.424	1-hour maximum (in)	0.58	1.07	1.28	2-hour maximum (in)	0.86	1.43	1.69		
Rainfall Intensity (in)	February 16, 2016*	1-year storm [@]	2-year storm [@]																					
5-minute maximum (in)	0.15**	0.354	0.424																					
1-hour maximum (in)	0.58	1.07	1.28																					
2-hour maximum (in)	0.86	1.43	1.69																					

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat															
						<p>recorded on June 2, 1996 at the Manhattan Pump Station (available in the <i>Landside Modeling Report, Volume 6; Newtown Creek WPCP; Final</i>; The City of New York, Department of Environmental Protection, Bureau of Engineering Design & Construction; October 2007; Page 4-49). Note that on June 2, 1996, despite a rainfall event that was three-times larger than the rainfall on February 16, 2016, baseline flow resumed after 8 hours. Therefore, it can be concluded that flow during the February 17, 2016 collection study was at or near baseline conditions. This is confirmed by the information provided by NYCDEP, which determined that flow during the collection study was nominally higher (~7%) versus flow recorded the previous week.</p> <table border="1"> <thead> <tr> <th>Metric</th> <th>June 2, 1996</th> <th>February 16, 2016</th> </tr> </thead> <tbody> <tr> <td>Rainfall Total (in)</td> <td>3.1</td> <td>1.02</td> </tr> <tr> <td>Rainfall Duration (hr)</td> <td>11</td> <td>2</td> </tr> <tr> <td>Peak Rainfall (in/hr)</td> <td>0.43</td> <td>0.58</td> </tr> <tr> <td>Rainfall Average (in/hr)</td> <td>0.12</td> <td>0.4</td> </tr> </tbody> </table>	Metric	June 2, 1996	February 16, 2016	Rainfall Total (in)	3.1	1.02	Rainfall Duration (hr)	11	2	Peak Rainfall (in/hr)	0.43	0.58	Rainfall Average (in/hr)	0.12	0.4		
Metric	June 2, 1996	February 16, 2016																					
Rainfall Total (in)	3.1	1.02																					
Rainfall Duration (hr)	11	2																					
Peak Rainfall (in/hr)	0.43	0.58																					
Rainfall Average (in/hr)	0.12	0.4																					
53	PG	89-92	1	Introduction	Te	<p>Example is vague and only tangentially related to the issues currently faced by wastewater utilities.</p> <p>All available evidence from collection studies and system monitoring has demonstrated that flushable wipes are compatible with infrastructure.</p>	<p>Provide data detailing impacts to wastewater infrastructure caused by flushable wipes.</p> <p>Alternatively, provide references to available collection studies and/or operations and maintenance costs over a period of 15 years (the relevant timeframe</p>	See comment 51															

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
							as noted in Line 94) that demonstrates impact known to have resulted from flushable wipes.	
54	DPI	93	1		Ge	Suggest rewording – wastewater discharge from toilets..... OR adding ‘water’ after ‘urine’		Accepted
55	ANON1	93-94	1		ED	Is there really evidence that the products have been flushed only for the last 15 years?		Accepted Replace 15 yrs with recent times
56	PG	93-96	1	Introduction	Te	Vague	Provide data regarding the hygiene products market on which this statement is based.	See comment 55
57	ANON1	93-97	Criteria... ...Product		GE	<p>The International Water Services Flushability Group, IWSFG, has developed standards, with the goal to provide criteria that clearly identifies what can and cannot be flushed down the toilet. The IWSFG states within its Memorandum of Understanding, MOU, amongst members in the organization, there is a commitment to seek collaboration of other stakeholders to protect water services infrastructure, receiving waters and the environment from flushed products. However, it appears this commitment was not met in the development of these standards as no representation from industry representatives such as toilet tissue manufacturers, converters, distributors and retailers were included in the determination of this standards content. This also challenges the ISO Guide 59 Code of Good Practice for Standardization, Part 6 which states:</p> <p>6.1 Participation in standardization processes at all levels shall be accessible to materially and directly interested persons and organizations within a coherent process</p>	<p>The standard should clearly state its non- applicability to toilet tissue. Lines 93 through97 of the introduction support this in statements that it has been the demand for, and subsequent manufacture of, convenient and hygienic solutions beyond toilet paper that contribute to the use of a toilet as an unintended disposal unit.</p>	Not accepted

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						as described in this clause. Because of this lack of representation by the tissue industry and the absence of opportunity to provide input, the proposed changes as identified are requested.		
58	AF&PA	93-102			Ge	Tissues, like toilet papers, have been in the market for years, and should not be characterized or included as "other products" or "additional "flushed" products".	Tissues should be deleted from line 102	Not accepted
59	PG	97-98	1	Introduction	Te	Incorrect. The toilet is a disposal unit. The issue to be addressed is the improper disposal of products neither designed, marketed or intended to be flushed.	Delete.	Partially accepted. Insert solid waste before disposal
60	PG	99-101	1	Introduction	Te	Hyperbole. Sewers are designed to transport solids along with wastewater. This language in Lines 99-101 appears to attempt to claim that sewers are incapable of processing and treating any "additional" products, thereby implying that sewers have a design limit for the quantity of products they can convey- this is incorrect and not supported by standard sewer design. Sewers and treatment plants are limited in their hydraulic capacity, and treatment plants are further limited with respect to loading of organic material.	Provide references to sewer design and/or studies that establishes the upper limit of solids a sewer is designed to convey, and additionally supports the claim that wastewater infrastructure is not "capable of handling these additional "flushed" products."	Not accepted, no reference to PAS
61	DPI	100	1		Ed	Suggest replacing 'are led' with 'lead into'		Accepted
62	ANON1	102-103	1		ED	Haven't these products been around for much longer than 15 years? E.g. diapers, feminine products, etc.		See comment 55
63	LZ	107	1	Introduction	Te	Why all materials other than natural cellulose products can impact the collection and treatment systems and affect the aquatic environment?	Show scientific facts which show the negative impact of other cellulosic materials on the environment. Literature Park et al. in 2004 shows that	Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
							cotton (natural fiber) takes longer to biodegrade as compared to viscose fibers (Attachment 2). Remove line 107.	
64	AF&PA	107			Te	The document does not clarify what constitutes “natural cellulose products”	Delete from the document, or define and include references to “natural cellulose products”	See comment 66
65	FAD	107–108	1		Ge	The inclusion of “and the chemicals and fragrances and bonding agents” is confusing. It appears to be included with natural cellulose products as acceptable for sewer systems.	Remove: and the chemicals and fragrances and bonding agents	See comment 66
66	ANON1	107-108			GE	“All such products - other than natural cellulose products, and the chemicals and fragrances and bonding agents – can impact the collection and treatment systems...” It is no guarantee products based on natural cellulose (e.g. paper towels and cotton rags) will not cause issues in treatment systems.		Partial accepted Strike paragraph 107 to 110
67	INDA	107–110			TE	In fact, many natural cellulose based products cause issues in treatment systems. Facial tissues, paper towels, cotton rags – all are natural cellulose based and all are incompatible with treatment systems. In addition you have an entire document, PAS 1 that calls to question “chemicals” included in these products but here you imply they are acceptable.	Remove lines 107-110.	See comment 66
68	KCC	107-110			TE/ED	Stipulation for only natural cellulose is at odds with Toilet Paper which uses natural cellulose and will impact wastewater treatment through the BOD loading of the pulp. This paragraph needs clarification.	Rewrite and provide any references.	See comment 66
69	NP	107-110			Ge	Please provide basis for these statements.	Include references.	See comment 66

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
70	GHC	107-110	Introduction		TE	Please clarify this paragraph Toilet paper for instance which contains natural cellulose can impact collecting and treatment systems. Toilet paper can interfere with the free flow of a sewer or drain- it can cause blockages.	Please cite appropriate references for "all such materials"	See comment 66
71	PG	107-110	1	Introduction	Te	Assertions are vague, unreferenced and unsupported. Anecdotal.	Provide reference to data supporting the implication of impacts to the aquatic environment and biosolids directly attributable to flushable wipes. Further, provide reference to data supporting the compatibility of cellulose with the aquatic environment and biosolids.	See comment 66
72	PG	107-110	1	Introduction	Te	Lacks appropriate details and references.	Provide references to sources/data containing the rate of the breakdown of "natural cellulose products" in wastewater treatment plants and various receiving environments.	See comment 66
73	PG	107-110	1	Introduction	Te	Clarification necessary.	Confirm that the IWSFG has determined that "natural cellulose products, chemicals, fragrances and bonding agents" do not impact collection and treatment systems, and do not adversely affect either the aquatic environment, or land to which biosolids are applied. Provide all data and references on which these determinations are based. Note if these are risk-based determinations.	See comment 66
74	GT	107 -110	1.0		Te	It is incorrect to state or imply that it is impossible for "natural cellulose products" to impact collection and treatment systems. Depending on the form of such products and their manner of disposal, they may also have an impact. It is inaccurate to state or imply that any	In line 107, delete "other than natural cellulose products" In line 108, revise as follows: ". . . can impact the collection and treatment systems and, in some circumstances, consequently can adversely	See comment 66

