

**UNITED STATES DISTRICT COURT**

**WESTERN DISTRICT OF WASHINGTON**

**AT SEATTLE**

STARBUCKS WORKERS UNITED,

on behalf of itself and all others

similarly situated,

Plaintiff,

v.

STARBUCKS CORPORATION, a Washington corporation;

DYSON, INC., an Illinois corporation;

NSF INTERNATIONAL, a Michigan nonprofit corporation;

SGS NORTH AMERICA INC., a New Jersey limited liability company;

EXCEL DRYER, INC., a Massachusetts corporation;

UL SOLUTIONS INC., a Delaware corporation;

SMART EPD LLC, a Virginia limited liability company; and

ANNA LASSO, individually,

Defendants.

Case No. \_\_\_\_\_

# CLASS ACTION COMPLAINT

## I. INTRODUCTION

### The Test

1. The claims made in this case can be verified effortlessly by anyone in a few minutes. They can be experienced directly, without scientific equipment, without expert testimony, without specialized knowledge. Visit any public restroom equipped with an electric hand dryer claiming compliance with or certified by the NSF P335 or UL PCR standards. Wash your hands. Place them in the dryer for 15 seconds—the least stringent drying time standard among all claims made by the Defendants. We begin by giving Defendants the benefit of the doubt. Observe three things: (1) Watch where the water goes as it leaves your hands. (2) Remove your hands at 15 seconds. They will be visibly and obviously wet. (3) Look at the walls and floor near the dryer's air outlet. Note the growing mold, dirt and water staining originating from that point.

### The Hypothetical

2. All aspects of hand dryer performance can be understood if you remove it from the room. Does a dryer improve or degrade the room by being there?



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# **SAMPLE LEGAL COMPLAINT STARBUCKS WORKERS UNITED VERSUS ALL PARTIES**

This document is a supplemental guide we created to aid harmed parties pursuing litigation against the manufacturers and certifiers of hand dryers. We wrote it in the form of a complaint for clarity. It is modeled on our Federal and State cases, filed in court, and due diligence was done in both law and science, but this document is not fileable without verification, evaluation, and proper analysis by the legal teams who will be litigating the case. We are not attorneys and we do not offer legal guidance.

We are uniquely positioned in this case because we did the science then we wrote the law, holding both in context at the same time. Further, we spent a year untangling twenty-five years of interconnected webs of companies and individuals and know who did what, when. We are available for consultation and guidance at [www.forensicdryergroup.com](http://www.forensicdryergroup.com)

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## **The Stakes**

3. This case concerns the occupational health and safety of Starbucks employees across the United States who are required, as a condition of their employment, to wash and dry their hands using hand dryers that do not work as advertised, that

amplify rather than reduce microbial contamination, and that expose workers to respiratory hazards in every restroom where they are installed.

4. Starbucks Corporation operates over 10,000 company-owned stores in the United States. In the vast majority of these stores, Starbucks has removed paper towel dispensers from employee restrooms and replaced them with dispersal-type hand dryers — predominantly Dyson Airblade units, with Excel XLERATOR units documented at twenty Starbucks locations within the independent research corpus: photographed, tested, and identified by location. Starbucks has posted signage in these restrooms making affirmative representations about the "energy efficiency" of these dryers—representations that are false.
5. Dyson, Inc. manufactures and markets the Airblade line of hand dryers. Dyson claims these dryers achieve hand dryness in 10-14 seconds. This claim is false. Independent scientific testing of 462 trials on production units in active use in public restrooms establishes that zero percent of Dyson hand dryers achieve their claimed dryness threshold at claimed times. Actual drying requires 70-90 seconds—seven to nine times longer than advertised.
6. Dyson claims its hand dryers are "hygienic." This claim is false. Independent scientific testing of 136 hand-dryer contamination tests within a 226-location research program establishes that 100% of tested units amplified bacterial and fungal contamination compared to ambient room air. Median amplification was 49.6 to 110 times ambient levels. The probability of this result occurring by chance is less than one in ten to the forty-first power ( $p < 10^{-41}$ )
7. Dyson claims its HEPA filtration system produces "purified air." This claim is irrelevant to hygiene outcomes. The contamination pathway is not intake air—it is the dispersal of water from users' hands at velocities exceeding 400 miles per hour, combined with biofilm accumulated inside the device from thousands of prior users. HEPA filtration of intake air has no effect on this contamination mechanism.

Dyson-equipped dryers (median 68 CFU) and non-HEPA-equipped Xlerator dryers (median 74 CFU) showed no statistically significant difference in contamination levels (Mann-Whitney  $p = 0.803$ ).

8. Every restroom equipped with a dispersal-type hand dryer shows visible mold colonization on walls beneath the dryer. Independent testing documented mold in 100% of dispersal-type installations (50 of 50 tested). EPA-certified laboratory analysis confirmed the presence of *Aspergillus*, *Penicillium*, *Alternaria*, *Cladosporium*, and *Chaetomium* species—organisms documented to cause allergic reactions, hypersensitivity pneumonitis, and mycotoxin exposure. Every worker who enters a restroom with a dispersal-type hand dryer enters a space with confirmed mold colonization, regardless of whether that worker uses the dryer.
9. Food service workers face mandatory handwashing requirements under health codes. A Starbucks barista performing required handwashing experiences 20 or more exposure events per shift, 5 shifts per week, 50 weeks per year—more than 5,000 occupational exposure events annually. Each exposure event places the worker in an impossible position: leave with wet hands at claimed drying times (facilitating up to 1,000 times increased bacterial transfer to food and beverages) or continue drying for 70+ additional seconds (extending exposure to airstreams containing 50-110 times amplified microbial contamination while customers wait and productivity metrics suffer).
10. The COVID-19 pandemic heightened public awareness of disease transmission in enclosed spaces and the importance of hand hygiene. Throughout that period and continuing to the present, Starbucks workers have been compelled to use hand dryers that amplify airborne microbial contamination by 50-110 times over ambient air, dispersing contaminated water droplets throughout the restroom environment with each use. While Starbucks implemented visible hygiene measures—plexiglass barriers, mask requirements, capacity limits—the company simultaneously required workers to use devices that amplified contamination in the very space

where hand hygiene was supposed to occur. The devices marketed as "hygienic" served as contamination amplifiers in food service facilities where workers handled items consumed by the public.

11. The solution is simpler than the problem. White paper towels eliminate all five problems identified in this complaint. White paper towels are frequently sterile (55.6% showed zero colonies), tested as statistically indistinguishable from ambient air (Wilcoxon  $W = 312$ ,  $p = 0.24$ ), achieve hand drying in 20 to 30 seconds through absorption rather than dispersal, cause no microbial amplification, create no water dispersal onto walls or floors, and produce no mold colonization (13% versus 100% for dispersal-type dryers).
12. Defendant Starbucks was provided with direct notice of these defects and the scientific evidence supporting them. On March 16, 2025, Starbucks Store Manager Christian White executed a Non-Disclosure Agreement and viewed a 60-minute documentary presentation detailing the hand dryer research findings. Manager White stated he would communicate this information through Starbucks' corporate chain. No response was received. From March 31 through April 4, 2025, the researcher traveled to Starbucks' corporate headquarters in Seattle, Washington and spent five consecutive days attempting to communicate these findings directly to corporate personnel. Starbucks refused all contact. For five days, corporate representatives declined to meet, speak with, or receive written materials from the researcher. Defendant Starbucks had actual notice of the product defects and scientific evidence described in this Complaint and chose to do nothing.
13. Dyson's false claims did not achieve credibility in isolation. They were enabled by a network of certification bodies—NSF International, UL Solutions, SGS North America, and Smart EPD through Anna Lasso—who issued certifications validating performance specifications that independent testing proves physically impossible. The certifications gave Dyson's sales pitch the appearance of independent, third-party validation. The validation was negligent. The certifications were false.

14. Plaintiff brings this action on behalf of itself and all similarly situated employees to obtain injunctive relief requiring the removal of Dyson hand dryers from workplace restrooms and the installation of paper towel dispensers, damages for the occupational health hazards to which class members have been exposed, and restitution of profits unjustly obtained by Defendants through false advertising and the sale of defective products.

## II. PARTIES

15. Plaintiff STARBUCKS WORKERS UNITED ("SBWU" or "Plaintiff") is a labor organization representing Starbucks employees at over 640 unionized Starbucks locations across the United States. SBWU is affiliated with Workers United, a Service Employees International Union (SEIU) affiliate. SBWU's principal place of activity is Buffalo, New York, where the Starbucks unionization movement began in August 2021. SBWU brings this action in a representative capacity on behalf of itself and all similarly situated employees pursuant to Federal Rule of Civil Procedure 23.
16. Defendant STARBUCKS CORPORATION ("Starbucks") is a Washington corporation with its principal place of business at 2401 Utah Avenue South, Seattle, Washington 98134. Starbucks operates over 10,000 company-owned retail stores in the United States and employs hundreds of thousands of workers. Starbucks is a publicly traded company listed on the NASDAQ Global Select Market under the ticker symbol SBUX.
17. Defendant DYSON, INC. ("Dyson") is an Illinois corporation with its principal place of business at 1330 W Fulton Market, Floor 5, Chicago, Illinois 60607. Dyson manufactures, markets, distributes, and sells the Airblade line of commercial hand dryers throughout the United States. Dyson's hand dryers are installed in thousands of commercial facilities, including Starbucks retail locations. Dyson accepts legal service through Dyson Direct Inc., Attn: Legal Americas Department, at the same address.
18. Dyson markets Airblade as "the most hygienic hand dryer" and "the only hand dryer certified hygienic by NSF International." [Exhibit WW]
19. Dyson's hygiene claims rest on NSF Protocol P335 certification. Dyson did not merely obtain P335 certification—Dyson helped create it. Toby Saville, employed by

Dyson as a microbiologist, served on the NSF P335 Protocol Development Panel. Dyson's internal test method—DTM 553—was incorporated directly into the P335 methodology. The company that would be certified participated in writing the certification standard. The test method used to certify Dyson products was Dyson's own internal method.

20. In the Excel v. Dyson litigation (Case No. 3:12-cv-30211-MAP, D. Mass.), Dyson accused Excel Dryer of making false drying time claims while marketing identical claims for its own products. Dyson submitted Toby Saville's sworn declaration claiming Airblade achieves 9.58-second mean dry times under laboratory conditions. [Exhibit PP]
21. Independent scientific research published by Blouch (2025) establishes that at 10 seconds—more than Saville's claimed mean—Airblade retains 2.547 grams residual moisture. The NSF P335 threshold is 0.1 grams. The gap is 2,547%. Saville's sworn data is irreconcilable with real-world performance. [Exhibits A-J]
22. Dyson's marketing contains 126 documented false claims, including representations that Airblade is "the most hygienic hand dryer," provides "HEPA-filtered air," and is "proven hygienic." [Exhibit WW]
23. Dyson's HEPA filtration claim is technically true but fundamentally misleading. HEPA filters capture particles from intake air. But the contamination mechanism in hand dryers is aerosolization of bacteria and fungi present on users' hands—not intake of contaminated room air. HEPA filtration does not filter what comes off users' hands. The claim implies protection that does not exist.

### **C. Defendant NSF International**

24. Defendant NSF International ("NSF") is a Michigan nonprofit corporation with its principal place of business at 789 N. Dixboro Road, Ann Arbor, Michigan 48105.

25. NSF holds itself out as an independent, authoritative certification body for public health and safety standards. NSF is accredited by the American National Standards Institute (ANSI) and operates under ISO/IEC 17065 requirements for conformity assessment bodies. NSF's certifications are widely recognized and relied upon by commercial purchasers, regulatory authorities, and consumers.
26. NSF developed Protocol P335 for "Hygienic Commercial Hand Dryers" and certifies Dyson Airblade products under that protocol. NSF's P335 certification is the foundation of Dyson's "only hand dryer certified hygienic" marketing claim. [Exhibit GG]
27. NSF generates revenue by charging manufacturers fees for product testing, certification, and the right to use NSF certification marks in marketing materials. This financial relationship creates an inherent conflict of interest: NSF has financial incentive to certify manufacturers' products—generating certification fee revenue—rather than to rigorously enforce standards, which might result in certification denials and lost revenue.
28. The P335 Protocol Development Panel included Toby Saville of Dyson. Dyson's internal test method, DTM 553, was incorporated into the protocol. NSF certified a product using a standard that the product's manufacturer helped write, using the manufacturer's own test method.
29. NSF's P335 certification requires residual moisture below 0.1 grams at the certified drying time. Independent testing establishes that Dyson products retain more than 25 times this threshold at claimed drying times. NSF continues to list Dyson as P335 certified despite independent research proving the certification specifications are not achieved. [Exhibit GG]

**D. Defendant SGS North America Inc.**

30. Defendant SGS North America Inc. ("SGS") is a New Jersey limited liability company with its principal place of business at 400 Broadacres Drive, Suite 200, Bloomfield, New Jersey 07003. SGS is a subsidiary of SGS SA, a Swiss multinational corporation.
31. SGS provides testing, inspection, and certification services. SGS conducted performance testing of hand dryers that manufacturers, including Dyson, have cited as third-party validation of drying time and performance claims.
32. SGS Performance Test Report No. 2774929EFF-001 documented hand dryer testing at drying times materially longer than manufacturer marketing claims. SGS possessed data showing that marketed drying times were not achieved under test conditions. SGS continued providing testing services that manufacturers used to support false performance claims. [Exhibit BB]

**E. Defendant Excel Dryer, Inc.**

33. Defendant EXCEL DRYER, INC. ("Excel") is a Massachusetts corporation with its principal place of business in East Longmeadow, Massachusetts. Excel manufactures, markets, and sells the XLERATOR and ThinAir lines of commercial hand dryers throughout the United States. Excel markets the XLERATOR as drying hands "completely in 8 seconds," as "a hygienic hand drying solution," and as delivering 95 percent cost savings and an 88 percent carbon-footprint reduction versus paper towels. Excel hand dryers are installed at Starbucks locations where Class members work: the independent research program has documented, photographed, and tested XLERATOR units at twenty Starbucks locations, identified by location in the exhibits. The full census of restroom equipment across Starbucks' company-operated stores is within Starbucks' exclusive possession and is a subject of discovery; the twenty documented installations are the floor, not the ceiling.

34. Independent testing establishes that no XLERATOR unit achieves any certified residual-moisture threshold at any claimed time: across 462 trials, residual moisture at 8 seconds measures 2.5 to 3.0 grams against Excel's certified 0.25-gram threshold, and actual time-to-dry is 70 to 90 seconds. Excel's own president testified under oath in 2012 that XLERATOR drying time was 12 seconds — not the 8 seconds Excel markets.

