Flushable or Not? Dispersing the Non-Dispersible Problem
WEF Webcast, June 19, 2013

http://www.wef.org/FlushableorNot/

Additional Information

This WEF webcast addresses the concept of disposable consumer products that often end up in wastewater collection systems and, ultimately, at treatment plants. The four presenters primarily discuss two major categories of products: 1) baby wipes, and 2) “flushable” wipes. These are both subsets of the large personal care wipe market.

Baby wipes are large and thick, do not disperse like toilet paper, and are not intended to be flushed. Because they’re marketed completely separately from “flushable” and other personal wipes, they do not bear a “Do Not Flush” logo. However, 40% of baby wipes are purchased by adults for their own use at home, and are often flushed because of the “ick” factor. These products are regularly found in pump and equipment clogs.

“Flushable” wipes tend to be smaller and thinner than baby wipes, and are specifically labeled and marketed to consumers as being flushable. However, there is no industry-wide standard for how these products are manufactured, tested, labeled/package, or marketed. The presenters often put this term in quotes because while these products may fit down a toilet, many of them do not disperse like toilet paper (despite manufacturer claims) and are not truly flushable. These products are also regularly found in pump and equipment clogs.

Other products in the marketplace - such as surface cleaning wipes, hand wipes, and medical wipes - are also discussed in this webcast. Most of these are not marketed as flushable, do not disperse like toilet paper, and should NOT be flushed. Issues with these products include a hybrid of the concerns with both baby wipes and “flushable” wipes.

Presenters often use the term “non-dispersible” for all of these products to highlight that fact that none of them disperse like toilet paper.

As you listen to this webcast, keep in mind the differences in manufacturing, marketing, and end-use between these categories of products as the presenters summarize outreach, testing, and legislative efforts to address the overall issue.

Responses to Unanswered Questions

1) Q: Attempts at legislative solutions now face corporate lobbies that are more powerful policy making machines than ever.
   AUBREY: Yes, CA, NJ and Maine all saw an active lobbying effort from the manufacturers in responding to legislative efforts.
2) Q: Was there a correlation made on the percentages of unflushables with the wastewater flow rate?  
A: FRANK: In Vancouver (Washington) we have not yet been able to make a correlation between wastewater flow rates vs. breakdown. On a related note regarding distance / time in the sewer, we did not see signs of breakdown of "flushable" wipes at distance 1000 ft. vs. 5000 ft.  
AUBREY: While not related to Frank's portion of the presentation, yes, we saw different product breakdowns by flow rates in the Portland (Maine) combined system we tested. When we tried to mimic a "first flush", we saw more products (in general) and more feminine hygiene products (specifically), which had settled in flat sections of the collection system.

3) Q: Are tissues flushable or dispersible?  
A: NICK: Tissues are flushable but not dispersible. Tissues have chemical agents added to them to increase their wet strength. These agents prevent tissues from dispersing like toilet paper once flushed. Some of the tissue boxes are also not labeled to provide proper disposal information for the consumer.

4) Q: Do tissues cause problems in the systems?  
A: NICK: Yes, they settle in the gravity sewer and cause added debris that increases maintenance needs.

5) Q: Can I post this in my LinkedIn group specific to wastewater plant superintendents and chief operators?  
A: AUBREY: Please share the information and resources in this webcast with anyone that can benefit. Our coast-to-coast team is considering starting a LinkedIn Group for Non-Dispersibles.

6) Q: Can you quantify what "Personal Hygiene" products consists of in the side with the % of different products flushed? I.E. combs, shampoo bottles...it was a large proportion of the flushed profile.  
A: AUBREY: Slide #65 (in my presentation) showed the results of the Moraga Pump Station study in California. I went back to that report and found that the term "Personal Hygiene" in that specific study was defined as "baby wipes, facial wipes, strong nonwoven articles with a sheet size of 6" x 8", and baby/toddler embossed patterns". Product categories may be defined or organized differently in various studies and reports.

7) Q: Did they use different brands of wipes?  
A: FRANK: In the Vancouver tests, we used a limited number of brands. One brand of wipes labeled as "Flushable" (Kirkland), and one brand of baby wipes (Pampers) that had the "Do Not Flush" logo on it. Vancouver will conduct further tests with other brands.