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						material that can adversely impact a collection system will adversely impact the receiving environment. Further, a material that might adversely impact the receiving environment might not have any impact on the collection system. So the term “consequently” is inappropriate.	affect . . .	
75	ANON2	107–110			TE	There is no evidence that natural or regenerated cellulose in moist or dry toilet tissue causes problems in WW infrastructure.	Eliminate language or provide evidence of how regenerated cellulose is harming wastewater infrastructure.	See comment 66
76	GHC	114	Purpose		TE	The use of the word “standard” should be questioned- it is not appropriate. It would better be considered a “guideline”. This guideline is not sanctioned by any International or national standards organization. Systems to develop Publicly Available Specifications PAS do exist e.g. Within BSI and ISO	Replace standard with guideline throughout the document set	See comment 1
77	LZ	114	2	Purpose	Ge	As IWSFG is not an organization defined by standard organisation in each country of the world, we recommend using the term “guideline” and not “standard” for the proposed IWSFG test methods.	Use the term “guideline” instead of “standard”.	See comment 1
78	PG	114-115	2	Purpose	Te	Overlap of language between IWSFG Standard and ISO TC224 WG10 Technical Report.	Provide an explanation for the similarities between the language in the IWSFG standard 1 and the ISO TC224 WG10 Technical Report documents seeking to establish “criteria for the quality and characteristics of products.” Further, declare IWSFG’s understanding if that phrase is the intellectual property of ISO or the IWSFG.	Accepted. All copyrighted material will referenced or deleted
79	INDA	114-116			ED	Setting down the criteria for the quality and characteristics of products is not what these test methods do. The purpose of these test methods, based on reading the methods, is to define product	Remove these lines.	Not accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						attributes that result in wastewater infrastructure compatibility.		
80	KCC	117			Ed/TE	<p>“The goal of the IWSC is not to ban the production and/or use of these products...”</p> <p>This is a disingenuous statement knowing that a significant proportion of US Dry Toilet paper cannot pass the 3 disintegration tests in this ‘standard’</p> <p>A simple Interlab study of 5 toilet papers was carried out at the KC labs and 2 other labs (1 industry and 1 3rd Party lab)– all 3 labs confirmed that 3 of the 5 toilet papers tested, failed all 3 Disintegration Test using methods PAS3A and PAS 3B – see table below with all data from Interlab study</p>		Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat																																																																																																																																																																																																																																						
						<table border="1"> <thead> <tr> <th>Code</th> <th>Lab</th> <th>PAS 3A % passing 6mm</th> <th>PAS 3B % Passing 6mm</th> <th>PAS 3C % Passing 6mm</th> </tr> </thead> <tbody> <tr><td>Code F</td><td>3rd Party Lab</td><td>70.15%</td><td>89.95%</td><td></td></tr> <tr><td>Code F</td><td>3rd Party Lab</td><td>71.01%</td><td>86.62%</td><td></td></tr> <tr><td>Code F</td><td>3rd Party Lab</td><td>71.14%</td><td>89.65%</td><td></td></tr> <tr><td>Code F</td><td>3rd Party Lab</td><td>65.63%</td><td>89.70%</td><td></td></tr> <tr><td>Code F</td><td>3rd Party Lab</td><td>70.85%</td><td>89.97%</td><td></td></tr> <tr><td>Code F</td><td>KC</td><td>72.10%</td><td>66.82%</td><td>95.14%</td></tr> <tr><td>Code F</td><td>KC</td><td>61.57%</td><td>66.33%</td><td>96.09%</td></tr> <tr><td>Code F</td><td>KC</td><td>75.56%</td><td>74.76%</td><td>93.77%</td></tr> <tr><td>Code F</td><td>KC</td><td>73.40%</td><td></td><td></td></tr> <tr><td>Code F</td><td>KC</td><td>79.79%</td><td></td><td></td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>91.54%</td><td>74.49%</td><td>70.98%</td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>93.39%</td><td>73.28%</td><td>80.82%</td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>90.91%</td><td>72.34%</td><td>74.09%</td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code F</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.99%</td><td>99.68%</td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.96%</td><td>99.61%</td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.93%</td><td>99.23%</td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.96%</td><td>98.65%</td><td></td></tr> <tr><td>Code G</td><td>3rd Party Lab</td><td>99.80%</td><td>98.33%</td><td></td></tr> <tr><td>Code G</td><td>KC</td><td>99.39%</td><td>92.48%</td><td>96.03%</td></tr> <tr><td>Code G</td><td>KC</td><td>100.00%</td><td>97.53%</td><td>98.87%</td></tr> <tr><td>Code G</td><td>KC</td><td>99.43%</td><td>94.64%</td><td>97.13%</td></tr> <tr><td>Code G</td><td>KC</td><td>99.80%</td><td></td><td></td></tr> <tr><td>Code G</td><td>KC</td><td>99.75%</td><td></td><td></td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code G</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>3rd Party Lab</td><td>100.00%</td><td>100.00%</td><td></td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code I</td><td>KC</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td>100.00%</td><td>100.00%</td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> <tr><td>Code I</td><td>Industry Lab</td><td>100.00%</td><td></td><td></td></tr> </tbody> </table>	Code	Lab	PAS 3A % passing 6mm	PAS 3B % Passing 6mm	PAS 3C % Passing 6mm	Code F	3rd Party Lab	70.15%	89.95%		Code F	3rd Party Lab	71.01%	86.62%		Code F	3rd Party Lab	71.14%	89.65%		Code F	3rd Party Lab	65.63%	89.70%		Code F	3rd Party Lab	70.85%	89.97%		Code F	KC	72.10%	66.82%	95.14%	Code F	KC	61.57%	66.33%	96.09%	Code F	KC	75.56%	74.76%	93.77%	Code F	KC	73.40%			Code F	KC	79.79%			Code F	Industry Lab	91.54%	74.49%	70.98%	Code F	Industry Lab	93.39%	73.28%	80.82%	Code F	Industry Lab	90.91%	72.34%	74.09%	Code F	Industry Lab	100.00%			Code F	Industry Lab	100.00%			Code G	3rd Party Lab	99.99%	99.68%		Code G	3rd Party Lab	99.96%	99.61%		Code G	3rd Party Lab	99.93%	99.23%		Code G	3rd Party Lab	99.96%	98.65%		Code G	3rd Party Lab	99.80%	98.33%		Code G	KC	99.39%	92.48%	96.03%	Code G	KC	100.00%	97.53%	98.87%	Code G	KC	99.43%	94.64%	97.13%	Code G	KC	99.80%			Code G	KC	99.75%			Code G	Industry Lab	100.00%	100.00%	100.00%	Code G	Industry Lab	100.00%	100.00%	100.00%	Code G	Industry Lab	100.00%	100.00%	100.00%	Code G	Industry Lab	100.00%			Code G	Industry Lab	100.00%			Code I	3rd Party Lab	100.00%	100.00%		Code I	3rd Party Lab	100.00%	100.00%		Code I	3rd Party Lab	100.00%	100.00%		Code I	3rd Party Lab	100.00%	100.00%		Code I	3rd Party Lab	100.00%	100.00%		Code I	KC	100.00%	100.00%	100.00%	Code I	KC	100.00%	100.00%	100.00%	Code I	KC	100.00%	100.00%	100.00%	Code I	KC	100.00%			Code I	KC	100.00%			Code I	Industry Lab	100.00%	100.00%	100.00%	Code I	Industry Lab	100.00%	100.00%	100.00%	Code I	Industry Lab	100.00%	100.00%	100.00%	Code I	Industry Lab	100.00%			Code I	Industry Lab	100.00%				
Code	Lab	PAS 3A % passing 6mm	PAS 3B % Passing 6mm	PAS 3C % Passing 6mm																																																																																																																																																																																																																																										
Code F	3rd Party Lab	70.15%	89.95%																																																																																																																																																																																																																																											
Code F	3rd Party Lab	71.01%	86.62%																																																																																																																																																																																																																																											
Code F	3rd Party Lab	71.14%	89.65%																																																																																																																																																																																																																																											
Code F	3rd Party Lab	65.63%	89.70%																																																																																																																																																																																																																																											
Code F	3rd Party Lab	70.85%	89.97%																																																																																																																																																																																																																																											
Code F	KC	72.10%	66.82%	95.14%																																																																																																																																																																																																																																										
Code F	KC	61.57%	66.33%	96.09%																																																																																																																																																																																																																																										
Code F	KC	75.56%	74.76%	93.77%																																																																																																																																																																																																																																										
Code F	KC	73.40%																																																																																																																																																																																																																																												
Code F	KC	79.79%																																																																																																																																																																																																																																												
Code F	Industry Lab	91.54%	74.49%	70.98%																																																																																																																																																																																																																																										
Code F	Industry Lab	93.39%	73.28%	80.82%																																																																																																																																																																																																																																										
Code F	Industry Lab	90.91%	72.34%	74.09%																																																																																																																																																																																																																																										
Code F	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code F	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code G	3rd Party Lab	99.99%	99.68%																																																																																																																																																																																																																																											
Code G	3rd Party Lab	99.96%	99.61%																																																																																																																																																																																																																																											
Code G	3rd Party Lab	99.93%	99.23%																																																																																																																																																																																																																																											
Code G	3rd Party Lab	99.96%	98.65%																																																																																																																																																																																																																																											
Code G	3rd Party Lab	99.80%	98.33%																																																																																																																																																																																																																																											
Code G	KC	99.39%	92.48%	96.03%																																																																																																																																																																																																																																										
Code G	KC	100.00%	97.53%	98.87%																																																																																																																																																																																																																																										
Code G	KC	99.43%	94.64%	97.13%																																																																																																																																																																																																																																										
Code G	KC	99.80%																																																																																																																																																																																																																																												
Code G	KC	99.75%																																																																																																																																																																																																																																												
Code G	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code G	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code G	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code G	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code G	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	3rd Party Lab	100.00%	100.00%																																																																																																																																																																																																																																											
Code I	KC	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	KC	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	KC	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	KC	100.00%																																																																																																																																																																																																																																												
Code I	KC	100.00%																																																																																																																																																																																																																																												
Code I	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	Industry Lab	100.00%	100.00%	100.00%																																																																																																																																																																																																																																										
Code I	Industry Lab	100.00%																																																																																																																																																																																																																																												
Code I	Industry Lab	100.00%																																																																																																																																																																																																																																												