#### **F. Defendant UL Solutions Inc.**

35. Defendant UL SOLUTIONS INC. ("UL") is a Delaware corporation with its principal place of business in Northbrook, Illinois. UL is recognized by OSHA as a Nationally Recognized Testing Laboratory. In July 2016, UL authored the Product Category Rule for Hand Dryers — the governing standard for hand-dryer Environmental Product Declarations. The drafting committee seated ten manufacturer representatives and two UL employees; Excel held four seats, and Excel's Vice President and Chief Operating Officer chaired the committee. The rule adopted a 0.25-gram residual-moisture threshold without scientific explanation, contains no standard for the water the products disperse, and its own Figure 2 shows 0.456 grams of residual moisture at 8 seconds — 82 percent above the rule's own threshold at Excel's claimed time. From 2017 to 2022 UL's Environmental Product Declaration certified the XLERATOR at 8-second drying and 3.68 watt-hours per use; that declaration expired in July 2022 and was not renewed, while UL certified a competing manufacturer, Hokwang, at 30 to 35 seconds drying time in April 2022.

#### **G. Defendant Smart EPD LLC**

36. Defendant SMART EPD LLC ("Smart EPD") is a Virginia limited liability company formed on April 26, 2022 under the name EPD USA LLC and renamed on July 6, 2022. In June 2023, Smart EPD issued Certificate No. SmartEPD-2023-002-0006-01 for the XLERATOR, certifying the identical figures UL had allowed to lapse — 8 seconds and 3.68 watt-hours — under the UL Product Category Rule. The

underlying life-cycle assessment states that dry time and energy figures are “based on the average test results provided by Excel” and that “hygiene is not considered in this study.”

#### **H. Defendant Anna Lasso**

37. Defendant ANNA LASSO is an individual residing in Virginia. From 2016 to 2022 she was employed by UL Environment as Product Manager of EPDs and PCR Project Manager, working directly with the Excel executive who chaired the PCR committee. She formed EPD USA LLC while employed at UL, in the same month UL certified Hokwang at 30 to 35 seconds. On the Smart EPD certificate she appears as program operator, independent critical reviewer, and independent external verifier — three roles ISO 14025 requires to be independent of one another, occupied by one person. She is named individually because Smart EPD LLC is a single-member limited liability company operating from a residential address with no meaningful separation between the entity and its sole operator, and because she personally participated in creating the governing standard and personally certifies products under it.

### **III. JURISDICTION AND VENUE**

38. This Court has subject matter jurisdiction over this action pursuant to the Class Action Fairness Act, 28 U.S.C. § 1332(d), because this is a class action in which: (a) there are more than 100 members in the proposed class; (b) at least one member of the proposed class is a citizen of a state different from at least one defendant; and (c) the aggregate amount in controversy exceeds \$5,000,000, exclusive of interest and costs.
39. Minimal diversity exists because Plaintiff SBWU is a citizen of New York, Defendant Starbucks is a citizen of Washington (its state of incorporation and principal place of business), Defendant Dyson is a citizen of Illinois (its state of incorporation),

Defendant NSF is a citizen of Michigan (its state of incorporation and principal place of business), Defendant SGS is a citizen of New Jersey (its state of organization and principal place of business), Defendant Excel is a citizen of Massachusetts, Defendant UL Solutions is a citizen of Delaware and Illinois, Defendant Smart EPD is a citizen of Virginia, and Defendant Anna Lasso is a citizen of Virginia.

40. This Court has personal jurisdiction over Defendant Starbucks because Starbucks is incorporated in Washington, maintains its principal place of business in Washington, and conducts substantial business throughout this District.
41. This Court has personal jurisdiction over Defendants Dyson and Excel because each conducts substantial business in Washington, markets and sells products in Washington, has entered into commercial relationships with Washington businesses including Defendant Starbucks, and has committed tortious acts that caused injury in Washington.
42. This Court has personal jurisdiction over Defendants NSF International, SGS North America Inc., UL Solutions Inc., Smart EPD LLC, and Anna Lasso because each has conducted business in Washington, issued certifications relied upon in Washington, and caused injury to Plaintiff and Class members within Washington through their negligent certification activities.
43. Venue is proper in this District pursuant to 28 U.S.C. § 1391(b) because Defendant Starbucks resides in this District, a substantial part of the events giving rise to the claims occurred in this District, and Defendants are subject to personal jurisdiction in this District.

#### **IV. CLASS ACTION ALLEGATIONS**

44. Plaintiff brings this action as a class action pursuant to Federal Rules of Civil Procedure 23(a), 23(b)(2), and 23(b)(3) on behalf of itself and the following class:

**The Class: All current and former employees of Starbucks Corporation who worked, at any time from [four years preceding the filing of this Complaint] through the date of class certification, at any company-operated Starbucks store in the United States equipped with one or more dispersal-type hand dryers manufactured by Defendant Dyson, Inc. or Defendant Excel Dryer, Inc. in an employee-accessible restroom.**

45. Plaintiff also seeks certification of the following subclass:

**The Washington Subclass: All Class members who worked at a company-operated Starbucks store located in the State of Washington during the class period.**

**The Current Employee Subclass: All Class members employed by Starbucks Corporation as of the date of the filing of this Complaint, for whom injunctive relief under Rule 23(b)(2) is sought.**

46. Excluded from the Class and Subclass are: (a) any Judge presiding over this action, together with their staff and immediate family members; (b) Defendants and their subsidiaries, affiliates, officers, directors, and employees; (c) any governmental entities; and (d) any person who timely opts out of the Class.

### **Numerosity**

47. The Class is so numerous that joinder of all members is impracticable. Starbucks employs approximately 200,000 workers in its U.S. company-operated stores. The vast majority of these employees have been required to use Dyson hand dryers in workplace restrooms. Plaintiff estimates the Class includes hundreds of thousands of current and former employees.

### **Commonality**

48. There are questions of law and fact common to the Class that predominate over any questions affecting only individual members. Common questions include, but are not limited to:

- a. Whether Dyson hand dryers achieve their claimed dryness thresholds at claimed drying times;
- b. Whether Dyson hand dryers amplify microbial contamination compared to ambient room air;
- c. Whether Dyson's HEPA filtration provides any hygiene benefit;
- d. Whether Dyson's marketing claims regarding drying time, hygiene, and environmental benefits are false or misleading;
- e. Whether Dyson hand dryers are defectively designed;
- f. Whether Dyson failed to warn of the hazards associated with its hand dryers;
- g. Whether NSF negligently certified Dyson products under Protocol P335;
- h. Whether SGS negligently performed testing that supported false certifications;
- i. Whether Starbucks breached its duty to provide a reasonably safe workplace;
- j. Whether Starbucks had actual or constructive notice of the hazards associated with Dyson hand dryers;
- k. Whether Starbucks made false or misleading representations regarding hand dryers in workplace signage;
- l. Whether Class members are entitled to injunctive relief;
- m. Whether Class members are entitled to damages; and
- n. The appropriate measure of damages and/or restitution.

### **Typicality**

49. Plaintiff's claims are typical of the claims of the Class. Plaintiff and all Class members have been injured by the same wrongful conduct—Dyson's manufacture and sale of defective hand dryers accompanied by false marketing claims, and Starbucks' installation of these dryers in workplace restrooms while removing the safe alternative and posting false environmental signage. Plaintiff's claims arise from the same course of conduct and are based on the same legal theories as the claims of all Class members.

### **Adequacy**

50. Plaintiff will fairly and adequately protect the interests of the Class. Plaintiff's interests are aligned with, and not antagonistic to, those of the Class. Plaintiff has retained counsel experienced in complex class action litigation who will adequately represent the Class.

### **Predominance and Superiority**

51. Common questions of law and fact predominate over any questions affecting only individual Class members. A class action is superior to other available methods for the fair and efficient adjudication of this controversy because: (a) the prosecution of separate actions would create a risk of inconsistent adjudications; (b) the prosecution of separate actions would create a risk of adjudications that would be dispositive of the interests of non-party Class members; (c) individual Class members' damages may be relatively small compared to the expense of individual litigation; and (d) class treatment will permit a large number of similarly situated persons to prosecute their common claims in a single forum simultaneously, efficiently, and without the unnecessary duplication of evidence, effort, and expense.

### **Injunctive Relief Class**

52. Certification is also appropriate under Rule 23(b)(2) because Defendants have acted on grounds that apply generally to the Class, so that final injunctive relief or corresponding declaratory relief is appropriate respecting the Class as a whole. The primary relief sought is injunctive—the removal of Dyson hand dryers from workplace restrooms and the installation of paper towel dispensers.

a. Occupational exposure to airstreams containing 50-110 times amplified bacterial and fungal contamination, thousands of times per employee per year;

b. Occupational exposure to workplace restrooms with confirmed mold colonization, including *Aspergillus*, *Penicillium*, *Alternaria*, *Cladosporium*, and *Chaetomium* species known to cause respiratory illness, allergic reactions, and hypersensitivity pneumonitis;

c. Being placed in an impossible position where compliance with food safety handwashing requirements exposes workers to contamination hazards;

d. Being forced to choose between leaving with wet hands (up to 1,000× increased bacterial transfer to food and beverages served to customers) or extended drying (70+ seconds of contamination exposure while customers wait);

e. Being instructed to follow hygiene protocols that Defendant Starbucks has made physically impossible to complete;

f. Handling food and beverages served to customers with hands that remain wet and contaminated due to Defendants' defective products and Starbucks' removal of safe alternatives;

i. Increased risk of illness from occupational exposure to contaminated environments; and

j. Working under conditions predicated on false environmental claims while being told their use of contamination-amplifying equipment was benefiting the planet.

a. Increased healthcare costs associated with occupational exposure to contaminated environments and mold;

- b. Costs of medical monitoring for conditions associated with mold exposure, including respiratory symptoms and hypersensitivity pneumonitis;
- c. Property damage consisting of the cost of repairing or replacing walls, floors, and fixtures damaged by water dispersal and mold colonization—property distinct from the hand dryers themselves;
- d. Damages for annoyance, discomfort, and diminished quality of working conditions;
- e. Statutory damages under the Washington Consumer Protection Act;
- f. Restitution and disgorgement of Defendants' unjust enrichment; and
- i. Such other damages as may be proven at trial.

## V. FACTUAL ALLEGATIONS

### A. Dyson's Products and Marketing Claims

53. Dyson manufactures and markets the Airblade line of commercial hand dryers, including the Airblade V, Airblade dB, Airblade 9kJ, and Airblade Wash+Dry models. These products are marketed to commercial purchasers including restaurants, retailers, healthcare facilities, and other businesses.
54. Dyson makes the following express representations regarding its Airblade hand dryers: (a) Drying time of 10-14 seconds (varying by model); (b) "Hygienic" and "independently proven safe"; (c) "HEPA-filtered" and "HEPA-purified air"; (d) "Dyson hand dryers help to create a cleaner, more hygienic washroom"; (e) "No significant impact on the surrounding air"; (f) NSF P335 certification for hygienic performance; (g) Environmental benefits including reduced CO<sub>2</sub> emissions compared to paper towels; and (h) Cost savings compared to paper towels.
55. Dyson's drying time claims are based on "Dyson test method 769 based on NSF P335 using a measurement of 0.1g residual moisture." This proprietary test method has never been published. Its methodology remains unknown. Dyson prominently displays NSF certification marks throughout its marketing while basing drying time claims on this proprietary, unpublished method rather than the NSF P335 protocol itself. NSF P335 Section 6.3 requires that "The unit shall be 95% effective at achieving a residual hand moisture content of 0.1 g or lower within one operating cycle or 15 seconds." Zero percent of Dyson dryers achieve this requirement.
56. Dyson's marketing materials cite Patrick et al. (1997), which established that wet hands transfer up to 1,000 times more bacteria than dry hands. By citing this research, Dyson demonstrates knowledge that residual moisture on hands is directly related to bacterial transfer. Dyson then sells products that leave hands wet at claimed drying times—creating the precise condition the research warns against.

57. Dyson claims its hand dryers are "The only hand dryer certified by the NSF International Protocol P335." Dyson claims its products have been "independently proven to aerosolize no more than paper towels" and have "no significant impact on the surrounding air." Dyson attributes these claims to testing by AIRMID Healthgroup, which Dyson states conducted testing in a "controlled environment" with "each experiment carried out three times" (n=3 per condition). NSF P335 Section 6.3 requires testing be "replicated a minimum of 20 times" for statistical validity. AIRMID used n=3—fifteen percent of the required replication.
58. Dyson's marketing materials include a "Handwashing guide" that states it is "Adapted from WHO and CDC hand washing guidelines" and provides URLs to World Health Organization and Centers for Disease Control and Prevention websites. Steps 1-9 of this guide contain accurate public health guidance. Step 10 inserts false Dyson drying time claims into the WHO/CDC framework, thereby appropriating public health authority to legitimize false product specifications.

## **B. Starbucks' Relationship with Dyson Products**

59. Starbucks purchased Dyson Airblade hand dryers through authorized distributors in the facilities supply chain. Dyson marketed its products directly to food service facilities including Starbucks, provided marketing materials and representations directly to Starbucks' decision-makers, and specifically targeted food service establishments for use of its products. Dyson's express representations regarding hygiene, drying time, and environmental benefits were directed to Starbucks as the ultimate purchaser and end user, and were intended to induce Starbucks' purchase decisions regardless of the distribution channel.
60. In the vast majority of its company-owned stores, Starbucks has installed Dyson Airblade hand dryers in employee and customer restrooms. Starbucks has removed paper towel dispensers from restrooms equipped with Dyson hand dryers, leaving employees with no alternative drying method.

61. Starbucks has posted signage in restrooms making affirmative representations about Dyson hand dryers. This signage states: "HAND DRYER: Using these energy efficient hand dryers reduces paper towel consumption." This signage features a wind turbine icon, reinforcing environmental claims. These representations are false. Actual energy consumption is 600-900% higher than claimed because actual drying times are seven to nine times longer than claimed.
62. The Dyson hand dryers installed in Starbucks restrooms display instructional panels that include the statement "Turn Off Water with paper towel" as a hygiene step—a step that is impossible to perform because Starbucks has removed all paper towels from the restroom. Additionally, mandatory handwashing signage stating "Employees Must Wash Hands Before Returning to Work" is mounted directly on the Dyson hand dryers. Starbucks has created a condition in which employees are instructed to follow hygiene protocols that Starbucks has made physically impossible to complete. The sign mandating handwashing is affixed to the very device that makes hygienic hand drying impossible.
63. Starbucks employees are required to wash their hands before handling food and beverages under Washington State Food Code WAC 246-215, which adopts the FDA Food Code. Starbucks' food safety policies require frequent handwashing throughout each shift. A typical Starbucks barista performs 20 or more handwashing cycles per shift.
64. By mandating the use of Dyson hand dryers and removing paper towel alternatives, Starbucks has required its employees to use equipment that fails to achieve advertised performance, exposes employees to amplified microbial contamination, and places employees in workplace restrooms with confirmed mold colonization—thousands of times per employee per year.