8) Q: Where can I obtain t-shirts and hats and other 'What2flush' items?  
A: NICK: Contact Cheryl at OCSD's Public Affairs office by email at cscott@ocsd.com

9) Q: Do you have any experience with these items never making it to the WPCF but clogging pipes?  
A: AUBREY: The goal of this webcast was to share the experiences from around the country of materials that don't make it to wastewater plants, but DO get caught in pipes and pumps, and to discuss the various reasons why this happens.
10) Q: Don't the pumps just pass on the problem to further down the treatment system?  
A: AUBREY: Grinder/chopper pumps and inline grinders can be great solutions. It is definitely important to consider the impact on downstream pump stations, the treatment plant headworks, and sludge reuse when considering any solution.  
HIRAM: DC Water is considering the additions of screens before the biosolids treatment to ensure that they are able to keep rags out and meet the requirements for Class A product.

11) Q: For the percentage data, is it by weight? Or by volume? Maybe the question should be is it by surface area?  
A: AUBREY: For the Portland (Maine) forensics studies, the percentage was by number (count) of products, not by weight or volume, since the product size varies widely.

12) Q: Say that all the discussed materials do pass the screening and the pumping systems, what is the impact of these materials on the various treatment systems? Are they degradable or end up as undegradable solids that need to be removed with the sludge?  
A: AUBREY: INDA's Flushability Guidelines have historically assumed that all products marketed as "flushable" will make it to the wastewater treatment plants. Their assumptions are that the products will be removed and landfilled. Most of these products are not degradable in typical activated sludge processes.

13) Q: We recently installed a newly factory rebuilt JWC channel monster...still having rag issues, what should we look at next? (unmanned PS)  
A: ALECE: There are a number of different cutter styles and arrangements that can be tried. JWC wants to make it work for you. Contact your local JWC representative or JWC project manager to talk about the cutter options that might be appropriate.

14) Q: How about disposable toilet seat covers? Do they disperse or do they cause a problem?  
A: NICK: They disperse and don't cause problems.

15) Q: How do we get permission to use the logo?  
A: NICK: At this time ask Cheryl at cscott@ocsd.com.

16) Q: Have you ever come across nonwoven rags in the shape of 2-4 inches wide X 18-24 inches long? If so do you know who might be using such rags?  
A: The group was not familiar with this product.

17) Q: I have approximately 15 samples of the same Size and Shape.  
A: AUBREY: Patrick, please send me an email at aubrey@verdantwater.com. We're getting reports of something similar in some CA pump stations.

18) Q: I understand there is a national "Wipes Clog Pipes" campaign. Can you tell us more about it?  
A: AUBREY: Water quality associations around the country are developing a national strategy about how to deal with the range of products discussed in today's webcast, from baby wipes to "flushable" products, and the variety of products being developed that are likely to be disposed of in a toilet. Groups at the table include WEF, the American Public Works Association (APWA), and the National Association of Clean Water Agencies (NACWA), the utilities and associations on this webcast, and many others. The phrase "Wipes Clog Pipes" is used by lots of communities.
and utilities around the country in different ways, because it's memorable. I'm not aware of a specific national "Wipes Clog Pipes" campaign, though.

CHRISTINE: There is no national “Wipes Clog Pipes” campaign in the works, at least from WEF’s end. However, WEF does have a bill stuffer (available to utilities) titled “It’s a Toilet, Not a Trashcan!” . It is not specific to just wipes.

19) Q: In the de-ragging study, what was the period of time between study start and the need to de-rag?
A: FRANK: For Vancouver, we had three large pump stations that had pumps clogged within 24 hours (daily flows 3 MGD, 1 MGD, 1 MGD). The PS’s had multiple, backup pumps. Need to de-rag at these stations was 3 times weekly. Smaller pump stations (all of them, 36 in the city) require de-ragging anytime from weekly to monthly.

20) Q: INDA /EDANA announced today a Code of Practice for makers of non-flushable wipes, to put "Do Not Flush" on the package, which they say will eliminate 90% of the problem if adopted.
A: AUBREY: The INDA Code of Practice is a step in the right direction, but INDA did not involve the water quality associations in the development of the definitions or testing methods. This Code of Practice applies only to INDA members and is voluntary even for INDA members. The water quality associations have provided formal comments to INDA on our disagreements with the Code of Practice and testing procedures, and will continue to engage the manufacturers to improve this process.