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat																																																																																																																																																											
						<table border="1"> <thead> <tr> <th>Code</th> <th>Lab</th> <th>PAS 3A % passing 6mm</th> <th>PAS 3B % Passing 6mm</th> <th>PAS 3C % Passing 6mm</th> </tr> </thead> <tbody> <tr><td>Code S</td><td>3rd Party Lab</td><td>71.40%</td><td>87.62%</td><td></td></tr> <tr><td>Code S</td><td>3rd Party Lab</td><td>77.58%</td><td>90.21%</td><td></td></tr> <tr><td>Code S</td><td>3rd Party Lab</td><td>70.28%</td><td>91.11%</td><td></td></tr> <tr><td>Code S</td><td>3rd Party Lab</td><td>61.80%</td><td>81.92%</td><td></td></tr> <tr><td>Code S</td><td>3rd Party Lab</td><td>59.36%</td><td>86.29%</td><td></td></tr> <tr><td>Code S</td><td>KC</td><td>89.26%</td><td>63.72%</td><td>87.48%</td></tr> <tr><td>Code S</td><td>KC</td><td>90.30%</td><td>63.89%</td><td>85.89%</td></tr> <tr><td>Code S</td><td>KC</td><td>88.91%</td><td>69.81%</td><td>88.08%</td></tr> <tr><td>Code S</td><td>KC</td><td>88.88%</td><td></td><td></td></tr> <tr><td>Code S</td><td>KC</td><td>84.30%</td><td></td><td></td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>92.75%</td><td>82.40%</td><td>95.37%</td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>94.30%</td><td>89.07%</td><td>97.39%</td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>96.60%</td><td>84.89%</td><td>98.46%</td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>88.71%</td><td></td><td></td></tr> <tr><td>Code S</td><td>Industry Lab</td><td>89.58%</td><td></td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>76.44%</td><td>78.63%</td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>71.02%</td><td>77.54%</td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>69.34%</td><td>76.28%</td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>78.26%</td><td>66.78%</td><td></td></tr> <tr><td>Code W</td><td>3rd Party Lab</td><td>63.47%</td><td>77.58%</td><td></td></tr> <tr><td>Code W</td><td>KC</td><td>86.09%</td><td>53.99%</td><td>64.97%</td></tr> <tr><td>Code W</td><td>KC</td><td>84.71%</td><td>50.89%</td><td>65.15%</td></tr> <tr><td>Code W</td><td>KC</td><td>87.95%</td><td>56.41%</td><td>63.47%</td></tr> <tr><td>Code W</td><td>KC</td><td>85.81%</td><td></td><td></td></tr> <tr><td>Code W</td><td>KC</td><td>85.07%</td><td></td><td></td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>91.68%</td><td>78.53%</td><td>90.43%</td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>96.91%</td><td>77.85%</td><td>77.89%</td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>91.10%</td><td>74.47%</td><td>80.01%</td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>91.21%</td><td></td><td></td></tr> <tr><td>Code W</td><td>Industry Lab</td><td>89.39%</td><td></td><td></td></tr> </tbody> </table> <p>It was noted that for any given test, there was always one lab statistically different with the exception of Code I which produced 100% on all runs. This suggest that there are sources of variability in all 3 tests outside of the product manufacture at multiple sites (which was not studied) that needs to be understood</p> <p>A standard which uses Toilet Paper as a benchmark and fails to encompass toilet paper has missed its mark and needs to be</p>	Code	Lab	PAS 3A % passing 6mm	PAS 3B % Passing 6mm	PAS 3C % Passing 6mm	Code S	3rd Party Lab	71.40%	87.62%		Code S	3rd Party Lab	77.58%	90.21%		Code S	3rd Party Lab	70.28%	91.11%		Code S	3rd Party Lab	61.80%	81.92%		Code S	3rd Party Lab	59.36%	86.29%		Code S	KC	89.26%	63.72%	87.48%	Code S	KC	90.30%	63.89%	85.89%	Code S	KC	88.91%	69.81%	88.08%	Code S	KC	88.88%			Code S	KC	84.30%			Code S	Industry Lab	92.75%	82.40%	95.37%	Code S	Industry Lab	94.30%	89.07%	97.39%	Code S	Industry Lab	96.60%	84.89%	98.46%	Code S	Industry Lab	88.71%			Code S	Industry Lab	89.58%			Code W	3rd Party Lab	76.44%	78.63%		Code W	3rd Party Lab	71.02%	77.54%		Code W	3rd Party Lab	69.34%	76.28%		Code W	3rd Party Lab	78.26%	66.78%		Code W	3rd Party Lab	63.47%	77.58%		Code W	KC	86.09%	53.99%	64.97%	Code W	KC	84.71%	50.89%	65.15%	Code W	KC	87.95%	56.41%	63.47%	Code W	KC	85.81%			Code W	KC	85.07%			Code W	Industry Lab	91.68%	78.53%	90.43%	Code W	Industry Lab	96.91%	77.85%	77.89%	Code W	Industry Lab	91.10%	74.47%	80.01%	Code W	Industry Lab	91.21%			Code W	Industry Lab	89.39%				
Code	Lab	PAS 3A % passing 6mm	PAS 3B % Passing 6mm	PAS 3C % Passing 6mm																																																																																																																																																															
Code S	3rd Party Lab	71.40%	87.62%																																																																																																																																																																
Code S	3rd Party Lab	77.58%	90.21%																																																																																																																																																																
Code S	3rd Party Lab	70.28%	91.11%																																																																																																																																																																
Code S	3rd Party Lab	61.80%	81.92%																																																																																																																																																																
Code S	3rd Party Lab	59.36%	86.29%																																																																																																																																																																
Code S	KC	89.26%	63.72%	87.48%																																																																																																																																																															
Code S	KC	90.30%	63.89%	85.89%																																																																																																																																																															
Code S	KC	88.91%	69.81%	88.08%																																																																																																																																																															
Code S	KC	88.88%																																																																																																																																																																	
Code S	KC	84.30%																																																																																																																																																																	
Code S	Industry Lab	92.75%	82.40%	95.37%																																																																																																																																																															
Code S	Industry Lab	94.30%	89.07%	97.39%																																																																																																																																																															
Code S	Industry Lab	96.60%	84.89%	98.46%																																																																																																																																																															
Code S	Industry Lab	88.71%																																																																																																																																																																	
Code S	Industry Lab	89.58%																																																																																																																																																																	
Code W	3rd Party Lab	76.44%	78.63%																																																																																																																																																																
Code W	3rd Party Lab	71.02%	77.54%																																																																																																																																																																
Code W	3rd Party Lab	69.34%	76.28%																																																																																																																																																																
Code W	3rd Party Lab	78.26%	66.78%																																																																																																																																																																
Code W	3rd Party Lab	63.47%	77.58%																																																																																																																																																																
Code W	KC	86.09%	53.99%	64.97%																																																																																																																																																															
Code W	KC	84.71%	50.89%	65.15%																																																																																																																																																															
Code W	KC	87.95%	56.41%	63.47%																																																																																																																																																															
Code W	KC	85.81%																																																																																																																																																																	
Code W	KC	85.07%																																																																																																																																																																	
Code W	Industry Lab	91.68%	78.53%	90.43%																																																																																																																																																															
Code W	Industry Lab	96.91%	77.85%	77.89%																																																																																																																																																															
Code W	Industry Lab	91.10%	74.47%	80.01%																																																																																																																																																															
Code W	Industry Lab	91.21%																																																																																																																																																																	
Code W	Industry Lab	89.39%																																																																																																																																																																	

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						reconsidered.		
81	INDA	117-118			ED	Including words describing what these guidelines are not is inappropriate. Stick to the specific definition about infrastructure compatibility.	Rewrite.	Accepted
82	GP	117-122			Te	What is acceptable to wastewater services, as evidenced by the proposed tests, is significantly more stringent than what causes damage to conveyance pumps or screen clogs. Forensic analysis of pumps and screens indicate that nonwoven material that conforms to the current INDA Code of Practice (GD3) does not cause clogs in pumps and screens. IWSFG has not provided a compelling reason why these more stringent tests are necessary.	Thresholds in this Guideline should be revised to reflect levels where material causes damage to water treatments facilities.	See comment 81
83	NP	117-122	Purpose		Ge	Although document states “purpose is to not ban the production and/or use of these products,” it has been stated by Cynthia Finley and others that there are no flushable products on market that would meet this “standard.” There is evidence that many toilet papers would not meet this standard. However, recent evidence including the NYC 2016 forensic collection study, the Perry settlement and very recent work in UK clearly show flushable wipes are not source of clogs.	Please clarify.	See comment 81
84	AF&PA	118-121			Ge	If the goal of the standards is to “establish for manufacturers the limits of what is acceptable to wastewater services for discharge via toilets”, how can a single set of test criteria and limits be applicable to all wastewater infrastructures without recognition that infrastructures vary from municipality to municipality and region to region or country to country? The limits or criteria may be	Adjust test limits and criteria to geographical infrastructure	See comment 81

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						appropriate and applicable to one infrastructure, but overly restrictive to a wastewater transport and treatment infrastructure that has a different configuration.		
85	PG	119	2	Purpose	Te	<p>Vague. As defined, wastewater services refers to “services provided by wastewater utilities acting for the public good as a public service.” This implies acceptability to an entity or persons, and it is noted that the concept of what is acceptable to a person or group of persons can change over time or be biased by any number of factors, and is therefore an unscientific and inappropriate metric for establishing a testing framework.</p> <p>Note to Entry: Lines 200-201 provide a relevant example, where “what is acceptable to wastewater services” has changed with regard to flushability. In 2013, wastewater stakeholders, including members of the IWSFG, actively sought to prevent the use of the word “disintegration” in industry guidelines, instead actively lobbying for the inclusion of the term “dispersibility.” Yet, despite this previous position, IWSFG standard 1 contains the following language: “Note: The International Wastewater Services Flushability Group does not recognize euphemisms such as “dispersible.” This shift in what is “acceptable to wastewater services” clearly demonstrates why defining acceptability based on the opinion of a collective of individuals is inappropriate, as positions and opinions change over time.</p>	Provide specific data and related analyses describing how the “limits of what is acceptable to wastewater services” relate to compatibility with wastewater infrastructure.	Not accepted, no reference to PAS
86	PG	119	2	Purpose	Te	<p>Vague.</p> <p>Note to Entry: The IWSFG has provided no details regarding the process utilized to establish baseline performance. Specifically,</p>	<p>Remove reference to “wastewater services.”</p> <p>Revise to read: “limits of what is compatible with the wastewater system.”</p>	<p>See comment 81</p> <p>See comment 81</p> <p>Not accepted, no reference to</p>

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>no data regarding the performance of toilet paper in the PAS tests has been included in the documents available for public review. Further, no references to supporting documentation, test results, or other relevant substantiation demonstrating how and why toilet paper performance is required for infrastructure compatibility were provided for review. Provide reference to information that details how toilet paper performance, as measured via the PAS tests and correlated to operations and maintenance data for wastewater systems, is required to ensure compatibility with wastewater infrastructure. Without such documentation, IWSFG Standard 1 is a collection of unproven assumptions and untested hypotheses. As such, a thorough and complete review of the IWSFG Standard 1 cannot be conducted without access to relevant test results/data utilized to establish toilet paper as the benchmark in the IWSFG PAS tests.</p> <p>Note to Entry: Specifically with regards to the performance of toilet paper, the anecdotal performance of toilet paper is insufficient information for establishing a benchmark for testing. The assertion that “Since toilet papers historically have not caused clogging, or plugging, problems in wastewater systems” is vague and unsupported by any scientific data or reference, and therefore in unacceptable as the basis for establishing a benchmark for performance. Data establishing how toilet paper performance relates to infrastructure compatibility has not been provided, and as such, there is no evidence available to place toilet paper performance in context.</p> <p>Note to Entry: Provide details of benchmarking</p>	<p>Provide the scientific basis for the establishment of the “limits of what is acceptable” to wastewater infrastructure (the wastewater system, as defined in the IWSFG documents) based on laboratory results of the benchmark materials using the IWSFG PAS tests.</p>	<p>PAS</p>