### **C. Starbucks' Actual Notice and Refusal to Act**

65. On March 16, 2025, Starbucks Store Manager Christian White executed a Non-Disclosure Agreement and viewed a 60-minute documentary presentation detailing the hand dryer research findings described in this Complaint. The presentation included video documentation of the testing methodology, statistical analysis of the results, and visual evidence of mold colonization in Starbucks restrooms. Manager White stated he would communicate this information through Starbucks' corporate hierarchy.
66. No response was received from Starbucks.
67. From March 31, 2025 through April 4, 2025, the researcher who conducted the studies described in this Complaint traveled to Starbucks' corporate headquarters at 2401 Utah Avenue South, Seattle, Washington 98134. The researcher spent five consecutive business days at the corporate headquarters attempting to communicate these findings directly to corporate personnel.
68. Starbucks refused all contact. For five consecutive days, corporate representatives declined to meet with, speak with, or receive written materials from the researcher. Security personnel were instructed to prevent the researcher from entering the building. No corporate representative agreed to review the scientific evidence. No corporate representative agreed to discuss the findings. Defendant Starbucks had actual notice of the product defects and scientific evidence described in this Complaint and made a deliberate choice to do nothing.
69. Starbucks continues to operate restrooms with Dyson hand dryers. Starbucks continues to display signage making false environmental claims. Starbucks continues to require employees to use equipment that amplifies contamination, leaves hands wet, and exposes workers to mold—with full knowledge of these harms.

#### **D. The Scientific Evidence**

70. These are not "studies that suggest" or "evidence that indicates." These are physical facts established to scientific certainty.
71. Between August 2023 and December 2025, an independent research program conducted the most comprehensive assessment of hand dryer performance claims in the published literature. This research encompassed approximately 1,500 individual measurements across more than 200 retail locations in five states and Washington D.C. The research produced eleven peer-reviewed preprint papers with complete chain-of-custody documentation comprising 1.3 terabytes across approximately 13,000 files, archived with registered DOIs through Zenodo and Harvard Dataverse.
72. Finding 1: Drying Time Failure (0% Compliance). Zero percent of Dyson hand dryers achieve their claimed dryness threshold at claimed times. Independent testing of 462 trials on production units in active use established that actual drying to the 0.1g residual moisture specification requires 70-90 seconds—not the 10-14 seconds claimed. At claimed drying times, hands retain an average of 2.83 grams of residual moisture, exceeding the manufacturer specification by 744% to 3,540%. Statistical analysis:  $t(20) = 22.91$ ,  $p < 0.001$ , Cohen's  $d = 5.00$ . Cross-manufacturer correlation coefficients exceeded  $r = 0.99$  across Dyson, Xlerator, and World Dryer products, establishing that limitations are physical constraints rather than engineering variations. Blouch, R.A. Jr. (2025). DOI: 10.5281/zenodo.15503698; DOI: 10.5281/zenodo.17858443.
73. Finding 2: Microbial Amplification (100% of Units, 49.6×–110× Ambient). One hundred percent of hand dryers tested amplified bacterial and fungal contamination compared to ambient room air. Combined across two independent studies using different growth media: 136 of 136 tests (100%) showed amplification, with zero reductions. Median amplification was 49.6 times ambient levels using LB agar and 110 times ambient levels using broad-spectrum TSA media. The probability of this result occurring by chance is  $p < 10^{-10}$ .

74. Finding 3: Water Dispersal (7.3 Grams Per Use). Each use disperses 7.3 grams of indeterminately clean/dirty water into the restroom environment. Hand dryers do not evaporate water—they disperse it at velocities exceeding 400 miles per hour. Dyson's own marketing admits to "420mph" and "374mph" air velocities that "scrape water from hands." High-speed videography at 1,000 frames per second documented dense clouds of visible droplets during dryer operation, with substantial lateral dispersion, droplets remaining airborne for three or more seconds, and consistent accumulation on walls, floors, and users' clothing—forearms, torso, thighs, and faces. Established aerosol science indicates that for every visible droplet ( $\geq 40 \mu\text{m}$ ), high-shear processes generate 100–10,000 invisible aerosols ( $\leq 5 \mu\text{m}$ ) that remain airborne for minutes to hours. At 150 million daily U.S. hand dryer uses, this represents 4.6 million cups of water dispersed into public restrooms daily. Paper towels disperse effectively zero. Blouch, R.A. Jr. (2025). DOI: 10.5281/zenodo.15503304.
75. Patrick et al. established that wet hands transfer up to 1,000 times more bacteria than dry hands. Defendant Dyson's products leave hands wet at claimed drying times, creating the precise condition the research warns against—then amplify the contamination and disperse it throughout the room.
76. Finding 4: Mold Colonization (100% of Installations). One hundred percent of dispersal-type hand dryer installations show visible mold colonization on walls beneath the dryer. Independent visual audit of 127 public restrooms documented wall plumes in 100% of dispersal-type installations (50 of 50) and visible wall mold in 100%. Average plume area was 10 square feet, originating narrow at the device (median 1.0 foot) and fanning outward toward the floor (median 3.0 feet). White paper towel dispensers showed 13% mold rate—an 8-fold difference ( $\chi^2 = 72.0$ ,  $p < 0.001$ ). Independent EPA-certified laboratory analysis (Hayes Microbial Consulting, EPA Laboratory ID: VA01419) confirmed fungal presence in 70% of plume samples, identifying *Aspergillus*, *Penicillium*, *Alternaria*, *Cladosporium*, and *Chaetomium*

species—organisms documented to cause allergic reactions, hypersensitivity pneumonitis, and mycotoxin production. Blouch, R.A. Jr. (2025). DOI: 10.5281/zenodo.17860971.

77. Finding 5: Energy and Environmental Claim Invalidity. All energy and environmental claims made by Dyson are predicated on drying times of 8-12 seconds. Because actual drying requires 70-90 seconds, actual energy consumption is 600-900% higher than claimed. The claimed 85-90% CO<sub>2</sub> advantage over paper towels collapses entirely; under actual operating conditions, hand dryers are statistically equivalent to or worse than paper towels for carbon emissions. Manufacturer claims: 3-4 Wh and approximately 2g CO<sub>2</sub> per use. Actual consumption: 25-37 Wh and 12-18g CO<sub>2</sub> per use. Annual per-unit energy consumption is 913-1,217 kWh versus claimed ~122 kWh. Paper towels require approximately 91 kWh annually—10-13× less than actual dryer consumption. Blouch, R.A. Jr. (2025). DOI: 10.5281/zenodo.17859198.
78. Finding 6: Paper Towel Superiority. White paper towels eliminate all five problems identified above. White paper towels are frequently sterile (55.6% showed zero colonies), tested as statistically indistinguishable from ambient air (Wilcoxon W = 312, p = 0.24), achieve hand drying in 20 to 30 seconds through absorption rather than dispersal, cause no microbial amplification, create no water dispersal onto walls or floors, and produce no mold colonization (13% versus 100% for dispersal-type dryers). The solution is simpler than the problem. Blouch, R.A. Jr. (2025). DOI: 10.5281/zenodo.15504144.
79. The Bimodal Mechanism: Why All Dryers Fail Identically. The research identified the physical mechanism explaining universal dryer failure. Water on hands exists in two states: loose water (droplets, pooled water, surface films) that strips rapidly under mechanical air shear, and bound water (trapped in skin texture, cuticles, finger creases, and hair follicles by capillary action and molecular adhesion) that resists removal regardless of engineering approach. Loose water accounts for 70-80% of

water removed in the first 15-20 seconds—this is the dramatic visible spray, the water blown onto walls, floors, and clothing. Manufacturers measure loose water removal and call it "drying." Users need bound water removal, which requires 70-90 seconds regardless of engineering. Physics does not negotiate. Blouch, R.A. Jr. (2025). DOI: 10.5281/zenodo.17869567.

## **E. Unbinding Mixed Law**

### **B. Unbinding Mixed Law**

80. This case does not ask the Court to impose liability on certifiers for defective products. That question is settled. Certifiers do not manufacture products. When a certified product fails due to manufacturing defect, the manufacturer is liable. That is not being contested.
81. Northwestern invokes a different doctrine: certifiers bear independent liability for the certifications they issue. This is not derivative of manufacturer conduct. It is primary liability for the certifier's own representations. See Restatement (Second) of Torts § 552 (negligent misrepresentation); § 324A (voluntary undertaking).
82. Defendants authored the standards. Defendants designed the test methods. Defendants controlled the protocols. Defendants issued the certifications. Every element was within Defendants' exclusive control. There is no intervening party to whom fault can be allocated. Defendants bear sole responsibility for the accuracy of certifications bearing their marks.
83. Defendants certified specifications. Independent research tested those specifications. 462 residual moisture trials, alone. [Exhibits A-R] Zero compliance at certified times. Residual moisture of 2.5 to 3.0 grams when defendants certified 0.1 to 0.25 grams. Bacterial amplification of 50-110× when defendants certified

products as "hygienic." Visible mold colonization in 100% of installations when defendants certified HEPA filtration as protective.

84. Every certified specification is proven false. the independent research data is fully public. Plaintiff's methodology is fully documented. Defendants' underlying test data is not.
85. Independent research has established a prima facie case that Defendants' certified specifications are false. The burden now shifts to Defendants to present evidence that their certifications are accurate. Absent such public evidence, no genuine dispute of material fact exists.

## **F. The Science Is The Product**

### **C. The Science Is The Product**

86. 150 years of universal scientific consensus that wet hands spread disease is the reason hand dryers exist [Exhibits S, T]. Washing hands exists to reduce microorganism count. Drying hands exists to reduce microorganism transfer.
87. This is foundational to the products. Defendants certified and subsequently built an entire industry on this science. Every marketing claim assumes it. Every certification standard incorporates it. Every sale depends on it.
88. Semmelweis established the importance of hand hygiene in 1847. Patrick et al. established that wet hands transfer up to 1,000 times more bacteria than dry hands in 1997. Defendants cite this research in their own marketing. They use the science to sell the products. They are bound by the science when the products fail. They cannot claim ignorance of the science. That is the reason these products exist.

## **G. The Certification Chain — Complete Supporting Brief**

What follows is the complete certification-chain brief from the related federal action, embedded here in full and in its original form. It is written from the position of the user — the person standing at the machine — because the user is where the chain ends and where this case begins. The Class members are that user, with one difference the brief itself anticipates: their presence at the machine was not chosen. It was a condition of employment.

## **PURPOSE OF THIS MEMORANDUM**

A certification begins as a private transaction between a manufacturer and a certifier. It ends on a wall in a public restroom, where a person who has never seen the certificate, never read the standard, and never heard of the certifying body places his hands into a machine and trusts that someone competent has evaluated it.

This memorandum describes how the certifier's representation travels that distance. It sets out eighteen steps, each an act a party performed, running from the manufacturer's first approach to the certifier through to the user standing in the room. Nothing in the sequence is inferred. Each step is an ordinary feature of how third-party certification operates, and the Defendants' own documents record the steps that matter most.

The chain is followed by three sections stating the obligations the law attaches to it. The Mark Is a Contract describes what the certification does when it reaches the party who pays for it. The Mark Is a Duty describes the obligation that runs to every party who relied. Obligations to the User identifies where the user stands and why the duty reaches him.

The user is the fourth party in the chain and the last. He purchased no hand dryer and pleads no contract claim. The contract analysis is stated because the obligation owed at the fourth link cannot be described without showing how the certification traveled to reach it. The user's claim rests on the duty.

Two propositions are tested at the end of the chain by subtraction. Remove the mark, and the certifier's relationship with the manufacturer is untouched while everything downstream

disappears. Remove the user, and the certified event itself ceases to exist --- there is nothing to certify, no reason to seek certification, and no standard worth writing. Together the two tests establish what the mark is for and whom the certification is about.

This memorandum is submitted in support of the Complaint and is referenced in its factual allegations. Where any prior document conflicts with the analysis contained here, this document is definitive.

## **THE PROPOSITION**

A standard exists to define the harms that occur if it is not met; testing and certification exist to prevent them. Failed testing, failed certifications and failed standards execute those harms; a harm named and never measured is a harm never prevented. The measure of each is the certifier's own document --- the one it wrote, and the one it bound itself to.

That proposition sorts this memorandum. A certifier that defines a harm, fixes the level at which it occurs, and then declares that level not exceeded has done something a manufacturer cannot do. The manufacturer builds a machine. The certifier defines what the machine must not do, prescribes the test, and declares the boundary uncrossed. A certificate is not a report about how a product performs. It is a statement about how the product must perform, followed by a declaration that it does.

Two certifiers did exactly that. NSF Protocol P335 is titled Hygienic Commercial Hand Dryers. Section 6.4 states that "the operational intent of a hygienic commercial hand dryer is to prevent the hand dryer from using air contaminated with microbes to dry a user's hands," and derives a threshold on the order of one culturable organism per operating cycle. Broad-spectrum testing at the output of certified machines recorded a median of two hundred. UL's Product Category Rule for Hand Dryers states the function of the product it governs: hand dryers are electric devices used to provide a hygienic method to dry hands in public washrooms.

The omission half matters as much as the failure half. P335 names the hazards its protocol exists to address and prescribes no test that measures the air a functioning machine emits. Its section 6.5 requires six-log bacterial and four-log fungal disinfection of water captured in a tank, and says nothing about the same water thrown at a wall. UL's rule declares the function hygienic and its conformance table lists electrical and electromagnetic standards and no hygiene standard at all. Each is a harm the certifier named and never wrote a measure for.

## ## The event and its nine elements

NSF's operating cycle and UL's functional unit define the same completed physical event: the drying of human hands to a specified residual-moisture endpoint in an occupied room. No regulator supplied either definition. NSF wrote its own. UL wrote its own and bound it to standards UL selected. The event contains nine elements: a dryer, electricity, a wall, a floor, air, hands, water, time and dryness. Remove any one and the declared cycle fails. The user did not select them.

Two tests cover four of the nine. A single gravimetric procedure measures the dryness of the hands within a stated time; UL adds electricity. Five were never measured, and not in the same way. The air was named, its hazard stated, its acceptable level fixed at approximately one organism per operating cycle --- and the prescribed test looks at the intake filter. The water was regulated to six-log sterility inside a tank and left entirely alone in the room. The dryer's own surfaces carry an unconditional requirement with no test attached. The wall and the floor appear in neither document. Three requirements written, three tests aimed away from the harm. And the four elements that were measured were certified wrong by an order of magnitude.

One distinction runs through everything that follows. Protocol P335 makes no claim concerning energy consumption, carbon, or environmental impact, and prescribes no test of any of them. It is a hygiene and dryness protocol, and the energy and environmental failures described in this memorandum are UL's, Smart EPD's, and SGS's as the source of the figure they rest on. NSF chose a hygiene protocol and stayed inside it. UL chose a system

that required the reporting of hazards and of substances affecting human health, and produced a declaration reporting energy.

## ## The two tracks

This memorandum states two obligations and they are separate. The first is the contract, and it runs from the certifier to the party who paid. The second is the duty, and it runs to everyone who relied --- the purchaser and the user alike. Neither depends on the other. The contract does not become the duty, and the duty does not require the contract. The Mark Is a Contract states the first. The Mark Is a Duty states the second. Obligations to the User states where the second lands.

The user holds no contract with the certifier and needs none. What reaches him is the obligation of a person who supplies information for the guidance of others in their business transactions --- an obligation that has never required privity, never required that the relying party be identified, and never required that he read the document the information came from.

## THE CHAIN

### ## 1. ORIGIN

**Manufacturer hires certifier to apply agreed upon standards to the device for testing.**

A manufacturer and a certifier complete a transaction in which the manufacturer contracts with the certifier for agreed upon standards, testing and certification of a product the manufacturer builds for sale.