21) Q: Is baby wipes being used as a generic term referring to similar items such as flushable wet wipes or flush brush toilet cleaner?
A: AUBREY: No, baby wipes, "flushable" wipes, and "flushable" products are in very different categories. Baby wipes should not be flushed for they are larger and thicker than "flushable" wipes, and are not designed to break down at all. Toilet bowl cleaner heads should also not be flushed. With respect to "flushable" wipes, the water quality associations do not agree with the definition of "flushable" developed by INDA and the product manufacturers. The reason we use the term "non-dispersible" is because while the products may fit down the toilet, they do not disperse like toilet paper.

22) Q: If these products go to the trash, what is the impact to the landfill? Do these products ever break down?
A: AUBREY: It's not clear how quickly these products would break down in a landfill, and it probably varies by product type. Baby wipes, for example, are large and thick, and may decompose slowly. Wipes marketed as "flushable" that use a water-based binder might decompose more quickly.

23) Q: Is research being done on improving flushable wipes to change the types of materials being used?
A: AUBREY: Yes, many manufacturers have spent a lot of money on research and development to create new binders and substrates that do break down quickly in water. This is the ultimate goal: that products labeled as "flushable" do truly break down as quickly as toilet paper. We encourage these developments and want to make sure that we don't penalize this progress.
24) Q: Is this information being shared with the wipe manufacturers to improve their products or advertising?
   A: AUBREY: Yes, many of the people on this webcast and at the water quality associations communicate with INDA on a daily basis, and we definitely share the results of our pilots and surveys with them.

25) Q: Does temperature have an impact on the degradation of toilet paper or flushable wipes? It appears that most of the work done so far has been in temperate or warm climates vs. cold weather research.
   A: NICK: Research so far has been done in Maine, California and Washington which are warm and cool water regions. We don't see temperature as a factor as yet. We also believe that the INDA/EDANA voluntary tests are done with room temperature water.

26) Q: It is my understanding that INDA rolled out Edition 3 of their Flushability Guidance Document at their World of Wipes conference this week – what input has the wastewater industry had in Edition 3 and do we agree with it?
   A: AUBREY: The water quality associations had been invited by INDA to do a peer-review of this document before it was "rolled out". However, that opportunity did not materialize. We've been told we'll have a chance to peer review the next Edition, due out in 2016 or thereabouts. The water quality associations did send formal comments to INDA on the newest Flushability Guidance document. In general, while some things have improved, there are many fundamental disagreements. The water quality association does not endorse the 3rd Edition.

27) Q: We also did it by piles in the 2nd test at Maine which reduced the number of Feminine Hygiene products and paper.
   A: AUBREY: Yes, the Standard Operating Procedure (SOP) developed by Maine WasteWater Control Association to get an understanding of the percentage of materials in pump clogs around the country asks the operator to use the pile approach. For example, 50% "flushable" wipes, and 25% feminine hygiene products = represents 100% of materials in the clog.

28) Q: Have you been able to measure the impact of your What 2 Flush campaign (costs before and after the campaign)?
   A: NICK: Not as yet. But in discussions with homeowners, those that do flush wipes admitted to plumbing problems and told us they would not flush them now and thanked us.

29) Q: Other than the setups at events for your outreach program, are you utilizing any media means of educating the public?
   A: AUBREY: The Portland (Maine) Water District has organized events for coverage by local TV stations. For example, several TV stations had camera crews in the pump station where we did our forensic studies, filming the operator as he took apart a clogged pump and removed piles and piles of wipes from it. Many members of our state member association have written articles in their local papers, coordinated interviews with newspapers, done website outreach, and created bill stuffers to their users.
30) Q: Why do the companies making these products not utilize water soluble polymers such as Poly Vinyl Alcohol or Poly Acrylamide?
   A: AUBREY: The technology to make "flushable" wipes truly disperse does exist, and more and more manufacturers are investing in this R&D. However, this will likely increase the cost of the product (at least initially). This is a rapidly-growing market, and the manufacturers are strongly concerned about losing sales. To be successful, we have to acknowledge that and encourage R&D, not penalize it.

31) Q: There have been cities that have considered or have passed city ordinance banning the use of plastic grocery bags. Maybe the same can be applied to wipes.
   A: AUBREY: Yes, some communities are considering this approach.