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>conducted, specifically the methodology utilized. See definition from <i>ISO 17258:2015(E) Statistical methods — Six Sigma — Basic criteria underlying benchmarking for Six Sigma in organisations</i>; First edition; 2015-01-15 (emphasis added):</p> <p>“Benchmarking is frequently used in various domains in connection with business activities. The Six Sigma methodology requires an evaluation step using a benchmarking process. In other words, a method for the comparison of levels of quality, performance, and productivity with the state-of-the-art is required. This International Standard establishes what to compare and develops a methodology to conduct a correct comparison between an organization’s levels of quality, performance, and productivity.</p> <p>The numbers given by the benchmarking can be integrated into any improvement programme to quantify any progress. They can also be used by other assessment processes in the organization such as regulation compliancy or financial performance evaluation.</p> <p>Benchmarking is the whole process of collecting and processing data and information and comparing the results. The benchmark is the reference point for comparison.</p> <p>The main point of this benchmarking methodology, based on transparency and the universal principle of evaluation, is to give confidence to its calculating procedures and the results, so that comparisons between organizations are</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						accepted by all parties."		
87	KCC	119			ED	"Acceptable" must be grounded in data, and impact and not based on whim and personal favorites else we have an arbitrary 'standard' not grounded in science.		Not accepted, no reference to PAS
88	DPI	120 vs 132	2 &3		Ge	Wastewater 'transport'.... vs wastewater 'conveyance' Suggest using consistent terminology through out		Accepted
89	PG	121	2	Purpose	Te	The goal and/or purpose of the IWSFG, as contained in IWSFG Standard 1 is to (emphasis added): "...identify those products that do not meet these test standards ," implying that the PAS documents are "test standards."	Clarify the nature of the PAS documents as "test standards" or as "Publicly Available Specifications."	See comment 1
90	PG	123-124	2	Purpose	Te	This document is not a "Standard"	Revise to "guideline" or similar.	See comment 1
91	GHC	123-124	Purpose		TE	This paragraph needs clarification -As far as I am aware no regulations exist for labelling products as flushable. Manufacturers have cooperated in labelling non-flushable wipes as no flushable. In some jurisdictions regulation does exist to label non-flushable products as non-flushable.		Not accepted, no reference to PAS
92	GT	123 and 125	2.0		Te	The reference to "enforcing regulations" is ambiguous. The regulations being referred to are not identified, nor is it clear to whom they apply or by whom they are being enforced. The use of the term "will is also inappropriate . . . IWSFG may desire or request that products be labeled in a particular manner, but IWSFG cannot say that manufacturers "will" do anything.	In line 123, delete "or by enforcing regulations," and replace "will label" with "may label." In line 125, replace "will label" with "may label."	Accepted
92	GHC	127	Section 3		GE	Please clarify the scope of these guidelines. As is it is written it is far too broad Please think about the types of products that may be in a suitable form to submit to the documented test protocols	Edit the scope taking into account the types of test that are actually being proposed	Not accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
93	ANON2	127	Section 3		GE	Proposed specifications cover many nonflushable products including liquids that could not be evaluated by proposed methods.	Narrow the scope of this document to flushable wipes.	Not accepted
94	INDA	127	Section 3		GE	The scope of this document is unusually broad. There are many products that are designed to be flushed that are in no way appropriate for these guidelines. Examples include disinfecting and cleaning products (liquids and gels). A recommendation would be to tighten the scope of this document to include only those products that would be appropriate to test using these methodologies.	Refine the scope to include only those material systems that can actually be tested using these methodologies.	Not accepted
95	KCC	127-135	3. Scope		GE/ED	Very broad scope. Toilet paper is very clearly in scope and is cited as exemplar material throughout, it makes no sense to have Toilet Paper Manufacturers labelling packs of toilet paper as Flushable and some non flushable – this will cause even greater confusion for consumers.	Remove Toilet paper from scope	Not accepted
96	KCC	127-135	3. Scope		ED	Note: A product is considered to be flushable only if it has been tested to and certified by a third - party certifier as meeting the criteria set down in this standard.	Please provide a full list of all accredited third –party certifiers who have been trained and validated to run the IWSFG test methods. Please provide any interlab studies carried out to validate the different labs.	Not accepted, no reference to PAS
97	AF&PA	129	3		Ge	As currently written, the scope of the standard applies to “all products”, which would include tissue products. If the scope of previous efforts to establish flushable standards was intended to apply to wipes and non-woven products, and	Eliminate tissue products from the scope of the standard	Not accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						the intent of this standard development is to maintain that original scope, and not be applicable to tissue products, references to tissue products should be deleted to avoid confusion.		
98	PG	131-133	3	Scope	Te	Vague.	Clarify if toilet paper is included in the Scope	Accepted. Toilet paper is in scope. To be clarified.
99	GP	131-135			Te	The scope of this guideline would include toilet paper and would be considered to be flushable only if it has been tested to and certified by a third party. Toilet paper has been in common use in the United States for over 100 years without any evidence that it is causing clogs in water treatment systems. Toilet paper should be specifically excluded from these guidelines. Disintegration tests 3A, 3B, and 3C are so stringent that existing brands of toilet paper are at risk of not passing.	Toilet paper should be specifically excluded from this Guideline.	See comment 98
100	SGS-IPS	134			Ge	Who has performed these methods and who is the point of contact for issues with these methods?		Not accepted, no reference to PAS
101	NP	134-135	Third party certifier		Ge	Potential third party certifiers need to be defined. Who selects them, who certifies them, who certifies the test methods defined here.	Please provide additional, specific information regarding the certification process and how the third party labs will be	Not accepted, no reference to PAS
102	PG	134-135	3	Scope	Te	Incomplete. Vague.	Provide a list of all third-party ISO-accredited laboratories currently conducting the PAS tests.	Not accepted, no reference to PAS
103	PG	134-135	3	Scope	Te	Incomplete. Vague.	Provide a list of all third-party ISO-accredited laboratories that participated in the development of IWSFG Standard 1. Share summaries of relevant results from laboratory tests used to establish benchmark performance for the IWSFG	Not accepted, no reference to PAS

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
							Standard 1. Share testing to establish benchmarks for toilet paper, Japanese wipes and Spanish wipes.	
104	GT	134-135	3.0			<p>The note demanding third-party certification should be deleted. IWSFG has not established or identified any infrastructure that is available for the scientific and objective testing of products to these criteria, nor has it established, in a scientific or objective manner, the validity of the tests that it proposes. There have been no extensive or peer- reviewed studies, creating a meaningful and statistically significant data set, supporting any of the tests suggested by these criteria.</p> <p>Further, this demand is inconsistent with national and international standards norms. For example, the International Organization for Standardization (ISO), the primary international governing body for standardization, forbids the drafting of standards that mandate third-party certification or requiring any particular form of conformity assessment.</p> <p>Therefore, the demand for third-party certification is contrary to national and global standards policies, is not supported by the science or evidence, and has no infrastructure to implement it.</p>	Delete note.	Accepted.
105	GT	139-141	4.0		Te	ISO prohibits standards from requiring third party certification or any particular form of conformity assessment. Accordingly, even in ISO standards, the ISO documents on product conformity assessment are not “normative.”	Delete references to ISO 17026 and 17067.	Accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
106	PG	146	4	Normative References	Te	Incomplete. Vague.	<p>Provide a list of all third-party ISO-accredited laboratories that participated in the development of IWSFG Standard 1.</p> <p>Share summaries of relevant results from laboratory tests used to establish benchmark performance for the IWSFG Standard 1; in particular, testing to establish benchmarks for toilet paper, Japanese wipes and Spanish wipes.</p>	Not accepted, no reference to PAS
107	PG	146	4	Normative References	Te	Incomplete. Vague.	<p>Clarify if a second PAS-2A, entitled PAS-2A(UK) exists.</p> <p>If so, provide the document for public comment.</p>	<p>Not accepted, no reference to PAS</p> <p>Document does not exist. Incorrect reference which has been amended.</p>
108	LZ	154	4	Normative References	Te	<p>Test method TAPPI/ANSI T 401 om-15 is designed for analysis of papers and paperboards. This test is not used in the textile and nonwovens industries. Therefore there are no technical experiences with this test.</p> <p>Moist toilet tissues and wipes are made of nonwovens fabrics. Nonwovens fabrics are not defined as papers or paperboards. Any fiber analysis to identify the fibers in nonwovens fabrics have to be tested with the standard tests used in the fibers industries.</p> <p>Lenzing as a cellulosic fibers producer uses the following test to identify fibers in textile and nonwoven fabrics more than 30 years:</p> <p>P.-A. Koch – microscopy of fibers materials Fr. Stratmann – to detect and identify the fibers Materials Microscopy in theory and practice, part 5 – Swiss textile apparel and fashion school</p>	<p>Replace the TAPPI/ANSI T 401 om-15 test by the Following test:</p> <p>P.-A. Koch – microscopy of fibers materials Fr. Stratmann – to detect and identify the fibers Materials Microscopy in theory and practice, part 5 – Swiss textile apparel and fashion school</p>	Not accepted
109	PG	160-161	6.1	Critical	Te	Vague. Insufficient details regarding use of	Revise the language in Lines 160-161 to	Not accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
				Criteria		toilet paper for establishing benchmark performance as noted in Lines 105-107 of PAS-3A: "...the IWSFG has benchmarked its tests for flushability to toilet paper performance..."	clearly describe the process undertaken to benchmark the tests using toilet paper. Clarify if the purpose of the IWSFG Standard and associated PASs is to establish test methods for the evaluation of toilet paper.	See comment 98
110	PG	161	6.1	Critical Criteria	Te	Vague. As defined, "wastewater services" refers to "services provided by wastewater utilities acting for the public good as a public service."	Revise paragraph to focus on compatibility with wastewater infrastructure, or the "wastewater system" not "wastewater services."	Accepted
111	PG	168	6.1	Critical Criteria	Te	Vague. The IWSFG has neither the expertise nor the authority to set global criteria for the protection of human health.	Clarify if the term "health" refers to human health. Clarify by what means the IWSFG has the expertise or the authority to set global criteria for the protection of human health.	Accepted add 'public' before 'health' Not accepted, no reference to PAS
112	PG	168	6.1	Critical Criteria	Te	The IWSFG has neither the expertise nor the authority to set global criteria for environmental protection. Note that wastewater services are regulated by various authorities (the United States Environmental Protection Agency, for example) that set criteria for environmental protection. This is confirmed by the statement from the Lines 227-231, which reads: "Any product including any components thereof or substances (such as bonding agents and lotions) used within or on the product that are banned for environmental and human health reasons by the national legislation of a country where the product is to be marketed, is NOT FLUSHABLE by this standard."	Delete Related, delete PAS-1. If Lines 168 and PAS-2 are retained, clarify by what means the IWSFG has the expertise or the authority to set global criteria for the protection of the environment.	Not accepted
113	PG	175-176	6.1	Critical Criteria	Te	Contradictory. Section 6.2 states that only one of the disintegration tests must be passed. As such, the statement, "Failure to meet any of the critical criteria as shown in section 6.2	Revise to state that a product can fail to meet the critical criteria for two IWSFG PAS tests and still be recognized as flushable by IWSFG.	Accepted To be addressed by removal of duplication in PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						means that the product will not be recognized by wastewater services as being flushable...” is incorrect and misleading.		
114	GT	175-177	6.1		Te	The sentence states that products not meeting the IWSFG criteria “will not be recognized by wastewater services as being flushable” must be deleted. IWSFG has no jurisdiction over wastewater services, is not a regulatory body, and cannot direct any wastewater services entity as to what it can, or cannot, accept. Wastewater services entities, any stakeholder, and any member of the public, are free to ignore or take into account IWSFG’s criteria as they see fit. But IWSFG cannot impose obligations on anyone.	Delete 175 - 177	Partial acceptance, reword
115	KCC	179-182		Critical Characteristics	Te,Ge	Throughout all the IWSFG documents, toilet paper is consistently put forward as exemplar material. There is no mention that any toilet paper is a problem, and that it is the more recent advent of ‘wipes’ in particular which have created problems. Given that Toilet Paper is in scope it would be normal and appropriate that any toilet paper should pass this test with a safety factor of 2 or 3, to allow for variability. Simple screening of toilet papers from the USA shows a significant number which will not only fail all 3 disintegration tests, but will fail by a significant margin. A ‘standard’ which uses Toilet Paper as a benchmark and fails to encompass toilet paper has missed its mark and needs to be reconsidered.	All 3 disintegration tests need to be reconsidered and pass / fail criteria reset in order that any current toilet paper on US market today can pass with appropriate safety factor. See separate comment sheets	See comment 98
116	LZ	180	6.2	Critical Criteria to	Te	IWSFG is a guideline and the wording in the guideline needs to be adapted. Words such as	Change the word “must” to “should”. Change text to:	Accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
				be Met		"must" needs to be replaced by use of appropriate wording.	To be considered to be a flushable product, products should meet the acceptance criteria of the IWSFG PAS documents as follows...	
117	GHC	181	Section 6.2 Critical Criteria to be met		TE	Three distinct disintegration tests have been identified and any one of the three is mandatory. Are there any correlations between the three identified test methods? Has any comparative testing been undertaken?	Chose a single test method that has worldwide applicability.	Accepted
118	LZ	181	6.2	Critical Criteria to be Met	Te	What is the reason to add all 3 disintegration tests? Are there any similarities between the 3 disintegration tests?	Explain and show data for a few products tested by all 3 disintegration tests.	Not accepted, no reference to PAS
119	INDA	181	Section 6.2		TE	Regarding three different disintegration tests, has the IWSFG done any comparison studies to determine if there are correlations between the three methods? If an entity can use any of the three, then it must be assumed that there is a correlation and that each test is essentially measuring the same property.	Provide an assessment that shows a correlation between the three separate test methods. Otherwise, choose a single method and move forward with it. If it is the intent of the IWSFG to identify specific tests for different regions of the world, then that should be stated within the text along with the regions identified for each method.	Not accepted, no reference to PAS
120	ANON1	181	Section 6.2	Table	TE	Three different disintegration tests are proposed in this draft standard. The disintegration methods involve different "mechanical action", specimen size/liquid volume proportions, time duration etc. Since either of them can be used one would assume they will give comparable results. Do they?	Provide data showing the interrelationship between the 3 disintegration methods.	Not accepted, no reference to PAS
121	NP	182	Toilet and Drainline Clearance		Ge	It is unclear why a recommended but not mandatory test PAS 2C Snagging test is included in "standard."	Recommend removing PAS 2C.	Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
122	NP	182	Disintegration		Te	<p>It states that must pass any of the PAS (3A, 3B, or 3C). Do all tests reflect they hydraulic, mechanical and environmental conditions found in these systems? Do all three tests yield equivalent results? If not, a product must only pass one out of three tests.</p> <p>During recent discussion with Rob Villee, Cynthia Finley and others on DC flushable bill, Rob stated that all three of these methods were correlated to have the same results at the end of the test on a 6.3 mm sieve. To accomplish that, test duration periods were altered specifically on the slosh box time. The other point Rob confirmed is that 4 l, 13 rpm at 300 minutes with less than 1' pieces is equivalent to 4 l, 13 rpm, 2 hours with a 6.3 mm sieve.</p>	Please clarify and show correlation studies to support three options.	Not accepted, no reference to PAS
123	LZ	183 - 187	6.3	Conformity Assess- ment	Te	Who are the third party processes and laboratories? How is the certification process?	Explain the certification process and define laboratories to assess the products.	Not accepted, no reference to PAS
124	GHC	183-219	Sections 6.3 to 6.4.		GE	Please clarify what you mean by conformity assessment This section is ambiguous.		Not accepted, no reference to PAS
125	INDA	183-219	Sections 6.3 and 6.4.		GE	The process to be used for certification, outside of the need for an ISO accredited third party laboratory to do the testing, is unclear. Please provide more details including names and addresses of accredited laboratories, specific procedures required by these guidelines and the lab, timing between certifications, indications of change management protocols, etc.	In many other certification processes, there is a detailed protocol available to the laboratory and the product holder. That is lacking in this document.	Not accepted, no reference to PAS
126	ANON2	183-219	Sections 6.3 and		GE	No certification process defined for outside	Please provide a list of accredited labs.	Not accepted, no reference to