### ## 2. RESPONSIBILITY STANDARDS

**Certifier promises valid standards and accurate testing.**

The certifier is responsible for the standards it creates and the testing it performs. The certificate is the result, binding to the manufacturer.

### ## 3. RESPONSIBILITY PRODUCT

**The built machine is the manufacturer's product, not the certifier's.**

The manufacture builds the product. It is responsible for the performance of the product, binding to the customer and user.

### ## 4. DOCUMENT

**Tested units are certified via a document explaining the tests and results.**

The certificate binds manufacturer to certifier by agreement and contract.

### ## 5. THE DOCUMENT CONFERS STATUS

**A certified device is substantially and identifiably different than an uncertified device.**

The certification, a declaration of compliance with a set of standards, alters the product. The certification is not a report about how a product performs through objective testing, it is a report about how the product must perform and that it complies.

Two machines perform the same function. One is certified, the other is not. The certifier did not test the machine to see what it does, the certifier stated, "it must do this" then tested it to verify that it complies. It is the action that transforms the device, adding value for all parties.

Manufacturers cannot certify. They can test, using certifiers' standards, but they cannot confer the authority held by the certifier. Certifiers prohibit the use of their mark on untested devices and enforce that prohibition.

The consequence is commercial and it is absolute. A certifier's listing controls whether some products can be sold at all: an unlisted pipe is unmarketable. The uncertified device is not a device with less information attached to it. In many cases it is a device that cannot enter the market the certified device occupies.

## ## 6. TRANSACTION COMPLETE

**Certification documents are held by the manufacture, filed in a cabinet.**

The manufacturer holds the document, the transaction is complete.

## ## 7. THE INVENTION OF THE MARK

**Certifier realizes it can establish its brand to the public through the manufacturer with a public facing physical label, increasing value for both.**

**A certifier at sometime in the past had the thought to offer a seal or sticker with the certifier\'s logo on it to the manufacturer to place on the device.**

UL began in 1894. Its own historical account says that in 1906, William Henry Merrill created the UL Label Service and introduced the first UL labels specifically to give consumers the ability to select products tested to UL's safety standards. The private laboratory existed first; the public-facing label came later as a deliberate mechanism for carrying the laboratory's conclusion to consumers.

## ## 8. THE OFFER OF THE MARK

**Certifier offers manufacturer a certifier branded sticker for the device.**

The mark makes the certifier public facing. That is its sole purpose. The certification already exists, the manufacturer has it, the mark has no reason for existence except to bring the certifier's brand to consumers via the claims made in the certification. The offer is specific and defined, not broad and undefinable. It is not the Nike Swoosh, promising everything the consumer wants it to mean. Be Like Mike is valuable but it not is the guaranteed result of purchasing a Nike sneaker. Proper function and safety are the guaranteed promises of a certifiers' mark. Certifiers claim that this product meets our standards and we have tested it. You should purchase and use it because it performs as we said it does and it is safe.

The certifier controls the mark, specifies its form, and conditions its use. The manufacturer already holds the certificate; what it acquires with the mark is the certifier's reputation operating on people who will never read one.

## **## 9. ACCEPTANCE OF THE MARK**

### **Manufacturer accepts.**

**The contract and all necessary duties between the certifier and the manufacturer are extended to the purchaser. Duty, through reliance, extends to the user.**

## **## 10. MARK IS BOUND TO THE CERTIFICATE**

**The brand sticker is permanently bound directly to the paper in the file for that device.**

**The contract and all necessary duties between the certifier and the manufacturer are extended to the purchaser via the certification document. Duty extends to the user.**

## **## 11. THE MARK TRANSMITS STATUS**

**The sticker makes the status of the device, conferred through the certification document, public facing.**

## **## 12. BINDING THE CERTIFICATE TO THE CONSUMER**

**The sticker's purpose is purely public-facing, representative of the held certification made by the certifier and manufacturer jointly to the consumer. The manufacturer already has the certification.**

**The contract and all necessary duties between the certifier and the manufacturer are extended to the purchaser via the certification document via the purely public facing mark. Duty extends to the user.**

The mark does not inform the manufacturer who holds the certificate. It does not inform the certifier who wrote it. It is placed on the exterior of the product, facing outward, toward purchasers and users, bound to the certification in the filing cabinet. A symbol positioned to be read by the public is positioned for the public. Placement is purpose.

## ## 13. CONTRACT

**Purchaser evaluates and buys, in part, for the value of the document in the drawer via the branded sticker advertisement.**

The purchaser pays a price that includes the certification. That money moves through the manufacturer to the certifier, every party informed. The certification fee is not absorbed out of goodwill; it is recovered in the price of the goods. The Third Circuit accepted that this is how the cost travels, treating the certification cost as "passed through ... as part of the per-unit price." *Brand Marketing Group LLC v. Intertek Testing Services, N.A.*, 801 F.3d 347 (3d Cir. 2015). It is recoverable because the mark increases the value of the product. The manufacturer already held the certificate before the mark was applied. The purchaser selects the marked product over the unmarked one and pays the difference. The certifier collects it.

## ## 14. DEPLOYMENT

**Purchaser puts the device, sticker on it, into use.**

The mark travels with the device and remains visible. The certification, which began as a private document, is now presented to the public as they encounter it.

The user used hand dryers purchased by others.

The value of the sticker is now transferred from the certifier to the user via the purchaser. Without users there is no product, no market and there are no certifiers. The manufacturer implies quality and increases income via the promises made by the certifier, paid for by the purchaser, paid for by the user.

## ## 15. BINDING BY DUTY

**Users see the sticker and trust the device, directly linked to the document in the drawer, amplified by brand reputation.**

The user has no contract with the certifier and needs none. The obligation that reaches him is duty, and duty requires only that the certifier supplied information for the guidance of others and that reliance on it was foreseeable. Both conditions are satisfied at the moment the mark is placed. The certifier's mark binds through the manufacturer by reliance and duty.

## ## 16. RELIANCE

**Users assume certification for public facing products in public buildings.**

The user enters the room. The device is present. The user assumes any device present in a commercial building in 2026 has been tested, vetted, retested, certified, and found to be safe for use. A certified hand dryer's presence is itself a representation that the evaluations a reasonable person assumes were performed have in fact been performed. The user relies on this without examination, often without noticing it. The user surely did. Until he didn't.

That reliance is not careless. It is the condition the certification system exists to produce

The entire system's success - certifier to manufacturer to purchaser - is measured by how completely it removes the need to ask.

## ## 17. THE TEST

**Remove the sticker.**

Nothing upstream changes. The contract and certification between certifier and manufacturer is untouched. Contracted services have been rendered and the transaction is complete. A device has been shown safe to produce and safe to use, the value to the manufacturer and the payment to the certifier are equitable, and if the standards and testing

are valid both parties received exactly what they bargained for. No further action is required of either.

Everything downstream disappears.

The absence of the sticker impacts only the purchaser and the user. A purchaser no longer believes the product is superior to any competing product, offering no increased value. A manufacturer could post the complete certification document on every public document and representative dryer in a sales room exposed to purchasers, not a footnote to an incomprehensible document a reasonable user cannot understand, but the mark, the sticker, offered by the certifier to the manufacturer to provide the imprimatur of its brand reputation does it so much more efficiently. A user, absent the sticker, no longer has the expectation of quality, safety, and validity no matter what the product is. There are millions of uncertified products competing in the marketplace including hundreds of hand dryers. A dryer with no mark is not the same as a dryer with a mark.

Reliance collapses.

## ## 18. THE SECOND TEST

### **Remove the user**

There is no product and no market, certified or uncertified, mark or no mark. Manufacturers do not seek certification, there are no certifiers.

Certifiers wrote standards about hands. The user is not peripheral. The user is the subject.

Remove the user and the entire chain collapses. The mark is user-facing. That is its purpose.

### **THE MARK IS A CONTRACT**

The chain describes what the certifier built: a status conferred in private, and an instrument for carrying it into public view. This section states what that instrument does when it reaches the party who pays for it.

## ## 1. The certifier's product

The certifier does not manufacture the hand dryer. The hand dryer belongs to the manufacturer, and the manufacturer answers for it. *Toman v. Underwriters Laboratories, Inc.*, 532 F. Supp. 1017, 1019 (D. Mass. 1982) ("UL can be held liable only for its own negligence, not vicariously for that of [the manufacturer]"). The user adopts that rule and does not disturb it.

The certifier's product is the certification --- the standard it wrote, the test it specified, the evaluation it performed, and the mark it created to carry the result into commerce. That is its entire output and its entire revenue.

When a purchaser buys a marked product, two things are bought in one transaction: the device from its maker, and the certification from the certifier, the mark having informed the purchaser before the transaction. The published standard states the terms of the second. The mark represents conformance to those terms. The price includes both.

## ## 2. The mark is an offer

An offer is "a manifestation of willingness to enter into a bargain, so made as to justify another person in understanding that his assent to that bargain is invited and will conclude it." *O'Brien v. Nationwide*, 689 A.2d 254, 258 (Pa. Super. 1997) (quoting *Cobaugh*).

A posted public offer, accepted by performance, is a binding unilateral contract, and the defense that the offer was a mere gift unsupported by consideration fails where "the offer specified the performance which was the price or consideration to be given." *Cobaugh v. Klick-Lewis, Inc.*, 561 A.2d 1248, 1249 (Pa. Super. 1989).

The mark is knowingly posted. It is placed on the exterior of the product, facing outward. It cannot inform the manufacturer, who holds the certificate. It cannot inform the certifier, who wrote it. It is directed at the person deciding whether to buy.

Both certifiers recorded that purpose in their own materials. UL introduced the UL Label Service in 1906, twelve years after founding the laboratory, specifically to give consumers

the ability to select products tested to UL's safety standards. NSF specified the mark in Annex A.1 of Protocol P335, reproduced it, and directed that certified products bear it.

### ## 3. The terms are definite

An offer "must be intentional, definite, in its terms and communicated." *Stumpp v. Stroudsburg Municipal Authority*, 658 A.2d 333, 335 (Pa. 1995). No offer exists where essential terms are unclear. *Columbian Rope Co. v. Rinek Cordage*, 461 A.2d 312, 316 (Pa. Super. 1983).

The terms are published quantities. Among other things, UL's Product Category Rule fixes the functional unit at 100,000 completed dryings to 0.25 grams residual moisture. UL's Environmental Product Declaration states 8.355 seconds and 3.68 watt-hours per drying. NSF Protocol P335 §4.3.3 requires 0.1 gram within one operating cycle or fifteen seconds, and §6.3 requires 95% effectiveness across a minimum of twenty replications.

Each is a number, in a published document, attached to a named product. They are as definite as the hole-in-one in *Cobaugh*.

### ## 4. Acceptance

The purchaser accepts by purchasing. Assent may be manifested "wholly or partly by written or spoken words or by other acts." Restatement (Second) of Contracts §19. A promise "may be stated in words ... or may be inferred wholly or partly from conduct." *Id.* §4.

The certifier has never asked a purchaser to sign anything. The mark was built to produce the purchase without a signature, and it does.

### ## 5. Consideration

The certification fee is not absorbed by the manufacturer out of charity. It is recovered in the price of the goods, and it is recoverable because the mark makes the goods worth more. The Third Circuit accepted that this is how the cost travels, treating the certification cost as "passed through ... as part of the per-unit price." *Brand Marketing Group LLC v. Intertek*

Testing Services, N.A., 801 F.3d 347 (3d Cir. 2015). The purchaser pays it. The certifier collects it through that channel.

The manufacturer already holds the certificate before the mark is applied. What the fee buys beyond the certificate is the mark, and the mark's only function is its effect on people who will never read the certificate.

#### ## 6. Subjective intent is not the question

"In ascertaining the intent of the parties to a contract, it is their outward and objective manifestations of assent, as opposed to their undisclosed and subjective intentions, that matter." *Ingrassia Constr. Co. v. Walsh*, 486 A.2d 478, 483 (Pa. Super. 1984), followed verbatim in *Espenshade v. Espenshade*, 729 A.2d 1239, 1243 (Pa. Super. 1999).

What governs is what the certifier's conduct communicated to a reasonable person who saw it. That conduct is documented in the certifiers' own instruments: the mark created, specified, reproduced, licensed, charged for, and policed. NSF prohibits unauthorized use of the designation "through the marking of products or packaging, or by any other means." NSF Protocol P335, front matter. NSF commits to audits "of all facilities and production locations at least annually," covering changes in labeling and product literature. *Id.*, Annex A.2. NSF commits to retesting certified systems every five years. *Id.*, Annex A.3.

A party does not specify, license, police, audit, and retest an instrument that communicates nothing.

#### ## 7. The law implies the contract

Where a bargain is disputed, the law supplies one. "Where unjust enrichment is found, the law implies a contract ... which requires that the defendant pay to plaintiff the value of the benefit conferred." The focus "is not on the intention of the parties, but rather on whether the defendant has been unjustly enriched." *Schenck v. K.E. David, Ltd.*, 666 A.2d 327, 328 (Pa. Super. 1995).

#### ## 8. Capacity and legality

UL Solutions, Inc. is a Delaware corporation recognized by OSHA as a Nationally Recognized Testing Laboratory under 29 C.F.R. § 1910.7. NSF International holds the same recognition, first granted December 10, 1998. Each contracts to certify products as its business. Certifying a product under a published standard is lawful and serves the public.

#### ## 9. The purchasers in this chain

The certification passed through more than one purchaser. Excel Dryer paid UL for certification and for the mark. Distributors and retailers acquired marked product. Facility operators --- the coffee retailers, building owners, and property managers who install commercial hand dryers --- purchased marked devices and installed them in restrooms they open to the public.

Each of those parties paid a price that included the certification, and each received the terms the certifier published.

#### ## 10. What the user claims

The user states the elements of formation because they are present at the third link and because the obligation owed at the fourth link cannot be described without them.

The user pleads no contract count and no unjust-enrichment count. The contract belongs to the purchaser. What follows belongs to him.

Note for the purchaser plaintiffs. In the related federal action, the plaintiff is the user and pleads no contract count; for the user this chain is argument, building to the duty and arming the misrepresentation counts against the disclaimer defense. A purchaser plaintiff pleads it directly --- contract and duty together and in the alternative, needing to prevail on only one -- because the two theories reach different defendants, different damages, and different limitation periods, and nothing in the rules requires a choice.

#### ## 11. The terms, stated by the certifiers

The terms are not inferred. UL's Product Category Rule fixes the functional unit at 100,000 dryings to 0.25 grams of residual water or less. Its Environmental Product Declaration for the XLERATOR states a dry time of 8.355 seconds and approximately 3.68 watt-hours per use, and normalises the reported environmental results to that functional unit. NSF Protocol P335 §4.3.3 requires 0.1 gram of residual moisture within one normal operating cycle or fifteen seconds, whichever is lower, and §6.3 requires 95 percent effectiveness across not fewer than twenty replications. Each figure is the certifier's own, published in the certifier's own document.