32) Q: Due to the numbers of babies born, do you know if hospitals have specific means of disposal for wipes used in the nurseries?
   A: AUBREY: Hospitals and new parents are recipients of outreach efforts from some of our team members. Different brands of baby wipes have different disposal instructions, so it would be challenging for the hospitals or even states to each tackle this on their own, which is why we believe the packaging should be clear and consistent. Our Maine education pilot campaign will have a "Don't Flush Baby Wipes" message.

33) Q: Our facilities are experiencing more problems with clogs in sewer system and actual screen blinding during wet weather events, has DC seen similar problems?
   A: HIRAM: DC Water definitely has a problem with blinding of the screens with or without rain events. The Blue Plains Plant has micro screens and the rags have to be cut out at least twice per week. The Director of Maintenance collects the cost to remove the rags and will send me his costs over the past year. With daily flows in excess of 300 mgd, they are bound to be significant.

34) Q: Percentages are by weight?
   A: AUBREY: In the Portland, Maine forensics examples, the percentages are by number of items (not by weight or volume), due to the significant difference in the size of baby wipes (large) and "flushable" wipes (small).

35) Q: Check with the hospitals - could be a product marketed for surgery or wound care.
   A: FRANK: Yes. Seek out a hospital's facilities manager. The person will likely have had experience with clogs in their own facility. Partner with them to educate / set policies for the hospital. (We did this in Vancouver.)

36) Q: Should we not be working with the various manufacturers on these products, educating the end user that these products are really not flushable, and hold them responsible with the various SSOs because they are labeled flushable.
   A: AUBREY: Yes. You'll see in other answers that the water quality associations are communicating with INDA on a near-daily basis to encourage consistency and transparency in testing, and consistency and accuracy in labeling and marketing. This applies to both baby wipes and "flushable" wipes.
37) Q: Should we not consider engineering controls in tandem with legislative efforts?
   A: AUBREY: In reality, yes. However, the water quality associations know that collection system
   maintenance is already underfunded, at best. We don’t feel that it’s fair for municipalities and
   utilities to bear the full burden of the cost of technology upgrades for a problem that’s at least
   mostly preventable by using clear, consistent labeling and outreach.

38) Q: Have any local governments prohibited the flushing of disposable wipes under local law?
   A: AUBREY: Check out my slide on Sewer Use Ordinances. This prohibition is almost always
   included in an SUO, but enforcement is the challenge. I’m not aware of local prohibitions
   beyond that, and the manufacturers would definitely object to such a proposal because it would
   limit sales in that community and make product distribution a challenge.

39) Q: What bar spacing is used in the screens at Portland, how much did it reduce pump de-
   clogging, and is the continued clogging due to items passing through the screens or screens
   bypassing?
   A: AUBREY: The screen (0.5 inch) at the PWD pump station was installed to intercept materials
   before they enter the pumps. It has been successful at preventing clogs.

40) Q: What are the rest of the percentages in the Maine LD 781 pie chart? I.e. pink and light blue.
   A: AUBREY: Pink = medical wipes (4%); green = household wipes (4%); orange = cosmetic wipes
   (2%); light blue = hand, face, and body wipes (2%).

41) Q: What are potential alternatives to these hardy "flushable" yet non-degradable wipes?
   A: AUBREY: Please continue to use whatever wipes work best for your needs - just don’t flush
   them! Put them in the trash. Let’s get the manufacturer to either meet a "truly dispersible"
   standard (not guideline!) that the water quality associations can support, or put a standard "Do
   Not Flush" logo prominently and permanently on the product.

42) Q: Has there ever been thought to having wipes manufacturers pay for pumping stations
   upgrades through some sort of tax?
   A: AUBREY: Yes, see my slide on National approaches. One federal bill that may be re-issued
   proposes a fee on these products, to be dedicated to the Clean Water SRF and similar programs.
   Some municipalities have tried this, but it can be a difficult sell in the "no new taxes" political
   climate in many areas.

43) Q: Would installing macerating/chopper pumps improve ragging/clogging issues?
   A: FRANK: Yes, in some applications. I would look closely at locations and other factors. Even
   macerated or chopped materials can "re-tangle" and form ropes and masses that could clog
   downstream pipes, especially smaller pipes (i.e. underflow from a primary clarifier). Generally
   should be OK in larger pipes that have downstream screening. Should also think about
   maintenance access / ease.
   NICK: Grinders are prohibited by our OCSD Discharge Ordinance. We also believe that grinders
   create "pulps" that would add to other types of debris and performance problems in gravity and
   pressure sewers.