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
			6.4.			labs.		PAS
127	ANON2		6.4		GE	Requires labeling identifying 3rd party labs certifying conformance. Labs will likely not agree with this language.	Delete specification requiring identification of certifying lab. Adopt COP labeling requirements.	See comment 128 Agreed.
128	SGS-IPS	184	6.3		Te	Third party validation and ISO accreditation will take months to a year or more to complete, since accreditation is based on performing the methods as written. Methods all need to be validated and need either a round robin or a certified standard to determine interlaboratory variabilities and precision.		Noted
129	SGS-IPS	184	6.3		Ge	Has interlab variabilities with these methods been determined?		Not accepted, no reference to PAS
130	NP	184-187	6.3 Conformity		Ge	<p>Testing and certification to be conducted by third party process provided accredited according to ISO/IEC 17025.</p> <p>Attempts have been made to identify third party labs capable of conducting these test methods. We have been unable to identify any such lab at this time.</p> <p>At this time one third party lab that conducts flushability testing has concerns with some of the methods actually correlating to real life testing (beaker test, shaker flask test, snag test...).</p> <p>Given time and money, they feel they could execute the tests. They (their lab specifically) would need to have these new methods / processes certified by ISO (each test needs to be certified). The timing for them to be ISO</p>	Please identify which third party lab(s) are capable and certified to conduct such assessment.	Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						certified would likely be more than 1 year.		
131	PG	184-187	6.3	Conformity Assessment	Te	Clarify. IWSFG Standard 1 contains the following: "The conformity assessment and certification of flushable products shall be undertaken only by third party processes, provided by organizations accredited to ISO/IEC 17025:2005 <i>General requirements for the competence of testing and calibration laboratories.</i> "	Confirm that all testing conducted for the development of IWSFG Standard 1 was done by laboratories accredited to ISO/IEC 17025:2005.	Not accepted, no reference to PAS
132	PG	184-187	6.3	Conformity Assessment	Te	Clarify. IWSFG Standard 1 contains the following: "The conformity assessment and certification of flushable products shall be undertaken only by third party processes, provided by organizations accredited to ISO/IEC 17025:2005 <i>General requirements for the competence of testing and calibration laboratories.</i> "	Provide the results of all testing conducted for development of benchmarks for IWSFG Standard 1 done by laboratories accredited to ISO/IEC 17025:2005. Provide all details of all experiments to allow for independent verification of the benchmarking tests. This will facilitate testing to verify the reproducibility and reliability of the tests for evaluating toilet paper as a benchmark.	Not accepted, no reference to PAS
133	GT	184 – 187	6.3		Te	Delete. As noted above, it is contrary to national and international standards norms, including those established by ISO, to mandate any particular form of conformity assessment. Further, IWSFG has neither established nor identified a reliable and credible technical infrastructure for third party certification, nor has it supported the criteria that it proposes with scientifically valid and statistically meaningful data verifying these criteria.	Delete 6.3	Partially accepted. Add to equivalent to end
134	GT	189 – 201	6.4		Te	IWSFG has no factual basis for the statement that anyone has an "inherent marketing interest" to use the IWSFG logo. The IWSFG has an extremely limited membership of a few wastewater services trade associations, has no proven public or consumer recognition, and thus has no proven or credible marketing	Delete 6.4.1	See Comment 127. Addressed by adopting the INDA/EDANA Code of Practice for labelling.

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>value.</p> <p>For the reasons discussed above, requiring third party certification and labeling regarding third party certification is inappropriate and is counter to well-established national and international standards writing norms, including those of ISO, which prohibits mandating any particular form of conformity assessment.</p> <p>Lastly, given the scientific and factual uncertainty associated with the criteria established by IWSFG, implementing this provision could have an impact on liabilities. For example, what if products certified and labeled to the IWSFG criteria were nonetheless found to be susceptible to creating blockages?</p>		
135	SGS-IPS	198	6.4.1	2	Ed	We don't recommend this wording on behalf of the labs performing these methods. This type of certification, as well as name and logo use, will have legal and business implications. Therefore, the this should not be specified in these methods.	Remove from method.	See comment 134
136	SGS-IPS				Ge	Why is there not a municipal pump test method?		Not accepted, no reference to PAS
137	SGS-IPS				Ge	Why is the 6.3 mm sieve being used? While we have had little time to evaluate these methods, we have seen many bath tissues are unable to pass this criteria.	Insert 12.5mm sieve is methods.	Refer to PAS 3
138	NP	198-199	6.3 Conformity		Ge	<p>Flushable products are to be marked and labeled with certifier as conforming to this "standard."</p> <p>There are numerous risks associated with certifies making this statement. Have those been vetted out?</p>	Please identify which third party labs/certifiers are willing to have their name included on marketed flushable products.	Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
139	LZ	198-199	6.4.1	Conforming Products	Ge	IWSFG is not an ISO organisation. How can a product be certified?	Clarify or remove lines 198-199.	Not accepted, no reference to PAS
140	KCC	198-199			ED	Has IWSFG checked with all third party that they are prepared to accept liability for the claims?	Please provide a full list of all accredited third –party certifiers who have been trained and validated to run the IWSFG test methods.	Not accepted, no reference to PAS
141	KCC	200-201			GE	This note adds nothing to the document.	Delete	Accepted
142	INDA	200-201			GE	The meaning of this statement is unclear. Please elaborate.	I am unsure what the IWSFG believes “dispersible” is a euphemism for. Please be more clear in identifying the meaning and the intent of this statement.	See comment 141
143	INDA		Section 6.4.2		GE	Since there is no prescriptive requirement for labeling nonconforming products, the IWSFG must be aware that industry will be required to interpret the meaning of these statements.	Recommendation would be for the IWSFG to adopt the INDA/EDANA Code of Practice Edition 2 for labeling nonflushable products. This document has already been agreed to by NACWA, WEF, CWWA, APWA, INDA and EDANA and its members and is in place in Europe and NA.	See Comment 127. Addressed by adopting the INDA/EDANA Code of Practice for labelling.
144	INDA		Section 7		ED	Comments associated with the individual criteria for each test method will be made in that particular section.	Insure that any changes made within the individual test methods are reflected within this section.	Noted
145	LZ	200-201	6.4.1	Conforming Products	Ge	What does the sentence in the note describe? The meaning in unclear.	Please clarify it.	See comment 141
146	NP	201	6.3 Conformity		Ge	IWSFG states “euphemisms” such as “dispersible” are not recognized by this group. It is not clear what this statement is intending to state. In past experience with wastewater on TWG and GD4 drafting committee, wastewater wanted “flushable” replaced with “dispersible.”	Please clarify.	See comment 141
147	LZ	201-220	6.4.2	Non-Conforming Products	Ge	There is an INDA/EDANA Code of Practice guideline which was agreed between the nonwovens industries and water as well as	Replace it by the second version of INDA/EDANA Code of Practice published in April 2017.	See Comment 127. Addressed by adopting the INDA/EDANA Code of Practice for labelling.