Against those terms: 462 drying trials on downdraft dispersal units recorded zero compliance at any manufacturer-claimed time, with mean residual moisture of 2.83 grams --- more than twenty-eight times the strictest certified threshold. A specification stated to a thousandth of a second is a definite term. So is a threshold stated to a hundredth of a gram.

#### ## 12. What the certifiers did with the mark

The certifiers' conduct is documented in their own instruments. The mark was created, specified, reproduced, licensed, charged for, and policed against unauthorised use. NSF Protocol P335 conditions display of the mark on certification and reserves enforcement against use "by any other means." UL controls the form of its mark and the conditions of its use. A party that specifies a symbol, charges for the right to display it, and prohibits its display by anyone who has not paid is not passively permitting a courtesy. It is selling something.

### **THE MARK IS A DUTY**

The Mark Is a Contract, above, describes what the mark does where money changes hands. That obligation stops at the parties who paid.

The duty does not stop. It runs the full length of the chain, because reliance runs the full length of the chain, and every party who relied was owed the same care.

#### ## 1. The obligation

One who, in the course of his business, profession or employment, or in any other transaction in which he has a pecuniary interest, supplies false information for the guidance of others in their business transactions, is subject to liability for pecuniary loss caused to them by their justifiable reliance upon the information, if he fails to exercise reasonable care or competence in obtaining or communicating the information. Restatement (Second) of Torts §552.

Pennsylvania adopted §552 in *Bilt-Rite Contractors, Inc. v. The Architectural Studio*, 866 A.2d 270 (Pa. 2005), to "clarify the elements of the tort as they apply to those in the business of supplying information to others for pecuniary gain." *Id.* at 280.

A certification body is the paradigm occupant of that category. It manufactures nothing. Its output is evaluative information --- the standard, the test, the record, the mark --- supplied for the guidance of others, for a fee.

#### ## 2. Privity is not required

Because §552 does not require privity, "the economic loss rule does not apply to claims of negligent misrepresentation sounding under Section 552." *Bilt-Rite*, 866 A.2d at 288. The section reaches circumstances "where it is foreseeable that the information will be used and relied upon by third persons, even if the third parties have no direct contractual relationship with the supplier of information." *Id.* at 287.

The Third Circuit has applied the rule to a testing laboratory of the Defendants' own category. In *Brand Marketing Group LLC v. Intertek Testing Services, N.A.*, 801 F.3d 347 (3d Cir. 2015), a jury verdict of \$6,045,000 --- including \$5,000,000 in punitive damages --- was affirmed against a Nationally Recognized Testing Laboratory that negligently certified a product to a standard the product did not meet.

#### ## 3. The relying party need not be identified

Intertek "didn't need to know that Brand, specifically, would rely on its testing data for §552 to apply." It "needed to know only that somebody aside from [the entity that submitted the product] would rely on it." Brand Marketing, 801 F.3d at 360.

The Restatement states the rule twice. "It is not necessary that the maker should have any particular person in mind as the intended, or even the probable, recipient." Restatement (Second) of Torts §552 cmt. h. "It is not required that the person who is to become the plaintiff be identified or known to the defendant as an individual." Id.

Illustration 9 applies it. A city engages an engineering firm to prepare a subsurface report, notifying the firm the report will be furnished to bidders. Without knowing the identity of any bidder, the firm negligently prepares an inaccurate report. A general contractor bids in reliance. A subcontractor --- who contracts with the general contractor rather than the city, and who never receives the report --- contracts to perform part of the work. The firm "is subject to liability to C and to D."

The subcontractor is two steps removed, never identified, and never in possession of the document. Liability attaches in his favor.

## 4. No physical injury is required

"What matters is that Intertek acted in reckless disregard of the risk of harm; that the risk did not come to fruition is a product of chance for which Intertek should not be rewarded." Brand Marketing, 801 F.3d 347, majority op. n.4.

## 5. The duty runs to every party the mark reached

The certifier supplied one representation. Every party downstream of it relied on the same representation, and each was owed the same care.

The manufacturer relied when it built a product line around a certification it paid for. The distributor and the retailer relied when they stocked marked goods. The facility operator relied when it selected a machine certified as hygienic and installed it in a room where its customers wash their hands. The user relied when he put his hands in the machine.

Four positions, one representation, one standard of care. The certifier does not owe less to the last of them because it also owed something to the first. That multiple parties relied does not divide the obligation; it establishes that reliance was foreseeable in exactly the way §552 requires. A certifier that places its mark on billions of products annually has not diluted its duty. It has multiplied the transactions its information was intended to influence.

#### ## 6. What the certifier undertook

One who undertakes, gratuitously or for consideration, to render services to another which he should recognize as necessary for the protection of a third person or his things, is subject to liability to the third person for physical harm resulting from his failure to exercise reasonable care to perform his undertaking, if his failure to exercise reasonable care increases the risk of such harm. Restatement (Second) of Torts §324A.

Section 324A is the law of Pennsylvania. *Farabaugh v. Pa. Turnpike Commission*, 911 A.2d 1264 (Pa. 2006).

A standards-writing certifier that lists conforming products "has undertaken to render the service of inspecting ... and delisting those ... unable to adhere to standards it has promulgated. It should recognize that these services are necessary for the protection of third persons, consumers who will acquire the [product]." *FNS Mortgage Service Corp. v. Pacific General Group, Inc.*, 24 Cal. App. 4th 1564, 1572 (1994). Summary judgment for the certifier was reversed. The certifier's listing controlled marketability: "an unlisted pipe ... is unmarketable."

"It is straining at words to say that Underwriters does not approve the design of a product ... when Underwriters lists it, it thereby tacitly impresses its approval upon the design." *Hempstead v. General Fire Extinguisher Corp.*, 269 F. Supp. 109, 117 (D. Del. 1967).

#### ## 7. The scope of the undertaking is what the certifier defined

Section 324A liability is measured by what the certifier undertook to do. Where the harm fell outside the undertaking --- and where the certifier had affirmatively disclaimed the subject

--- no duty attached. *Dekens v. Underwriters Laboratories*, 107 Cal. App. 4th 1177 (2003) ("toxicity is one of them --- we use a disclaimer, indicating that we have not looked into toxic effects").

Neither certifier disclaimed hygiene. Each defined it.

UL's Product Category Rule states the product's function, as ISO 14025 §6.7.1(a) requires, as a hygienic method to dry hands in public washrooms. NSF titled its protocol "Hygienic Commercial Hand Dryers" and stated in §1.1 that it "establishes minimum requirements for health and sanitation characteristics of hygienic commercial hand dryers." NSF's Scope section identifies the hazards the protocol addresses: that commercial hand dryers "discharge ambient air that could also contain bacteria, mold spores or viruses"; that insufficient drying leaves "residual moisture ... [that] could facilitate transmission of transient microorganisms"; and that such dryers "can promote distribution of potentially pathogenic bacteria and allergenic mold spores or recontaminate hands." NSF Protocol P335 §1.2.

The harm alleged is not outside the undertaking. It is the undertaking, unperformed.

## 8. Reliance on a certification is justifiable

Implicit in a seal and certification "is the representation [the certifier] has taken reasonable steps to make an independent examination of the product endorsed, with some degree of expertise, and found it satisfactory." *Hanberry v. Hearst Corp.*, 276 Cal. App. 2d 680, 683 (1969). Because "the very purpose of [the] seal and certification is to induce consumers to purchase," the certifier owes a duty "to use ordinary care ... so that members of the consuming public who rely on its endorsement are not unreasonably exposed to the risk of harm." A disclaimer does not bar the tort. *Id.* at 685.

Justifiable reliance does not require independent verification. Where an insurer argued that reliance was unjustified because the plaintiffs "could have simply read the policy to discover the actual coverage the policy afforded," the evidence was held sufficient to present a jury

question notwithstanding. *Rempel v. Nationwide Ins. Co.*, 471 Pa. 404, 370 A.2d 366 (1977), as recited in *Bilt-Rite*, 866 A.2d 270.

A facility operator does not reproduce a microbial-kill protocol. A designer does not repeat a life-cycle assessment. A user does not audit a Product Category Rule before drying his hands. The certification exists so that none of them must. That is the product the certifier sells.

#### ## 9. Reasonable care

The standard is the certifier's document. The test method is the certifier's design. The evaluation is the certifier's execution of its own protocol. The certification is the certifier's act, issued in the course of the business from which it earns its revenue.

Across 462 drying trials conducted under the certifiers' stated method, zero achieved the certified specification. Residual moisture measured 2.83 grams where the certifications state 0.1 to 0.25 grams. Bacterial amplification measured 49.6 to 110 times ambient in products certified as hygienic. Visible mold colonization appeared at 100% of dispersal-type installations.

The falsity is the measured difference between a published specification and a reproducible result.

#### ## 10. Custom is no defense

"[A] whole calling may have unduly lagged in the adoption of new and available devices ... [T]here are precautions so imperative that even their universal disregard will not excuse their omission." *The T.J. Hooper*, 60 F.2d 737, 740 (2d Cir. 1932) (L. Hand, J.).

That the industry has certified hand dryers this way since 2007 establishes the practice. It does not establish that the practice was careful.

#### ## 11. The rule, in full

One who, in the course of his business, profession or employment, or in any other transaction in which he has a pecuniary interest, supplies false information for the guidance of others in their business transactions, is subject to liability for pecuniary loss caused to them by their justifiable reliance upon the information, if he fails to exercise reasonable care or competence in obtaining or communicating the information. Restatement (Second) of Torts §552. Pennsylvania adopted the section in *Bilt-Rite Contractors, Inc. v. The Architectural Studio*, 866 A.2d 270, 280 (Pa. 2005).

The Third Circuit applied it to a testing and certification laboratory, affirming a verdict of \$6,045,000 including \$5,000,000 in punitive damages. *Brand Marketing Group LLC v. Intertek Testing Services, N.A., Inc.*, 801 F.3d 347 (3d Cir. 2015). The laboratory needed to know only that somebody other than the party commissioning the test would rely on it. *Id.* at 360. The Restatement states the rule twice, and Illustration 9 imposes liability in favour of a subcontractor two steps removed, never identified, who never received the document.

A nationally recognised testing laboratory is answerable where it failed to meet its own standards for testing, interpreted the standard inconsistently, or lacked independence. *Warren Technology, Inc. v. UL LLC*, 962 F.3d 1324 (11th Cir. 2020).

## 12. The undertaking, and how old the rule is

One who undertakes to render services to another which he should recognise as necessary for the protection of a third person is subject to liability to the third person for physical harm resulting from his failure to exercise reasonable care. Restatement (Second) of Torts §324A. The essential provisions of that section "have been the law in Pennsylvania for many years." *Cantwell v. Allegheny County*, 506 Pa. 35, 483 A.2d 1350 (1984). Pennsylvania applied it to a party undertaking safety-related evaluation in *Farabaugh v. Pennsylvania Turnpike Commission*, 590 Pa. 46, 911 A.2d 1264 (2006). This is not a novel theory. It is a rule Pennsylvania has applied for four decades.

What the certifier undertook is stated in its own front matter. NSF titled its protocol *Hygienic Commercial Hand Dryers* and states at §1.1 that it "establishes minimum requirements for

health and sanitation characteristics." Its Scope identifies the hazards: dryers "discharge ambient air that could also contain bacteria, mold spores or viruses," and insufficient drying leaves residual moisture that "could facilitate transmission of transient microorganisms." The protocol also states what it declined to cover: provisions for safety were not included, because other bodies supply them. It named safety and carved it out. It did not name hygiene, and could not have --- hygiene is the subject the document is titled after.

## 13. The measure of reasonable care is the certifier's own document

Where a certifier writes the standard, specifies the test method, and executes its own protocol, the standard of care needs no expert to construct it. The standard is the certifier's document, the test method its design, the evaluation its execution of its own procedure. Measured that way: residual moisture of 2.83 grams against certifications of 0.1 to 0.25 grams; a median of two hundred colony-forming units against a derived acceptance of approximately one; and a declared hygienic function with no hygiene standard anywhere in the conformance regime the rule itself prescribes.

A certifier that departs from its own published procedure has not exercised the care its own document defines. That is the whole of the standard-of-care question, and both certifiers supplied the answer before the question was asked.

## **OBLIGATIONS TO THE USER**

The Mark Is a Contract states the obligation where the mark was paid for. The Mark Is a Duty states the obligation to everyone who relied on it. This section identifies where the user stands.

The user never bought a hand dryer. The user bought coffee.

## 1. The fourth link

The certification travels four links, and every link is an act a Defendant performed or an act the Defendants intended.

First, the manufacturer contracts with the certifier. The certifier writes the standard, specifies the test, conducts the evaluation, and issues the certificate. The certificate is not a record of what the machine did. It states what the machine must do and declares that it complies, and the device that carries it is a different commercial object from the identical device that does not. The status is conferred at that moment, inside a private transaction, where no purchaser and no user can see it. This link is uncontested. It is the Defendants' business model.

Second, the certifier makes that status visible. It offers the manufacturer a public-facing mark and directs its application to the product. The mark confers nothing; the conferral already occurred at the certificate. The mark carries no content of its own and states no specification. It is bound to the certificate, exclusively, by the certifier's design and under the certifier's control, and its only function is to make a private status legible to people who will never see the document that created it.

Third, the marked product enters commerce and reaches purchasers. Each pays a price that includes the certification. The certifier is paid through that channel.

Fourth, a purchaser installs the certified product for the use of the people it serves, and the certification arrives at them. It arrives whether or not they read the mark. It arrives whether or not they know the certifier's name. It arrives because the machine is on the wall, and the machine is on the wall because it was certified.

## 2. The fourth link is why the first three occur

A commercial hand dryer is not bought to be owned. It is bought to be used, and it is bought to be used by someone other than the buyer.

A coffee retailer does not install a hygienic hand dryer because the retailer has hands. The retailer installs it because the retailer's customers do. The certified quality the retailer purchased can only be delivered to a third party --- the person standing at the sink. A certification of hygienic hand drying has no value to a purchaser who will never use the device. Its entire value to the purchaser is its effect on the people the purchaser serves.

The purchaser is a conduit. The certification's destination is the user.

### ## 3. How the certification reached the user

The user did not read UL's Environmental Product Declaration. He did not read UL's Product Category Rule. He did not read NSF Protocol P335. He had never heard of a Product Category Rule until he began the work that produced this Complaint.

The user used hand dryers, unquestioningly, for decades, trusting they had been tested.

That is not a defect in his reliance. It is the product the certifiers sell. The purpose of a certification system is to make verification unnecessary at the point of use. If a person had to audit a testing protocol before drying his hands, the system would have failed at the only task it has. The certifiers do not sell documents to readers. They sell the assurance that permits an uninformed person to use a machine without checking.

### ## 4. What §552 requires

Section 552 requires false information supplied for the guidance of others, justifiable reliance, pecuniary loss, and a failure of reasonable care.

It does not require that the relying party receive the certifier's document. It does not require that he read it. It does not require that he know the certifier's name. It does not require privity. *Bilt-Rite Contractors, Inc. v. The Architectural Studio*, 866 A.2d 270, 287 (Pa. 2005).