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						waste water associations. We recommend using this guideline and stay with one language and guideline for the industries to avoid mistakes a misinterpretation.		
148	PG	200-201	6.4.1	Conforming Products	Te	Vague.	Confirm that all members of the IWSFG consider the term “disintegrate” to be the appropriate term to describe the process by which products break apart in a sewer, and do not recognize the term “disperse.”	See comment 141
149	GHC	203	Section 6.4.2		GE	The use of the word “shall” is generally associated with an approved “standard”. This document claims to provide “criteria for recognition as a flushable product”. The identification of Non-flushable products is not relevant to this document.	Perhaps the IWSFG should follow the lead of the INDA/EDANA Code of Practice Edition 2 for labeling non-flushable products. This is a harmonized guideline in both Europe and the USA. There is incidentally only 1 harmonized symbol	See Comment 127. Addressed by adopting the INDA/EDANA Code of Practice for labelling.
150	PG	203-204	6.4.2	Non-Conforming Products	Te	The IWSFG document is not a Standard, as the documents (IWSFG Standard 1 and the PASs) were not developed as part of a standards development process. As such, there is no conformance requirements, nor labeling requirements.	Delete “shall” and similar language. Revise to indicate that these are suggestions.	Accepted
151	GP	203-218			Ed	For products that are used in commercial environments (such as office buildings, schools, and restaurants), the user of the product will likely not have access to the sales packaging. Given that manufacturers no longer have custody of the product, it is not clear how consumers will be notified. Note that the goal of these guidelines, as stated in lines 117 - 126, is not to prohibit use of these products but rather to identify those that don't pass the tests.		Not accepted, no reference to PAS
152	GHC	218	Section 6.4.2		GE	If you do include non-flushable symbology within this guideline adopt the INDA EDANA DNF logo – it is already in use in the USA and the EMEA region.	Only show the INDA/EDANA DNF symbol and tidy man- other symbols will confuse a message. The tidy man is a positive reinforcement to dispose of non-flushable	Noted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
							materials appropriately within the municipal waste stream.	
153	FAD	218 – 219	6.4.2	Figure 1	Ge	The symbol with person and trash can is not a direct “Do Not Flush Symbol” and should not be encouraged to be used as stand alone Suggest removing it or allowing only in conjunction with a direct DNF symbol	Remove symbol of person and trash can	See comment 152
154	DPI	219	6.4.2 (3)	Figure 4	Ge	Not supported as the ‘do not flush’ message is not clear		Not accepted, no reference to PAS
155	LZ	226-231	7.1.1	Safety in the Environment and Human Health	Ge	What is the rationale for this statement?	Remove chapter 7.1.1.	Not accepted
156	GT	226-231	7.1.1		Te	7.1.1 should be deleted. If a substance is banned by applicable national legislation, then by definition no legal product on the market subject to that national legislation will contain it. Only an “illegal” product will contain banned substances, so it is meaningless to demand that a product that is already not in compliance with the law also carry a “not flushable” label. If a manufacturer insists on using banned substances in its products in clear non-compliance with the law, it is not likely that it will pay much attention to IWSFG criteria.	Delete 7.1.1	Not accepted
157	KCC	226-231			Te/Ge	This may be superfluous as written Manufacturers are bound by the regulations in the countries in which they sell and have responsibilities for the human and environmental safety of their products. Any product which fails to meet the current	Consider It is the responsibility of manufacturers to comply with all relevant and current legislation for environmental and human health for the countries where they sell.	Accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						regulatory requirements would not be sold.		
158	LZ	232-234	7.1.2	Plastics	Te	Definition for plastic is not related to any International Standards.	Find proper definition for plastics based on International Standards. One possibility is to use the terms and definition in ISO TC 61- Plastics.	Partially accepted reword
159	GT	232-234	7.1.2		Te	<p>concerns that have been raised about plastics in the marine environment. For example, synthetic materials can come from a wide range of domestic sources (e.g., laundry water from cleaning clothes containing synthetic fibres), consumer products (e.g., drinks containers, cosmetics), industrial products, etc.</p> <p>A recent report conducted for the European Commission states that 80% of the microplastics in marine environments come from land-based sources, and that the primary contributor from that source is “larger plastic litter, including everyday items such as drinks bottles and other types of plastic packaging.” Plastics In The Marine Environment, Eunomia (June 2016). That same report identified the major sources of “primary microplastics” (i.e., plastics that are in small particles at the outset rather than disintegrated large plastic litter) as being tire dust, plastic pellet spills (presumably the plastic pellets used in the manufacture of plastic products), textiles, building/road/marine paints and cosmetics (the last comprising approximately 3%).</p> <p>IWSFG has not presented credible evidence that the products within the scope of this document contribute in any meaningful manner to the plastics that are detected in the marine environment. Further, it completely ignores other known sources of</p>		Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>plastics in wastewater, such as plastic fibers from washing textiles; there is no suggestion that "plastics" should be banned from clothing.</p> <p>Lastly, this provision does not define what is meant by "plastics," nor does it establish any parameters for this "ban." To the extent that the authors had particular legislative or regulatory requirements in mind, such as prohibitions on "microbeads," it has not referred to those (though that is generally an issue associated with cleaning products and cosmetics, not the products within the scope of this document).</p>		
160	KCC	232-235	7.1.2		TE	<p>The term plastic is generic and used in this context is not correct.</p> <p>IUPAC (International Union of Pure and Applied Chemistry), provides more clarification around the term plastic and polymer. However since cellulose is also a polymeric material, an alternative word or phrase should be used. The definition that was developed in ISO TC224 WG10 could serve.</p>	An alternative word or phrase should be used.	See 158
161	KCC		7.1.3		Te/Ge	<p>20% is an arbitrary number. Why not 35%? Why is a 5% reduction every 2 years necessary?</p>	Please provide technical basis upon which IWSFG determined that an arbitrary level of 20% inclusion of regenerated cellulose was appropriate or technically possible for the manufacture of a viable flushable product for consumers that would meet the 'standard' as drafted?	Not accepted, no reference to PAS
162	KCC		7.1.3			<p>IWSFG deciding to have a moratorium on Regenerated Cellulose is premature and without any sound scientific basis which is shown in the reference [2] provided.</p> <p>Regenerated cellulose fibers readily degrade in both aerobic and anaerobic</p>	Delete section 7.1.3	Partial acceptance. Rewrite to show Regenerated Cellulose as future work for the IWSFG

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>wastewater, often at a faster rate than wood pulp fibers due to low crystallinity.</p> <p>Flushable wipes produced with regenerated cellulose are designed to sink and upon entering wastewater should be consumed in the treatment process. It is unlikely that free regenerated cellulose fibers will be release in effluent.</p> <p>If any regenerated cellulose fibers did leave in effluent we need to consider if they are toxic and persistent which is dealt with by reference [2] provided.</p> <p>In respect of the concern for “potential take up in the food chain” and Reference: [2] When Microplastic is Not Plastic: The Ingestion of Artificial Cellulose Fibres by Macrofauna Living in Seagrass Macrophytodetritus, Environmental Science and Technology, 2015, 49, 11158 - 11166, American Chemical Society.</p> <p>This paper observes that the regenerated cellulose fibers do not accumulate in the guts of the invertebrates.</p> <p>It also notes that “The observed viscose fibers thus do not seem to be transmitted from lower to higher trophic levels via predation.”</p> <p>And finally, the report states: “cellulose, even of artificial origin like viscose, is more digestible and degradable⁵² than plastic. Some marine invertebrates are known to be able to digest cellulose, and this could explain both the faster digestive transit of the fibers^{45–47} and the absence of accumulation. The small average amount of AFs found in the invertebrates’ gut contents also seems to favor this non accumulation or transmission.”</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						Clearly, this study supports both the biodegradation and lack of bioaccumulation of regenerated cellulose		
163	PG	233	7.1.2	Plastics	Te	Vague and undefined.	Define “plastic material”	See comment 158
164	PG	233	7.1.2	Plastics	Te	<p>Contradictory. IWSFG standard 1 provides no provisions for a product that contains a “plastic” the meets the critical criteria (Section 6.2) for all IWSFG tests.</p> <p>Note to Entry: From <i>PLA and PHA Biodegradation in the Marine Environment</i>; California Department of Resources Recycling and Recovery; March 2012 (emphasis added):</p> <p>“The California Department of Toxic Substances Control and California Department of Resources Recycling and Recovery (CalRecycle) initiated a research study with the California State University Chico Research Foundation to understand the biodegradation of polylactic acid (PLA) and polyhydroxyalkanoate (PHA) in the marine environment and to study any chemical intermediates that might be released during biodegradation.</p> <p>The research goals were to determine the fate and persistence of PLA and PHA bioplastics during biodegradation in the marine environment. Tests were conducted per American Society of Testing and Materials (ASTM) standards for biodegradation specification and test method in the marine environment. In this study, we evaluated the biodegradation of PHA and PLA plastic samples in a simulated marine environment and conducted several tests to identify any</p>	<p>Provide the rationale for declaring that a product that contains any “plastic” would not be suitable for flushing even if it meets the critical criteria for all IWSFG tests.</p> <p>Further, provide the rationale for not allowing any “plastic” that biodegrades at a rate equal to cellulose.</p>	Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>stable hazardous byproducts of biodegradation.</p> <p>ASTM standards require testing of plastic samples in a simulated marine environment for six months while at 30C. The specified temperature in the ASTM test method is warmer than representative ocean temperatures along the California coast. After six months of testing, results showed that 38 percent and 45 percent, respectively, of two PHA samples and 38 percent of cellulose sample (positive control) biodegraded into carbon dioxide. Only 3 percent of the PLA sample and 3 percent of polyethylene plastic bag (negative control) biodegraded into carbon dioxide.</p> <p>Although not required by ASTM, the biodegradation testing was extended from six months to 12 months in this study so we could understand the behavior of PHA and PLA after extended periods in ocean water. After 12 months, the biodegradation results show that 52 percent and 82 percent of two PHA samples and 52 percent of cellulose sample (positive control) biodegraded into carbon dioxide. Also, after 12 months of testing, 8 percent of the PLA sample and 6 percent of the low density polyethylene (LDPE) plastic bag (negative control) biodegraded into carbon dioxide. Neither PLA nor polyethylene claim to biodegrade in the marine environment. These two plastics were used for comparison with PHA marine biodegradable plastics.</p> <p>Thus, PHA samples biodegraded in a similar manner as cellulose in the marine environment and at a higher rate than PLA."</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						Note to Entry. It is acknowledged by the authors of the report that the temperature of the ASTM method exceeds that of ocean water in Southern California. This does not make the test or test result invalid. On the contrary, it is noted that all materials were tested at the same temperature, so that direct comparison of PLA and PHA to cellulose is possible despite the higher temperature.		
165	PG	233-234	7.1.2	Plastics	Te	Incomplete.	Provide an accepted amount of plastic that is not intentionally added to the product, recognizing the likelihood of contamination during sample acquisition and testing. Provide appropriate references.	Not accepted, no reference to PAS
166	PG	232-257	7.1.2 – 7.1.4	Plastics, Regenerat- ed Cellulose. and Other Materials	Te	The language contained in lines 227-231 represents the extent to which the IWSFG can address Safety in the Environment and Human Health; specifically, the IWSFG can point to existing national regulations.	Refer to any other information provided by the IWSFG regarding safety in the environment and human health as IWSFG's opinion or recommendation. If language is retained provide references. Refer comments below regarding Lines 238-254 regarding current references.	Not accepted, no reference to PAS
167	ANNA	235 (103)	7.1.3 (7.2.2)		Ge, Te	7.1.3,(7.2.2) [Regenerated Cellulose Fibers] Rayon is regenerated cellulose fibers made mainly from wood pulp. Therefore, it has a superior biodegradability, and easily decomposes by the bacteria on the ground and in the soil. Even in the event of incineration, it does not produce toxic gas. The rayon, grown as a plant and returned to nature, has not had a major impact on environmental pollution. It is highly safe and also has broadly been used, being acknowledged as eco-friendly recyclable fiber . Unlike plastic fiber or synthetic fiber such	Section of Standard-1(7.1.3) and PAS- 1(7.2.2) should be deleted.	See comment 162

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>as polyester or nylon fiber, rayon has been identified as a fiber equivalent to pulp in an academia.</p> <p>Hence, section Standard-1 7.1.3 and PAS-1 7.2.2 should be deleted to avoid restricting the use of regenerated cellulose fibers without sufficient scientific rational behind.</p> <p>Regenerated cellulose fibers should be treated equally to pulp in this guideline with following reasons</p> <p>(1) [Confusion between plastic and regenerated cellulose] Throughout this paper, regenerated cellulose has been treated the same as microplastic which is Refern as a potential cause to ruin aquatic food chain. Plastics and regenerated cellulose are completely different material from different origin, and various environmental properties such as biodegradability are also completely different. Regenerated cellulose should not be considered in the aposition with plastic.</p> <p>(2) [Pulp used for rayon and toilet paper] It has excellent biodegradability with minimal environmental effect to wastewater. The difference comes from the degree of refinement between pulp and rayon. Rayon has a higher degree of refinement than pulp, and it biodegrades more rapidly. We completely disagree to restrict regenerated cellulose while, allowing pulp to be contained in wastewater, as rayon biodegrades faster than pulp.</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>(3) [Biodegradability of Regenerated Cellulose Fibers (Rayon)] Regenerated cellulose fibers made from wood pulp have superior biodegradability than pulp which is used as papermaking material. This is because regenerated cellulose fibers have superior biodegradability with a short cellulose chain length, less crystalline, and contain less insoluble Impurities.</p> <p>(4) [Regenerated cellulose fibers (rayon) contain little insoluble substance] Rayon is made from pulp which has The highest purity among wood pulp. The rayon fiber is fiber refined from the cellulose of pulp and it contains very little amount of impurities. It contains less impurities and insoluble matter than toilet paper. Also, cellulose has never been identified as a substance that can be categorized as plastic even after refinement, even academically, ever since rayon was introduced.</p> <p>(5) [Non-toxicity of rayon fiber] No oral toxicity has been found in single dose oral toxicity tests on rats.</p> <p>(6) [Potential contamination from laundry wastewater] It seems that comments on laundry wastewater were made based on wrong interpretation; selectively targeted only rayon while the presence of other fibers</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>such as synthetic fiber are not clearly demonstrated, and microplastic, microfiber and regenerated cellulose are treated as equivalent.</p> <p>With above reasons, we disagree to prohibit the use of regenerated cellulose as substrate.</p>		
168	ANNA	235	7.1.3		Ge,Te	<p>Biodegradability of fibers should be addressed through PAS5A, 5B.</p> <p>If products can pass biodegradability test, why do we need to set restriction on use of Regenerated cellulose fibers?</p>	Delete	See comment 162
169	AF&PA	235-253	7.1.3		Ge	<p>It is inappropriate for a standard to arbitrarily determine that a product with a given content of regenerated cellulose fiber is NOT FLUSHABLE, or to mandate the use of these fibers in products must decrease by a predetermined amount over a specific timeframe. The standards should be limited to product performance, not product content. Regenerated cellulose is primarily used, as is referenced in the entry note, in textiles which are not designed to be flushed, but are washed as part of household laundry. Clothes washing is not within the scope or intent of the standards. This section should be removed.</p>	Section 7.1.3 should be deleted from the document.	See comment 162
170	ANON1	235-254	7.1.3		TE	<p>What is the reason for this criterion? If it can be proven that the regenerated cellulose passes the criteria in 6.2, why would it not be allowed? Why would it be restriction on the content?</p>	Clarification needed	See comment 162
171	ANON1		7.1-7.5		TE	<p>Clarify/align criteria 1-5 (lines 222-416) in accordance to comments given/submitted in respective PAS comment documents.</p>		Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
172	GHC	235-254	Section 7.13		ED	This section should be removed – there is no rationale to ban regenerated cellulose fibres- Natural cellulose fibres and regenerated cellulose fibres are chemically identical. There is a difference in crystal structure between natural cellulose (Cellulose I) and regenerated cellulose (Cellulose II)- however both crystal structures are biodegradable in all natural and manmade environments suitable for biodegradation – see Betchtold, T. Schimpe, Cr. (2010) Advances in Textile Biotechnology pp.312. Also, Park, C.H, Kang, Y.K(2004) Applied Polym Sci 94 pp.248-253	Delete section 7.13	See comment 162
173	LZ	235-254	7.1.3	Regenerated Cellulose Fibers	Te	There are no scientific facts to show non-biodegradability and negative impact of rayon on the environment. See details of comments in PAS 1 for chapter 7.2.2.	Remove chapter 7.1.3.	See comment 162
174	LZ		7.3. – 7.5.2.			Comments to these sections are prepared in separate documents.		Not accepted, no reference to PAS
175	PG	235-254	7.1.3	Regenerated Cellulose	Te	Unsupported. Laboratory test results (using both the INDA/EDANA FG-505A and OECD 301B tests) and field testing results for substrates containing regenerated cellulose have consistently demonstrated that regenerated cellulose degrades biologically at a rate similar to, and at times exceeding, the rate of the degradation of pulp fibers. This is further supported by references in the literature to the biological degradation of regenerated cellulose under various conditions. This evidence contradicts the entire premise of the IWSFG position on regenerated cellulose. Note to Entry: The presence of fibers assumed to be regenerated cellulose from field	Delete. If retained, provide the results of laboratory testing conducted by, or on behalf of the IWSFG that shows regenerated cellulose does not degrade biologically.	See comment 162

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>samples is not evidence that regenerated cellulose cannot be degraded biologically. Insufficient information regarding the fibers observed is available to make such a determination. Note that nearly all of the fibers recovered in published studies have been dyed various colors, indicating that the fibers, regardless of their composition, likely originated from clothing, and not from wipes of any kind.</p> <p>Note to Entry: There is no evidence that regenerated cellulose “is of increasing concern due to their potential take-up in the food chain” as noted in PAS-0. In fact, the Reference (#2) cited in PAS-0 to prove this point contains the exact opposite conclusions. Specifically, the following conclusions were reached by the authors of Reference #2 (and Reference #53 within Reference #2):</p> <ol style="list-style-type: none"> 1. The [viscose] fibers are quickly evacuated through normal digestion processes by the invertebrates. 2. The viscose fibers are not transmitted from lower to higher trophic levels. 3. Viscose fibers are digestible and degradable. This favors nonaccumulation or transmission 4. Viscose fibers have been shown to biodegrade under a range of tests and conditions. 5. Rayon fibers, which have a low crystallinity and a low degree of orientation, showed the highest biodegradability in most cases, compared to cotton, including in 		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
176	GT	235-254	7.1.3		Te	<p>an activated sewage sludge test.</p> <p>Delete.</p> <p>The document effectively concedes that the products within the scope of the document are not a material contributor of “microfibers” to the aquatic environment, identifying as originating primarily from washing clothes, IWSFG would nonetheless establish limitations on regenerated cellulose in these products and say nothing about clothes. Thus, IWSFG seeks to impose requirements to address a problem it knows from the outset are not caused by the products in scope.</p> <p>Further, it states, without reference to any facts, that “there is apparently no reason why flushable products cannot be produced with satisfactory qualities for use and with reduced levels of this material.” IWSFG does not have the expertise to opine on how flushable products can be manufactured, and has systematically and formally excluded manufacturers from the process of drafting this document.</p> <p>The criteria should be based on credible and scientifically valid evidence.</p>	Delete 7.1.3	See comment 162
177	NP	235-254	7.1.3 Regenerat -ed Cellulose Fibers		Te	<p>Where is the data to support 20% regen cellulose?</p> <p>Based on IWSFG reference “When Microplastic is Not Plastic: The Ingestion of Artificial Cellulose Fibres by Macrofauna Living in Seagrass” Macrophytodebris, Environmental Science and Technology, 2015, 49, 11158-11166, American Chemical Society, this reference directly</p>	Remove this criteria due to lack of scientific evidence for any such limitation on regenerated cellulose content.	See comment 162

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>contradicts statements in this section. This study concluded the following:</p> <ul style="list-style-type: none"> The fibers do not accumulate in the guts of the invertebrates The statement regarding take-up in the food chain, implying bioaccumulation, is proven false by the reference which states "The observed viscose fibers thus do not seem to be transmitted from lower to higher trophic levels via predation." Results of study support both the biodegradation and lack of bioaccumulation of regenerated cellulose <p>In addition, viscose fibers are known to degrade more rapidly (100% in 8 weeks) than cotton fibers, both by sunlight or in soil when buried. Direct comparison of degradation of viscose and cotton favors viscose under two different conditions. See Reference Park, C. H.; Kang, Y. K.; Im, S. S. Biodegradability of cellulose fabrics. J. Appl. Polym. Sci. 2004, 94, 248–253.</p> <p>"Rayon fibers, which have a low crystallinity and a low degree of orientation, showed the highest biodegradability in most cases." See Reference Tera, F. M.; Shady, K. E.; Hegazy, H. Sunlight exposure effects on the surface morphology of viscose rayon fabrics. J. Colouristical Rev. 987, 29, 80–83.</p>		
178	JCFA		7.1.3		Ge	Rayon fibre is a kind of regenerated cellulose fibre. Rayon fibres are made of dissolving pulp (refined pulp) and more biodegradable than	Delete "7.1.3 Regenerated Cellulose Fibres"	See comment 162

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						pulp raw material of Toilet Paper, 1) included less insoluble components of lignin and resin, etc., and 2) manufactured controlled (lowered) the degree of polymerization. We, Japan Chemical Fibers Association, are strongly opposed to "7.1.3 Regenerated Cellulose Fibres", which means to exclude the whole regenerated cellulose fibres without producing enough scientific evidence.		
179	GHC	255- 419	Section 7.14-7.52			I will review the individual sections of the "standard" rather than this "summary"		Not accepted
180	PG	256	7.1.4	Other materials	Te	Contradictory	Provide IWSFG's position on the use of minerals (including clay) in cosmetics and cleansers that go down the drain via the sink.	Not accepted, no reference to PAS
181	KCC	256-257			Te/Ge	All examples given are inert minerals. Why would inclusion of an inert material into a product be a reason for the product to be NOT FLUSHABLE If the real intent of this section is to control the sale of a 'flushable' pet litter then additional verbiage could then make the section make sense	Delete section 7.1.4 or provide clear example	Not accepted
182	KCC		7.2.1			See comments on regarding criteria sheet for PAS 2A		Not accepted, no reference to PAS
183	KCC		7.2.3		Te/Ge	Please explain how IWSFG has determined that 5% of dry mass left on a self-tapping screw at the end of this test is the difference between pass and fail	Provide field studies which substantiate this method and the criteria in the real world	To be amended based on PAS consolidation
184	KCC		7.3		Te/Ge	These criteria cannot be achieved with many US Dry Toilet Papers, the criteria and endpoint is not appropriate for scope and purpose of standard which uses toilet paper as the		To be amended based on PAS consolidation

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

IWSFG Template for Reviewer comments and IWSFG secretariat observations¹

Document reviewed: IWSFG Standard 1: 2017 - Criteria for recognition as a flushable product.


Due Date: 2017-09-01

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						benchmark		
185	KCC		7.3.1		Te/Ge	Criteria 1 is redundant	Delete 1, keep 2	To be amended based on PAS consolidation
186	KCC		7.3.2		Te/Ge	Criteria 1 is redundant	Delete 1, keep 2	To be amended based on PAS consolidation
187	KCC		7.3.3		Te/Ge	Criteria 1 is redundant	Delete 1, keep 2	To be amended based on PAS consolidation
188	GT	255-257	7.1.4		Te	Delete. This provision is a simple assertion. No evidence of any kind is presented to support it. Further, it does not discuss what issue or problem this prohibition is intended to solve. Further, it does not establish any parameters. E.g., what if a product contained 0.1% of these materials?	Delete 7.1.4	Not accepted
189	PG	261-270	7.2	Criteria Two: Toilet and Drain Line Clearance	Te	Contradictory	The acceptance criteria is contradicted in multiple locations within both PAS-2A and PAS-2B.	To be amended based on PAS consolidation
190	WSL NZ	265	7.2.1			Toilet Bowl Clearance: Suggest expanding the use of a plunger to cover any mechanical assistance i.e. "No test sequence required the use of a plunger or mechanical assistance ..."		Not accepted
191	PG	278-288	7.2.3	Drain Line clearance – Snagging	Te	PAS-2C was deemed inadequate for inclusion in IWSFG Standard 1.	Delete. If Lines 278-288 are retained, change the phrase from "To be acceptable" to "It is suggested."	To be amended based on PAS consolidation
192	NP	286	7.2.3 Drainline Clearance			It is unclear basis for basis and rationale for no more than 95% of initial mass criterion.	As this test is optional, test should be deleted.	To be amended based on PAS consolidation