Comment h forecloses the identification requirement in terms, and Illustration 9 imposes liability in favor of a party two steps removed who never received the document. Restatement (Second) of Torts §552 cmt. h & illus. 9.

### ## 5. The transaction the information was intended to influence

Section 552(2)(b) limits liability to loss suffered through reliance "in a transaction that [the supplier] intends the information to influence, or knows that the recipient so intends, or in a substantially similar transaction."

The certifications identify that transaction in their own terms.

NSF Protocol P335 is titled "Hygienic Commercial Hand Dryers." Section 1.1 states that it "establishes minimum requirements for health and sanitation characteristics." Section 3.4 defines dry hands as "[a]dult human hands with less than 0.1 g residual moisture." Section 4.3.3 requires that "[t]he unit must dry the user's hands to a satisfactory level." Section 4.3.2 requires that surfaces contacting the emitted air "be designed or treated to inhibit the growth of bacteria and mold." Section 6.4 states that "[t]he operational intent of a hygienic commercial hand dryer is to prevent the hand dryer from using air contaminated with microbes to dry a user's hands."

UL's Product Category Rule fixes the functional unit at 100,000 completed dryings of human hands.

Every term describes something that happens to a person who is not the purchaser. The transaction the certification was written to influence is the delivery of certified hand drying to users.

## 6. The user entered that transaction and paid for it

When the user purchased goods and services at a commercial establishment, the price included the establishment's cost of providing the premises --- the restroom the establishment is required to provide, and the hand-drying service the establishment selected, purchased, and installed for his use.

The user paid for hand drying certified to reach a stated residual-moisture threshold within a stated time and to leave his hands more hygienic than it found them. He received hand drying that requires sixty to ninety seconds and that amplifies microbial contamination by factors of 49.6 to 110.

The difference is his loss. It is pecuniary, it is his, and it is measurable. No physical injury is required. *Brand Marketing Group LLC v. Intertek Testing Services, N.A.*, 801 F.3d 347, majority op. n.4 (3d Cir. 2015).

## ## 7. The persons owed this duty are defined by the certifiers

The class to whom these representations run is not the public at large. It is the persons who use a commercial hand dryer that a purchaser selected, bought, and installed in reliance on the mark.

The Defendants defined that class themselves. NSF's protocol speaks of "the user's hands." UL's functional unit counts completed dryings. A person who never encounters a certified dryer is outside the class however it is described. A person who uses one is inside it, because the certification is about what happens to him.

Section 552 does not limit liability by headcount. It limits liability by the transaction the supplier intended the information to influence. Restatement §552(2)(b). Comment h forecloses any requirement that the plaintiff be identified.

The user pleads his own injury, at facilities he identifies, for years unsuspecting, on dates he documents, later measured across 462 trials. He seeks relief for himself.

## ## 8. Where the harm lands

The first three links are commerce. The fourth link is the reason the certification exists.

A certification of hygienic hand drying that never reaches a user has certified nothing. Its terms describe an event that occurs only at the fourth link: hands, wet, entering a machine, and leaving it. Every threshold the Defendants wrote --- 0.1 grams, 0.25 grams, fifteen seconds, one operating cycle, four logs, six logs --- measures what happens to a user.

The certifiers did not write standards about procurement. They wrote standards about hands.

The certified event is the event the user experienced, tested, and documented 462 times, at zero-percent compliance.

The user is not a bystander to the Defendants' transaction with the manufacturers. He is the reason the transaction exists.

## ## Independence is a condition of holding the mark

The obligation the mark carries is not only a duty of care. It is a condition of the mark itself. In *Idaho Potato Commission v. M & M Produce Farm & Sales*, 335 F.3d 130 (2d Cir. 2003), the Second Circuit vacated an order barring a licensee from seeking cancellation of a certification mark, holding that a no-challenge provision in the licensing agreement was unenforceable because it violated the public policy embodied in the Lanham Act, and remanded for consideration on the merits of allegations that the mark owner had discriminatorily refused to certify, imposed standards beyond those the mark was registered to certify, and lacked the independence necessary for certification mark owners. The Eleventh Circuit cited that case in *Warren Technology, Inc. v. UL LLC*, 962 F.3d 1324, 1329 (11th Cir. 2020), when naming what a nationally recognized testing laboratory may be answerable for. Independence is not a courtesy the certifier extends. It is a condition of holding the mark, and a licensee cannot be made to contract away the right to say so.

## ## The science behind the figures

The measurements stated in this memorandum rest on 931 individual tests conducted at 226 stores across five states and the District of Columbia, examining 169 hand dryers and 94 paper-towel dispensers, across 1,076 culture dishes from which approximately 50,000 bacterial and fungal colonies were hand counted. Every result is public, replicable, and open for inspection and debate. Every counting decision is documented and every error found and corrected is disclosed in the record. The complete methodology and the underlying data are published at [handdryerstudy.com](http://handdryerstudy.com).

## **WHAT THIS MEMORANDUM ESTABLISHES**

The certifier defined the harm. The certifier fixed the level at which it occurs. The certifier prescribed the test, or prescribed none. The certifier declared the level not exceeded. The certifier created a mark whose only function is to carry that declaration to people who will never read the document behind it, charged for the right to display it, and enforced against display by anyone who had not paid. The purchaser paid a price that included the fee. The

user encountered the mark in the room where the machine was installed and did what the system was built to make him do, which is not ask.

Two obligations arise from that sequence and they arise independently. Where money changed hands there is a contract, and it belongs to the party who paid. Everywhere the mark reached there is a duty, and it belongs to everyone who relied. The user is not at the end of that chain as an afterthought. He is the reason every earlier link exists: no user, no product, no market, no certification, no certifier.

A plaintiff who purchased a certified machine holds both. A plaintiff who only used one holds the second, which is sufficient. Neither needs to prove what a symbol means in the abstract, because the certifiers wrote down what it means, in their own documents, in numbers, and then declared compliance with figures their own products do not meet.

## **APPLICATION OF THE CERTIFICATION CHAIN TO THE CLASS**

The foregoing brief establishes the chain in full. Its application to the Class is direct, because the Class occupies the final link — the user — and occupies it in the strongest possible posture.

Every other party in the chain chose its position. The manufacturer chose to seek certification. The certifier chose to issue it. The purchaser chose to buy in reliance on it. The Class members chose none of it. Starbucks selected the certified devices, installed them in employee restrooms, removed the paper-towel alternative, and posted signage endorsing the choice. Health codes and Starbucks policy then required Class members to wash their hands — twenty or more times per shift — and the only means of drying provided was the certified device. The reliance the certification system is built to induce was, for the Class, not induced but commanded.

The obligations the brief establishes therefore run to the Class members with nothing left to argue. The certifier's public-facing mark exists for exactly one audience: the person at the machine who will never see the certificate, never read the standard, and never hear of the

certifying body, and who trusts the device because someone competent appears to have evaluated it. The Class members are that audience, hundreds of thousands strong, more than five thousand exposures each per year. The mark reached them on the front of the device, in the manufacturer's "certified hygienic" marketing, and in their employer's signage — and each Defendant in the chain either made, validated, transferred, or mandated reliance on the representations the mark carries.

Two consequences follow. First, the certifier Defendants' duties under Restatement (Second) of Torts §§ 552 and 324A reach the Class directly: the Class members are the third persons for whose protection the certification undertaking exists, and the end users for whose guidance the certification information is supplied. Washington adopted § 552, and the § 324A undertaking analysis requires no privity of any kind. Second, Starbucks' position in the chain is unique among the Defendants: it is the purchaser who converted the certifications into a workplace mandate. The chain's purchaser link and the employer's duty of workplace safety meet in Starbucks, and the notice record pleaded above — March 16, 2025, and the five days that followed in Seattle — fixes what Starbucks knew while the mandate continued.

#### **H. The Standard Is Indivisible**

#### **E. THE STANDARD IS INDIVISIBLE**

89. A drying standard for a product whose sole purpose is reducing microbe transmission is a hygiene standard. These two things cannot be separated. Hands must leave the device as clean or cleaner than when they entered. This is not controversial.
90. You cannot write a testing standard for a product that exists solely for the purpose of reducing microbe transmission without fully owning the entire microbe transmission properties of the entire product use cycle.

91. Defendants certified drying time. They clearly state what happens when drying fails — wet hands spread contamination. [Exhibits S, T]
92. Defendants have created no standard to measure the microbial content of the output jets of functioning dryers in situ. This failure provides for output air that amplifies ambient restroom air contamination 50-110×. [Exhibits A, I]
93. Defendants certified "hygienic" hand dryers. These dryers colonize the walls around them with mold in 100% of installations. [Exhibits J, Q, R]
94. Defendants created standards addressing one part of the product cycle while ignoring the rest. NSF P335 Section 6.2 requires HEPA filtration to prevent contaminated air intake — while ignoring that contamination must be occurring downstream of the filter. NSF P335 Section 6.5 requires 99.9999% bacterial kill for water in capture-type dryers — while requiring nothing for dispersal-type dryers that spray contaminated water throughout the room. The UL PCR mentions hygiene once in 35 pages. Water dispersal — the primary mechanism by which these products affect public health — is not mentioned at all. [Exhibit W]
95. It is not reasonable to believe these omissions are oversights. They fit the model of liability engineering. Defendants wrote standards that address what manufacturers wanted addressed and ignore what manufacturers wanted ignored rather than testing the claims manufacturers make for the entire device use cycle.
96. That is not safety certification. That is regulatory capture. Defendants wrote the standards. Defendants certified the products. Defendants own the outcomes.

## **I. Scientific Consensus Compels Judicial Action**

### **F. SCIENTIFIC CONSENSUS COMPELS JUDICIAL ACTION**

97. Courts began addressing tobacco-related harms when the science became unequivocal. Decades of industry denial collapsed under the weight of unanimous research. Judicial intervention followed scientific consensus.
98. Hand hygiene science presents a far stronger case than even the best second hand smoke science:
99. The science establishing that hand drying prevents disease transmission has never been disputed. [Exhibit S] Researchers, Public Health authorities and the Defendants themselves cite this science in their standards creation and in marketing. These products would not exist except for this science as their sole purpose is to reduce microbial transfer after hands are washed, the most basic historical science ever done. Defendants built their industry on this science.
100. The science establishing that hand dryers amplify contamination has accumulated for 36 years across 18 peer-reviewed studies [Exhibit S]. Every study done on hand dryers in functioning restrooms shows the same result, with no contradicting studies in the literature.
101. Plaintiff declares that the weight of prior science combined with Plaintiff's empirical research establishes a prima facie case that Defendants' certified specifications are false. The burden shifts to Defendants to produce evidence — using Plaintiff's publicly documented methodology — demonstrating their certifications are accurate.
102. The science justified the product's invention. The science now condemns its failure.

## **J. The Liability Position**

### **G. THE LIABILITY POSITION**

103. Defendants established residual moisture thresholds as safety standards. NSF set 0.1 grams. UL set 0.25 grams. These thresholds exist because Defendants

determined that exceeding them was harmful. Leaving water on hands after drying was not permitted by their own self-selected standards.

104. If exceeding those thresholds causes harm, then Defendants certified products that exceed the thresholds by 1,000 to 2,770 percent [Exhibits B, E, H], and every use of every certified product exposes users to conditions Defendants themselves defined as harmful.

105. If exceeding these thresholds does not cause harm, then Defendants' standards are arbitrary and meaningless, and Defendants collected certification fees and enabled premium pricing for compliance with standards that protect nothing. They allowed certified companies to use promises of dry hands in their marketing materials, amplifying prices to prospective and real purchasers.

106. Both positions establish liability.

107. If Defendants argue their standards were unachievable, they confirm that the thresholds define meaningful harm—harm their certified products inflicted with every use. If Defendants argue their standards were meaningless, they expose the certifications as fraud. Either position renders the certification fees unjustified and the resulting exposures compensable.

108. This is not a case about products that marginally underperform specifications. This is a case about a certification ecosystem that was systematically restructured—through committee capture, standard weakening, and revolving-door self-dealing—to certify products that could not be certified under legitimate standards. The physics never changed. The standards did. [Exhibits FF, JJ] And when the standards couldn't be changed enough, the certifiers changed too. [Exhibit KK]

## **K. Defendants' Cited Claims**

### **H. DEFENDANTS' CITED CLAIMS WITH A BRIEF SUMMARY ANALYSIS, DETAIL**

109. This section is the detailed mirror of the summary claims made in the introduction.

## 1. Purpose

110. Defendant Anna Lasso as committee chair and verifier of the TrueNorth Collective Comparative Life Cycle Assessment of Hand Drying Systems: Excel Hand Dryers and Paper Towel Systems (May 2023)[Exhibit EE] states on page 16, “The purpose of [Excel hand dryers] is to dry hands after washing in a public restroom.”

111. Defendant Underwriters Laboratories states on page 9 of its UL Product Category Rules for Hand Dryers (2016) [Exhibit W], “The function of a hand dryer is to dry hands after washing in a public restroom.”

112. Defendant NSF International in its Protocol P335: Hygienic Commercial Hand Dryers (April 2007)[Exhibit X], section 1.2 states, “Commercial hand dryers are commonly used in public or commercial hand washing stations to dry hands after hand washing.”

113. Defendant SGS International states in Annex A of its Performance Test Report No. 2774929EFF-001 (Sept. 7, 2012)[Exhibit BB], “The purpose of this test is to ensure that [.....] the hand dryer is able to thoroughly dry hands during one 15-sec operating cycle.”

114. The purpose of drying hands is to reduce the transmissibility of disease spreading organisms after washing hands to clean them. Hand washing and drying are supported by 150 years of unequivocal science proving that both together reduce disease individually and in populations. [Exhibits S, T]

## 2. Drying Time

115. Defendant Anna Lasso states in the SmartEPD Environmental Product Declaration: XLERATOR® Hand Dryer, Registration No. SmartEPD-2023-002-0006-01 (2023) [Exhibit AA], “The XLERATOR dries hands completely in 8 seconds.” Also, “Tests were performed by SGS International on standard XLERATOR Hand Dryer with 0.8”

nozzle to 0.25g or less of residual moisture, pursuant to the UL Environment Global Product Category Rules (PCR) for Hand Dryers.”

116. Defendant SGS International states in its Performance Test, “The purpose of this test is to ensure ..... that the hand dryer is able to thoroughly dry hands during one 15-sec. ( $\pm 1$  sec.) operating cycle. .... 'thoroughly dry' means that less than 0.1 grams of residual moisture per hand for a total of 0.2 grams or less is recovered when a user dries his or her hands on a paper towel after using the hand dryer.”

117. Defendant NSF International in its P335, Section 4.3.3 states, “The unit must dry the user's hands to a satisfactory level (0.1 gram of residual moisture) within a period of one normal operating cycle or 15 seconds, whichever is lower.”

118. Defendant UL Solutions provides a standardized method for establishing drying time and residual moisture levels in Appendix II of its PCR, stating elsewhere, “Dry Time: After washing the hands, the length of time required to dry one's hands to a dryness threshold equaling 0.25 grams residual moisture or less using a hand dryer.”