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
			- Snagging			It has been shown through ISO work that many toilet papers will not pass this test.	If it is not deleted, please provide rationale for pass criterion.	
193	NP		Section 7			Additional comments for each test method can be found in those specific commenting templates.		Not accepted
194	PG	293-294	7.3	Criterion Three: Disintegration	Te	Contradicts Lines 175-177 from Section 6.1	Revise to read “a flushable product can fail two of the three disintegration tests and still qualify as a flushable product per the IWSFG.”	To be amended based on PAS consolidation
195	PG	290-354	7.3	Criterion Three: Disintegration	Te	Eliminate duplicate criteria for disintegration tests.	For all disintegration methods, select a single pass criteria.	To be amended based on PAS consolidation
196	PG	290-354	7.3	Criterion Three: Disintegration	Te	Proposed criteria lack appropriate justification and are unsupportable.	Delete.	To be amended based on PAS consolidation
197	NP	290-355	7.3 Criterion Three: Disintegration			Please see comments from line 182 above in this template.		To be amended based on PAS consolidation
198	PG	292-294	7.3	Criterion Three: Disintegration	Te	The PAS-3 series tests do not “set out... maximum fragment size.” Clarify the maximum fragment size proposed by IWSFG for disintegration. Attached below is a photograph of a one-ply toilet paper after 30 minutes in the PAS-3B sloss box test. Per PAS-3B, this sample was pre-conditioned and as such this photograph represents the condition of the toilet paper after being flushed through a toilet, transit through a 24-meter	Clarify or delete. If no maximum fragment size is provided, delete Lines 292-294. If this “maximum fragment size” differs from the 6.3mm endpoint required in the PAS test methods, provide an explanation, including the results of laboratory testing that were used to establish the relationship between “maximum fragment size” and the 6.3mm endpoint of the PAS-3 series tests. Provide the results of laboratory testing for all materials (including but not limited to toilet paper, wipes labeled as flushable and	Addressed in PAS 3

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>drainline, sitting in room temperature tap water for 15 minutes, and 30 minutes of agitation in room temperature tap water in the slosh box.</p>  <p>Note that based on the 1" x 1" grid drawn on the bottom of the slosh box there are a number of pieces of the substrate that have dimensions larger than 1" and are larger than 1" x 1" square.</p> <p>After 2 hours, the average percentage (n=3) of the initial dry weight of the sample passing the 6.3 millimeter sieve specified by PAS-3B was 79%.</p> <p>Therefore, based on the proposed PAS-3B acceptance criteria, this substrate (again, a</p>	<p>baby wipes) that were used to establish the relationship between "maximum fragment size" and the 6.3mm endpoint of the PAS-3 series tests.</p> <p>Based on testing using the PAS-3 series tests, the methods and the currently proposed acceptance criteria are inappropriate and require revision.</p> <p>Conduct an appropriate interlab testing program utilizing a range of products.</p> <p>Once complete, establish relationships between laboratory test method results and infrastructure compatibility issues experienced based on field studies and documented issues to determine appropriate test conditions and acceptance criteria.</p>	

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>single-ply toilet paper) would not be considered flushable in accordance with the IWSFG.</p> <p>In conclusion, based on the results of testing to evaluate the applicability of PAS-3B, the PAS-3B test should be withdrawn and critically reviewed before publishing for use.</p>		
199	PG	292-294	7.3	Criterion Three: Disintegration	Te	<p>Independent laboratory testing of multiple toilet paper samples was conducted at three laboratories to evaluate interlab variability of the proposed PAS-3 series tests.</p> <p>Five toilet papers were tested using the three PAS-3 series tests.</p> <p>Results:</p> <ol style="list-style-type: none"> Three of five toilet papers tested did not meet the acceptance criteria for all three PAS-3 series disintegration tests. Two of the three samples tested failed to meet the proposed acceptance criteria across all three laboratories, but did meet the acceptance criteria at one laboratory in one test. In summary, two substrates that failed to meet the proposed acceptance criteria for eight of nine tests conducted across three laboratories would, according to Section 7.3, be flushable. Put another way, two substrates that failed to meet the proposed acceptance criteria in 89% of tests conducted would meet the IWSFG criteria for dispersibility. 	<p>Based on an inter-lab evaluation of the PAS-3 series disintegration tests, the tests give inconsistent results across laboratories, and therefore are not suitable for publication as written- both the methods and the currently proposed acceptance criteria must be revised.</p> <p>Conduct an appropriate interlab testing program utilizing a range of products.</p> <p>Once complete, establish relationships between laboratory test method results and infrastructure compatibility issues experienced based on field studies and documented issues to determine appropriate test conditions and acceptance criteria.</p>	Not accepted, no reference to PAS

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
200	AFGC	299/300/308	7.3.1	1 & 2	Te	The screen size has been reduced from 12.5mm from the current INDA/EDANA Guidelines and question why this change has been made.	Revert to current 12.5mm	To be amended based on PAS consolidation
201	KCC	375-376	7.4		Te/Ge	Superfluous, covered in criteria 1 and 2	Delete	
202	KCC	382-385			Te/Ge	Definition of biodegradation not relevant or useful	Delete lines 382-385	Partially accepted, reword
203	KCC		7.5.1		Te/Ge	Criteria 1 is redundant	Delete 1, keep 2	To be amended based on PAS consolidation
204	KCC		7.5.2		Te/Ge	Criteria 1 is redundant	Delete 1, keep 2	To be amended based on PAS consolidation
205	PG	387-419	7.5.1, 7.5.2	Aerobic Biodisintegration Anaerobic Biodisintegration	Te	No evidence provided supporting replacement of the 1mm sieve with a 600-micron sieve for PAS-5A and PAS-5B for evaluation of products, in particular for establishing benchmark performance of toilet paper.	Provide reference to laboratory testing conducted by an ISO-accredited laboratory on behalf of the IWSFG, demonstrating evidence supporting selection of a 600-micron sieve.	Not accepted
206	AFGC	391,395	7.5.1	1 & 2	Te	Sieve size changed to 600 microns from 1mm in INDA/EDANA Guidelines and question why this change has been made.	Revert to current 1mm	Not accepted
207	PG	424-426		Bibliography	Te	Contradictory. Reference 2 of the Bibliography (When Microplastic is Not Plastic: The Ingestion of Artificial Cellulose Fibres by Macrofauna Living in Seagrass Macrophytodetritus, Environmental Science and Technology, 2015, 49, 11158-11166, American Chemical Society) contains the following conclusions, contradicting the IWSFG position on regenerated cellulose: 1. The fibers are quickly evacuated through normal digestion processes by the invertebrates. "Vagile P. oceanica litter	Delete reference. If retained, modify text to reflect conclusions drawn in Reference #2 and associated references therein.	To be amended based on PAS consolidation

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>macroinvertebrates show no significant seasonal, spatial, or color trends in the ingestion of viscose fibers. Even though 27% of sampled organisms contained 1 or more artificial fibers, the average amount of artificial fibers in each individual digestive tract was small (1.38 fiber) which is relatively low and could therefore indicate the small retention time of these fibers in the guts of the sampled invertebrates."</p> <p>2. The viscose fibers are not transmitted from lower to higher trophic levels. "It has recently been demonstrated by in vitro studies that microplastics can be transferred in invertebrates from one trophic level to another.^{50,51} Plastics can be translocated to consumer tissues and then be transmitted to the predator or directly be transmitted from the consumer's digestive tract to the predator's digestive tract.⁵¹ The observed viscose fibers thus do not seem to be transmitted from lower to higher trophic levels via predation."</p> <p>3. Viscose fibers are digestible and degradable. This favors nonaccuulation or transmission. "One of the main possible explanations could be related to the lower retention time of the nonplastic observed fibers here in the gut. Indeed, cellulose, even of artificial origin like viscose, is more digestible and degradable⁵² than plastic. Some marine invertebrates are known to be able to digest cellulose, and this could explain both the faster digestive</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>transit of the fibers⁴⁵⁻⁴⁷ and the absence of accumulation. The small average amount of AFs found in the invertebrates' gut contents also seems to favor this nonaccumulation or transmission.”</p> <p>4. Viscose fibers have been shown to biodegrade under a range of tests and conditions. “In addition, viscose fibers are known to degrade more rapidly (100% in 8 weeks) than cotton fibers, both by sunlight or in soil when buried.⁵²⁻⁵⁴”</p> <p>Lines 424-426. Contradictory. Further, Reference #53 (Park, C. H.; Kang, Y. K.; Im, S. S. Biodegradability of cellulose fabrics. J. Appl. Polym. Sci. 2004, 94, 248-253), which is referenced within Reference 2 of the Bibliography (When Microplastic is Not Plastic: The Ingestion of Artificial Cellulose Fibres by Macrofauna Living in Seagrass Macrophytodetritus, Environmental Science and Technology, 2015, 49, 11158-11166, American Chemical Society) contains the following conclusions, contradicting the IWSFG position on regenerated cellulose:</p> <p>1. Conclusion: “Rayon fibers, which have a low crystallinity and a low degree of orientation, showed the highest biodegradability in most cases” compared to cotton, including in an activated sewage sludge test. “ABSTRACT: Biodegradability of cellulose fabrics was evaluated by use of a soil burial test, an activated sewage sludge test, and an enzyme hydrolysis. Surface</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
						<p>changes after biodegradation were observed by optical microscopy. From X-ray diffraction analysis (XRD), changes in the crystallinities and the internal structures as a result of degradation were also investigated. It was shown that biodegradability decreased in the following order: rayon > cotton >> acetate. Rayon fibers, which have a low crystallinity and a low degree of orientation, showed the highest biodegradability in most cases. However, in spite of its low crystallinity, acetate fibers exhibited very low biodegradability, probably because of the presence of hydrophobic groups in its structure. On the other hand, linen showed an inconsistent behavior in that it had the highest biodegradability in the soil burial test, but a lower biodegradability than that of cotton in the activated sewage sludge test. XRD analysis revealed that there was a slight increase in the crystallinity of linen, cotton, and rayon fabrics at the initial stage, but a continuous decrease thereafter. From the correlation analysis, it was revealed that the biodegradability of cellulose fabrics was closely related to the moisture regain of the fibers, which reflects the hydrophilicity and internal structure of the fibers at the same time."</p>		

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

IWSFG Template for Reviewer comments and IWSFG secretariat observations¹

Document reviewed: IWSFG Standard 1: 2017 - Criteria for recognition as a flushable product.

Due Date: 2017-09-01

Comment Number	Initials ²	Line Number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table (e.g. Table 1)	Type of comment ³	Comments	Proposed change	Observations of the secretariat
208	KCC	432			ED	[5] not in body text. Superfluous	Delete [5]	Accepted
209	PG	436-440		Bibliography	Ge	References not cited in the document.	Delete. If the references are retained, provide proper citations within the text.	Not accepted

1. Adapted from the ISO/IEC Commenting template. 2. See key on final page 3. Te = Technical, Ge = General, Ed=Editorial

Initials for Public Comments

AFGC – Australian Food & Grocery Council
AF&PA – American Forest & Paper Association
ANNA – All Nippon Nonwovens Association
ANON1 – Anonymous commenter #1
ANON2 – Anonymous commenter #2
CCWES – Clackamas County Water Environment Services
CG – City of Gresham
CO – City of Olympia
CWS – Clean Water Services
DPI – DPI Water
EDANA – EDANA
FAD – City of Vancouver
FCPC – Food and Consumer Products of Canada
GHC – GammaHealthcare Ltd.
GIL – Grasim Industries Ltd.
GP – Georgia-Pacific Consumer Products
GT – GreenbergTraurig
INDA – INDA, Association of the Nonwoven Fabrics Industry
JCFA – Japan Chemical Fibers Association
JHI – Jacob Holm Industries
JHPIA – Japan Hygiene Products Industry Association
KCC – Kimberly-Clark Corporation
KFG – Kelheim Fibres GmbH
LZ – Lenzing Aktiengesellschaft
MW – Midcoast Water
NP – NicePak Products, Inc.
NYC – New York City Department of Environmental Protection
PG – Procter & Gamble
SGS-IPS – SGS – IPS Testing
SUO – Suominen
WC – Water Corporation
WSL NZ – Watercare Services Ltd, New Zealand