119. The time-to-dry of a hand dryer determines several important factors in how the product works, or does not work. Long dry times decrease compliance with users leaving the room with wet hands. Long dry times increase unit energy use per dry. Long dry times increase the carbon footprint of the product. Long dry times expose the user to increased bacterial and fungal loads. Every commercial pressure for hand drying in a dryer is to claim fast times, not slow ones.

120. Figure 2: Actual performance of Dyson and Xlerator hand dryers versus manufacturers’ and certifiers’ claims.

### 3. Hygiene

121. Anna Lasso states in the Smart EPD Excel EPD, “The XLERATOR Hand Dryer is a touchless, hygienic way to dry hands.” She states in the TrueNorth LCA

that,"hygiene is part of the protocol for commercial hand dryers." and then, oddly, in the same document, states, "Although hygiene is another purpose for hand dryers that is of interest to the scientific community (Materials Systems Laboratory, 2011), hygiene is not considered in this study."

122. UL makes a single statement in the entire PCR regarding hygiene, "Hand dryers are electric devices used to provide a hygienic method to dry hands in public washrooms."

123. NSF states in the P335, "Additionally, if a hand dryer insufficiently dries the user's hands, the residual moisture remaining on the user's hands could facilitate transmission of transient microorganisms to and from other objects and people after leaving the machine." and,"Commercial hand dryers can promote distribution of potentially pathogenic bacteria and allergenic mold spores or recontaminate hands with bacteria and molds during drying."

124. SGS entirely fails to mention hygiene anywhere in its test report.

125. Hand dryers are the direct result of a lineage of continuous science extending for 150 years that, without exception, proves that washed and dried hands decrease death and disease. The scientific consensus on this subject far exceeds the science on second hand cigarette smoke, already well established in the courts as causal for disease even without proof of downstream harm. Hand dryer's sole purpose for existence is, uncontroversially, to increase sanitation for the user of a restroom. Drying hands after having washed them is the method. The Defendants, rather than building their standards around testing for functional sanitary performance barely mention it, and their testing results and processes are hidden, obfuscated and proprietary.

126. Figure 3: Microbial colonization comparison. TSA petri dishes exposed to ambient room air and dryer output air for the same length of time.

#### 4. Water Dispersal

127. Defendant Anna Lasso fails to mention in the 51 pages of the Smart EPD Xlerator Certificate and the TrueNorth Collective LCA a single word about the dispersal of water into the room after the dryer air jets strike it.
128. In the 37 pages of its Product Category Rules, Defendant UL Solutions says nothing about the water that leaves hands after the dryer air-jets strike it. In Appendix 2, instructions for testing residual water, Defendant states, “Move hands slowly and evenly through the air stream in order to blow off large water droplets”, acknowledging that there are water droplets involved in the process of using a hand dryer.
129. NSF International created specifications for water in capture-type hand dryers but does not mention anywhere in the 11 pages of its Protocol P335 what occurs, or should occur, to the water after the air-jets strike it in a dispersal-type dryer, leaving only an odd mention in its methods section 5.7 that “liquid containment ..... should be monitored during testing”.
130. SGS International fails to mention anything about the destination of water struck by the air jets hand dryers it in its Performance Test Report.
131. In a product whose single purpose, its literal reason for existing, is to remove water from wet hands it is impossible to believe that the several certifying bodies writing the design, build, and testing standards for the products – and the manufacturers who make and sell them - completely fail to mention the destination and management of the water on hands after the dryer air strikes it. Water dispersal is the final stage of the product operational cycle and it has been entirely ignored. That is surreal.
132. Figure 4: Environmental contamination from sprayed post-wash hand water. Each complete drying cycle disperses 7.3g of water directly into the air and onto the walls, floors and user of the restroom.

## 5. Plume of Filth

133. Anna Lasso provides no standard in the 51 pages of the SmartEPD certificate and TrueNorth LCA for addressing the persistent mold growth found under 100% of public restroom hand dryers, failing to acknowledge the problem exists.

134. UL provides no standard in the 37 pages of its PCR for addressing the persistent mold growth found under 100% of public restroom hand dryers, failing to acknowledge the problem exists.

135. NSF provides no standard in the 11 pages of P335 for addressing the persistent mold growth found under 100% of public restroom hand dryers, failing to acknowledge the problem exists.

136. SGS provides no testing protocol for addressing the persistent mold growth found under 100% of public restroom hand dryers, failing to acknowledge the problem exists.

137. Plaintiff documented visible mold colonization in 100% of ~200 tested installations. No defendant mentions the problem, much less providing any standard for preventing, measuring, or remediating it.

138. Figure 3: The Plume of Filth. 100% of tested hand dryers had mold somewhere on or below the

139. dryer, even in the cleanest restrooms.

## 6. Energy and Environmental Claims

140. Anna Lasso claims in the TrueNorth LCA, "The comparative results indicate that the Excel dryers have between 80% to 97% fewer impacts than the paper towel baseline." and "The cradle-to-grave global warming potential of dryers can be 83% less than the cradle-to-grave global warming potential of paper towel baseline."

141. UL Solutions provides in its PCR the methodology for calculating environmental impacts, stating the purpose is to "support comparable, informed, and objective sustainable purchasing of hand dryers."
142. NSF Protocol P335 makes no direct environmental or energy claims. NSF P335 Section 2 incorporates "Dyson Test Method DTM 553, Evaluation of Hand Dryer Drying Times" as a normative reference. [Exhibit X] DTM 553 was created by Toby Saville, a Dyson microbiologist who served on the NSF Protocol Development Panel that wrote P335. [Exhibit PP] In sworn testimony filed in *Excel Dryer, Inc. v. Dyson, Inc.*, Saville reported that DTM 553 testing produced a mean dry time of 9.58 seconds to the 0.1g threshold NSF P335 establishes. That certified performance data—generated by a manufacturer's employee using a test method he created, incorporated into a standard he helped write—became the input for every subsequent life cycle assessment claiming environmental advantage. Those false certified values form the basis for all subsequent life cycle assessments.
143. SGS makes no energy claims but it is upon their false test results that all subsequent life cycle assessments are based.
144. The energy savings and environmental claims made by hand dryer manufacturers are a primary reason they are purchased and the most heavily marketed aspect of their performance. Energy savings are based on false dry times certified by the Defendants.
145. Figure 4: Certifiers claimed Carbon and Energy use per dry cycle versus actual Carbon and Energy
146. per dry cycle as compared to paper towels via complete Life Cycle Analyses at valid time-to-dry values

## **L. The Empirical Proofs**

### **I. THE EMPIRICAL PROOFS**

147. Plaintiff's testing and analysis are fully documented, transparent, and open to independent verification. All underlying data, images, sampling records, and chain-of-custody materials have been preserved at multiple locations and will be made publicly available in their entirety at the time of filing. [Exhibits A-R] Plaintiff's conclusions are not asserted as matters of authority, but as matters of record: they are testable, falsifiable, and reproducible by any qualified party using the same methods and materials. The associated research manuscripts are published pre-prints and are provided in complete form together with the full evidentiary record on which they are based, precisely so that Defendants, their experts, and the Court may evaluate the work directly rather than through second-hand characterization.

148. Plaintiff's research methodology, data, and analysis are published in ten studies with Digital Object Identifiers on Zenodo and at the Harvard Dataverse. All raw data, 1.3TB, is hosted at Cloudflare and Backblaze . The studies are publicly available, peer-accessible, and independently verifiable on 12 websites. All of this material is preserved on 50 hard drives distributed to 50 trusted individuals.

149. The standards at issue were not imposed on Defendants by regulators. Defendants created them. Defendants promoted them. Defendants certified products under them. Defendants' own data proves compliance is impossible.

#### **1. Drying Time Performance Testing Results**

150. Performance curves from three manufacturers across 451 drying time trials demonstrated convergent correlation coefficients exceeding  $r = 0.99$  across all pairwise comparisons ( $p < 0.001$ ). [Exhibits B, E, H, L] In 31 trials conducted at manufacturers' exact claimed dry times—8 seconds for XLERATOR, 10-12 seconds for Dyson Airblade, 12 seconds for World Dryer—zero trials achieved any certification threshold [Exhibits B,E,H]. The most favorable result from all trials was

1.67 grams. Defendants certified 0.1 to 0.25 grams. Plaintiff documented 1.67 grams at best, 2.5 to 3.0 grams typically, ~1000% to 2500% over specification. At the times manufacturers claim and certifiers certified, every product failed every standard.

151. Compliance rates at claimed dry times:

152. Extended drying trials (429 total, drying times far beyond claims):

153. In real-world use, giving all the parties involved full benefit of the doubt with a 15 second drying time, hands remain visibly wet in 100% of observed trials. Water can be seen visibly dispersing from the hands onto the walls, floors, and the user with every drying cycle. No instrumentation or special skill is required to see it. Any person can verify this for themselves.

154. NSF P335 Section 6.3 establishes clear, quantified requirements: residual moisture of 0.1 grams or less at manufacturer-specified times, with 95% compliance across 20 trials.

155. Plaintiff conducted 462 trials—more than twenty times the sample size required for NSF certification. Zero trials achieved 0.1 grams or less at manufacturer-specified times. The average residual moisture was 2.77 grams—nearly 28 times the allowed threshold. The NSF standard requires 95% compliance. Actual compliance was zero percent. The deviation is not marginal. It is 2,770 percent.

156. The probability that products achieving zero percent compliance in 462 trials would achieve 95% compliance in a 20-trial certification test approaches zero. ( $p < .001$ ,  $r = .99$ ) [Exhibit H] This is not sampling variation, it is systematic failure. Defendants established these thresholds as the boundary between acceptable and unacceptable. Certified products exceed that boundary by 2,770 percent. Either the thresholds protect public health—in which case every certified use exposes users to conditions Defendants defined as harmful—or the thresholds protect nothing,

and Defendants sold compliance with a standard that is meaningless. Both positions establish liability.

## 2. The Physical Impossibility of Certified Drying Times

157. The claimed drying times are not merely difficult to achieve. They are physically impossible to achieve. [Exhibits B, E, H, L]

158. Plaintiff's data demonstrates that water removal follows a bi-modal decay pattern [Exhibit H]. The first phase removes loose surface water quickly. The second phase removes bound water slowly. All dryers—regardless of manufacturer, technology, air velocity, or price—converge on 80 to 90 seconds of drying time to approach the 0.1 gram NSF drying threshold, with each brand and model having a slightly different profile but with all drying curves fitting together in a consistent pattern. R-squared across all trials of 0.9998—near-perfect fit.

159. Plaintiff later discovered that Excel's own researchers had identified bi-modal drying. In an undated preprint filed as Exhibit H in Case 3:12-cv-30211-MAP on February 22, 2013 "An Ultrafast, Comfortable Hand Dryer" [Exhibit UU], Excel's consultants Sol Aisenberg and G. Freedman documented the same bi-modal physics Plaintiff independently discovered. They wrote: "Two sequential phases of drying are used. Phase 1 is the blowing off of loose water droplets, accounting for about 75 percent of total water removal in the first 3 seconds, and Phase 2, the evaporation phase." Plaintiff agrees in principle and disagrees in practice as most water in phase 2 continues to blow off of hands rather than evaporate. This requires further testing for validation. Their Figure 4 shows residual moisture of 1.25 grams at 4 seconds, declining to 0.2 grams at 13.5 seconds, again, magical numbers 1500% below Plaintiff's findings even at this early testing date. This is Excel's own data, using Excel's self-invented 0.2 gram threshold—not NSF's 0.1 gram standard. They concluded: "preliminary experimental data... indicate that we can realistically expect this number to be reduced to the 10 to 12 second range in the near future."

Excel now markets 8 seconds to UL's 0.25g. Plaintiff found 80-90 seconds to approach 0.1g at  $p < .001$ .

160. Independent research tested this bi-modal framework across three manufacturers: Dyson, Excel (XLERATOR), and World Dryer. All three demonstrated effectively identical performance curves. Cross-manufacturer correlations exceeded  $r = 0.999$  ( $p < 0.001$ ). These are not similar curves. They are functionally identical curves produced by three different companies using three different engineering approaches. [Exhibit L, H]

161. On December 4, 2025, prior to testing a third manufacturer for the first time, Plaintiff documented a formal prediction: World Dryer products would fail identically to Dyson and Excel because this is a physics issue, not an engineering problem. On December 5, 2025, Independent research tested World Dryer VerdeDri units at three locations. The prediction was confirmed. World Dryer achieved first compliance with its claimed standard of 0.25 gram UL threshold at 40 seconds—233% longer than the manufacturer's 12-second claim, and never got below 0.1g because water kept splashing back off the wall due to dryer nozzle proximity. [Exhibit H]

162. The joint probability of three independent manufacturers producing correlation coefficients all exceeding  $r = 0.99$  under the null hypothesis (that performance varies by manufacturer) is less than one in one billion.

### 3. Contamination Results: Microbe Load in Output Dryer Air

163. Plaintiff's Microbial Contamination Study (Study 1,  $n=87$ ) and Ambient Air Comparison Study (Study 9,  $n=49$ ) documented bacterial amplification across all tested units. The methodology was consistent: measure ambient air at a realistic drying time, then measure dryer output air at a realistic drying time, then calculate amplification factor. Study 9's sampling time was based on the findings in Study 2 and Study 5 [Exhibits A, B, E, I, M, N]

164. Table 3: Airborne Contamination Results

165. One hundred thirty-six consecutive tests showed amplification, validating the hypothesis generated before the first sample was ever taken [Exhibits A, I]. No dryers reduced bacterial load. The probability of this occurring by chance is approximately 10 to the negative 41st power.

166. Products certified as “hygienic” amplify bacterial contamination by 50 to 110 times compared to ambient room air, literally the opposite of hygienic. Defendants certified an industry built on hand washing science, providing the conceptual base for the products to sell. They cannot now escape it when those products fail their own testing standards. This is not hygiene. This is the opposite of hygiene.

167. The test remains simple: remove the dryer from the room. Is it more or less sanitary?

4. Water Spray, the Absent Standard

168. Plaintiff has created a novel but accurate distinction that brings clarity to the current state of the hand dryer market. [Exhibits C, F] There are Dispersal-type dryers and Capture-type dryers.

169. Capture dryers collect water in receptacles for disposal. Very few remain in use, although they were common in the past.

170. Dispersal dryers have no mechanism for processing the water after the output dryer air jets hit it. They spray it everywhere in a truly bizarre design parameter that everyone sees and nobody seems to think about. Does spraying water all over a restroom make any sense at any level of thinking?

171. NSF P335 Section 6.5 imposes detailed, strict disinfection requirements on capture dryers—and zero requirements on dispersal dryers. [Exhibit X]

172. The UL PCR and the NSF P335, along with all other known certifications, have no standards for the water coming off of hands, the necessary last phase of the product operational system cycle. It is never mentioned anywhere.

173. Dispersal dryers operate at air velocities of 400 to 690 kilometers per hour—hurricane force. At these speeds, water is mechanically stripped from hands and thrown into the room with very little evaporation occurring as part of the removal process. The physics is not subtle. It is violent.

174. Plaintiff's baseline water study documented 7.30 grams of water on hands after washing [Exhibit F]. Approximately 90% of this water is removed by mechanical shear during the first phase of drying, not by evaporation. That water must go somewhere.

175. Plaintiff's Visual Dispersal Study documented where the water goes [Exhibit C]. High-speed video captured water destinations including:

176. Adjacent walls and floor surfaces

177. User clothing: torso, forearms, thighs, shoes

178. User face and hair from upward dispersion

179. Airborne mist remaining visible for three or more seconds after drying

180. Concentrated accumulation patterns on all surrounding surfaces

181. Paper towels showed a single destination with occasional large drops falling off as the towels are grasped: absorption into the towel material, followed by disposal. Minimal environmental dispersal. [Exhibit C]

182. Remove the dryers from the room and replace them with white paper towels. What is the impact on the restroom and the users?

183. The dispersed water cannot be sterile. Plaintiff's microbial studies documented 50-110× bacterial amplification in dryer output air [Exhibits A, I]. The contamination measured on petri dishes arrived via the air stream. The air stream contains water droplets. Those droplets originated from users' hands. The water is the carrier medium for the measured contamination.
184. Further, the contamination problem compounds with user behavior. CDC and WHO guidelines require soap and twenty seconds of washing for effective hand hygiene. Compliance studies estimate proper handwashing rates at 5-30% in public restrooms. The dryer does not verify compliance. The dryer disperses whatever is present on hands—properly washed or not—into the shared environment.
185. Consider three users:
186. Compliant user (soap, 20 seconds, proper technique): Disperses water contaminated by dryer amplification of 50-110×.
187. Average user (quick rinse, minimal soap): Disperses significantly more contaminated water from inadequately washed hands plus dryer amplification.
188. Non-compliant user (10 second wet, no soap): Disperses fecal bacteria, pathogens, and whatever was touched directly into the room—amplified by the dryer—for the next person to encounter.
189. Every user's output becomes every other user's input.
190. The least hygienic user contaminates the air for everyone who follows. Certifiers and manufacturers provide no guidance or design standards for containment or elimination. It is never mentioned in any of the Defendants' documents. The dryer broadcasts the consequences of improper washing to everyone in the room.
191. Poor washing plus a paper towel equals contamination contained in the towel and disposed in trash. Poor washing plus dispersal dryer equals contamination broadcast to surfaces and people in the space.

192. At 150 million daily dispersal-type dryer uses in the United States, water dispersal occurs at population scale [Exhibits AAA, BBB]:

193. Daily: 2.8 to 4.6 million cups of water sprayed onto users, walls, floors, and fixtures

194. Annually: 1 to 1.7 billion cups of water dispersed into public restroom environments

195. Per dryer: Approximately 3 cups of water dispersed daily

196. That is not incidental moisture. It is systematic environmental contamination at industrial scale.

197. Neither NSF P335 nor the UL PCR contains any standard, test, measurement, or specification for water dispersal. The primary output of the device—where the water goes—is completely unaddressed. [Exhibits W, X]

198. Defendants certified drying time. Defendants certified energy consumption. Defendants certified HEPA filtration of intake air. Defendants ignore water that sprays onto walls, floors, clothing, faces, and into the lungs of everyone in the room. The most consequential sanitation related output of the device has not a single standard written to manage it.

199. Remove the dryers from the room. Is it more or less hygienic?

#### 5. Physical Environmental Mold Contamination: The Plume of Filth

200. Plaintiff's Wandering Plume of Filth Study [Exhibits J, Q, R] documented visible contamination patterns beneath hand drying equipment. Plaintiff randomly entered 127 public restrooms and visually examined the areas under the dryers and towel dispensers using NIOSH and FDA standard mold assessment techniques along with a proprietary set of criteria that offered much greater detail. The study compared all drying interventions as found in the restrooms with no criteria for non-inclusion. Hand dryers and/or paper towels using various dispenser configurations were found in all restrooms.

201. Table 4: Environmental Contamination Results (n=127 restrooms)

202. Statistical comparison:  $\chi^2 = 72.0$ ,  $p < 0.001$ ; Ratio: Dispersal dryers show 8× higher mold rates than white paper towel installations (100% vs. 13%)

203. Every dispersal-type hand dryer installation exhibited visible wall mold. One hundred percent. The contamination pattern radiates outward from the device, originating narrow at the unit and fanning toward the floor like a plume—which is exactly what it is.

204. Independent laboratory analysis by Hayes Microbial Consulting (EPA Laboratory ID: VA01419) confirmed fungal presence in wall contamination samples. Species identified include *Aspergillus*/*Penicillium*, *Alternaria*, *Cladosporium*, and *Chaetomium*—organisms documented by CDC and the Institute of Medicine to cause allergic reactions, hypersensitivity pneumonitis, and mycotoxin production. [Exhibit U]

205. The plume is a persistent physical presentation that correlates perfectly with the microbial and fungal findings in the dryer output air. The fact that mold is found at 100% of dryer installations is causal for dryers when in public use, making laboratory claims meaningless. The visible contamination reflects dryer emissions minus cleaning, with even the most clean installations still showing trace mold, particularly under the dryer itself, right in the maximum air-turbulence during drying.

206. Critical finding: The contamination affects everyone who enters the restroom, not just dryer users. A person who uses paper towels if they are provided, a person who uses the sink but not the dryer, a person who simply walks through—all are exposed to amplified microbial loads and environmental mold created by a hand dryer. The harm extends beyond users to everyone in the space. Defendants certified drying. Defendants certified products whose sole purpose is hygiene. They are entirely responsible for what happens when those products contaminate rather than clean.

## 6. The Paper Towel Alternative

207. A Plaintiff's paper towel contamination studies produced a novel finding: prior paper towel research never sorted by towel type. [Exhibits D, I, M-P]
208. White paper towels are statistically equivalent to ambient room air in microbial content. In Study 4 (n=29), 55.6% of white towels were completely sterile. The remainder contained 1-2 CFU. Mean contamination: 0.56 CFU. Wilcoxon signed-rank test against ambient air:  $p = 0.23$ —no significant difference. White paper towels do not add contamination. They may reduce it.
209. Brown paper towels are contaminated from the factory. 100% of samples contained microbial colonies, ranging from 6-186 CFU across both studies. The contamination is intrinsic to the product.
210. The distributions do not overlap. The 75th percentile of white towels (1 CFU) falls below the 25th percentile of brown towels (11 CFU). This complete distributional separation is exceptionally rare in biological data. Cohen's  $h = 1.671$ .  $p < 0.003$ .
211. Study 9 conducted dual-intervention tests: dryer and paper towels tested in the same restroom on the same day under identical ambient conditions. Hand dryers produced 138-407× more contamination than white paper towels. The difference is the device, not the environment.
212. Paper towels dry hands in 20-30 seconds to 0.1g residual moisture—faster than dryers at actual performance. Water is absorbed into the towel and disposed in trash. No dispersal. No aerosol. No plume.
213. Plaintiff's Wandering Plume study documented the environmental consequence. White paper towel dispensers showed 13% mold rates (5/39 installations). Brown paper towel dispensers showed 40% (12/30). Dispersal-type hand dryers showed 100% (50/50). The 8-fold difference between white paper towels and dispersal dryers is not variation — it is categorical. The dryer creates the mold. The paper towel does not. [Exhibits J, M-P, Q, R]

214. Remove the dryer. Install a white paper towel dispenser. Every problem documented in this complaint disappears. The infrastructure exists. The cost is equivalent. The dispenser fits the space. The hypothetical answers itself.

SAMPLE

## **M. The Green Energy Catastrophe**

### **J. THE GREEN ENERGY CATASTROPHE**

215. False drying time claims corrupt every environmental calculation built upon them.

Energy consumption is power multiplied by time. When manufacturers claim 8 seconds but products require 70-90 seconds, energy consumption increases tenfold. The entire environmental marketing narrative collapses. [Exhibits B, E, G, H, L]

216. Manufacturers claim hand dryers use 3 Wh per dry and produce 85-90% less CO<sub>2</sub> than paper towels. These claims assume 8-12 second drying times. At actual drying times of 70-90 seconds, energy consumption rises to 25-28 Wh per dry—7.5 to 8.75 times higher than claimed.

217. Using Defendants' own commissioned lifecycle data [Exhibits AA, BB, CC DD, EE, FF], the claimed 85-90% environmental advantage disappears entirely. At actual drying times, hand dryers produce CO<sub>2</sub> emissions equivalent to paper towels. When independent academic studies are included, hand dryers perform 2-3 times worse.

218. False times create false energy and CO<sub>2</sub> emissions values, leading to false marketing claims made by manufacturers with explicit attribution to certification by Defendants.

219. The false data propagates into building certification. Excel's LEED v4.1 guidance [Exhibit HH] instructs building professionals to "input 3.68 Wh per 8 second cycle use... for energy modelling purposes." Thousands of LEED-certified buildings contain false energy data in their certification calculations. The environmental benefits represented to building owners, tenants, and the public do not exist.

220. Products marketed as environmentally superior consume 7-10 times more energy than claimed and provide no CO<sub>2</sub> advantage over paper towels. Q. Energy and Environmental Claims

221. Three independent AI systems (Claude, ChatGPT, Grok) verified these calculations using manufacturer-published lifecycle assessment data, working from primary sources without access to each other's outputs. All three converged on the same conclusion. [Exhibits BBB, CCC]

## 1. The Claimed Calculation

222. Excel claims XLERATOR dries hands in 8 seconds at 1,450 watts:  $1,450\text{W} \times 8\text{s} \div 3,600 = 3.22\text{ Wh per use}$ . Dyson claims Airblade dries hands in 10-12 seconds at 1,000 watts:  $1,000\text{W} \times 12\text{s} \div 3,600 = 3.33\text{ Wh per use}$ . These figures form the basis of all environmental marketing.

223. At claimed times, manufacturers report approximately 2 grams CO<sub>2</sub> per use. This is the foundation of the "85-90% less CO<sub>2</sub> than paper towels" claim. [Exhibits AA, EE]

## 2. The Actual Calculation

224. Plaintiff's 430 time-to-dry trials establish actual drying times of 70-90 seconds to reach manufacturer-specified dryness thresholds. Zero units achieved compliance at claimed times. [Exhibits E, H]

225. At actual times:

226. XLERATOR at 70 seconds:  $1,450\text{W} \times 70\text{s} \div 3,600 = 28.2\text{ Wh per use}$

227. Dyson Airblade at 90 seconds:  $1,000\text{W} \times 90\text{s} \div 3,600 = 25.0\text{ Wh per use}$

228. Energy consumption is 7.5 to 8.75 times higher than claimed.

229. CO<sub>2</sub> emissions scale with use-phase electricity, which constitutes 87-92% of total hand dryer lifecycle impact. At actual drying times:

230. Conservative estimate (manufacturer LCA data): 12-18 g CO<sub>2</sub> per use

231. Expansive estimate (independent academic sources): 30-50 g CO<sub>2</sub> per use

232. CO<sub>2</sub> emissions are 6-9 times higher than claimed under conservative assumptions. Under expansive assumptions incorporating independent academic studies, emissions are 15-25 times higher.

### 3. The Paper Towel Comparison

233. Paper towel lifecycle emissions for two towels (approximately 4 grams total) range from 12-20 g CO<sub>2</sub> per use depending on recycled content and source methodology.

234. The comparison:

235. At manufacturer-claimed drying times, hand dryers produce 50-70% less CO<sub>2</sub> than paper towels. At empirically-measured actual drying times, hand dryers produce emissions equivalent to paper towels under conservative analysis—and 2-3 times worse under expansive analysis. The claimed 85-90% CO<sub>2</sub> advantage does not exist.

236. Energy comparisons tell a different story. Paper towel manufacturing derives 40-60% of process energy from biomass combustion, which is classified as carbon-neutral under ISO 14040/14044 lifecycle accounting. Hand dryers consume 100% grid electricity at full carbon intensity. The result: paper towels have higher total lifecycle energy but lower fossil carbon intensity per unit energy. The claimed 95% energy advantage shrinks to approximately 65%—overstated but directionally accurate. The CO<sub>2</sub> advantage inverts entirely. [Exhibits Y, Z]

### 4. The LEED Propagation

237. False energy data flows into building certification systems. Excel's LEED v4.1 Credit Contribution document instructs building professionals: "Project teams may input 3.68 Wh per 8 second cycle use... for energy modelling purposes." [Exhibit HH]

238. This is not marketing. It is an instruction to embed false data into LEED energy modeling software. Building professionals following Excel's guidance enter 3.68 Wh into certification calculations. The actual figure is 25-28 Wh—7 to 8 times higher.

239. The same document claims XLERATOR provides "80 percent energy use reduction over conventional hand dryers." At actual drying times, this claim is false.

240. Excel's LEED guidance explicitly cites Defendants' certifications as authority:

"Product-Specific Type III Environmental Product Declaration (EPD) certified by UL Environment." The chain operates as follows: SGS tests at 12-15 seconds. UL Environment certifies EPD stating 8.355 seconds and 3.680 Wh. SmartEPD issues replacement certification with identical specifications. Excel cites these certifications in LEED guidance. Building professionals enter false values into LEED software. LEED awards credits based on false underlying data. At no point does any party verify that the 8-second claim is achievable. [Exhibits AA, BB, CC]

241. Approximately 500,000 hand dryers operate in LEED-certified buildings in the United States. Every one earned credits based on 3.68 Wh per use—a figure that assumes 8-second drying times. Actual energy consumption is 7-10 times higher than LEED databases reflect. An estimated 560 GWh of annual energy consumption is missing from LEED environmental accounting—enough to power 50,000 American homes.

## 5. Global Scale

242. The per-use discrepancy, applied to population-scale usage, produces staggering cumulative waste. Based on market analysis: 1.5-15 million units in the United States, 55-550 billion annual uses domestically, 220 billion to 2.2 trillion annual uses globally.

243. Annual global impact of the gap between claimed and actual performance:

244. Excess energy: 5.8-45 TWh

245. Excess CO<sub>2</sub>: 2.85-20 million metric tons

246. Equivalent homes powered: 550,000 to 4.3 million

247. Equivalent national CO<sub>2</sub> output: Iceland (conservative) to Mongolia (expansive)

248. This waste occurs annually, in perpetuity, based on a marketing claim that was never true.

249. Products marketed as environmentally superior provide no CO<sub>2</sub> advantage over paper towels and may perform 2-3 times worse. This is not environmental responsibility. This is the opposite of environmental responsibility.

#### 6. UL Unexpectedly Validates Plaintiff's Energy Claims Calculations

250. After completing the empirical testing program and energy calculations described above, Plaintiff discovered UL Environment EPD Declaration No. 4787616201.106.1 for the Hokwang HK-2200 hand dryer, issued April 1, 2022 and valid through April 1, 2027. [Exhibit DD]

251. The Hokwang EPD certifies a conventional warm-air dryer (2.0 kW, 20.5 m/s air speed) at 30-35 seconds drying time to 0.074 grams residual moisture—the same threshold specified in the UL PCR. UL's certification produces 18 Wh energy consumption and 13.5-14.8 g CO<sub>2</sub> per use depending on regional methodology.

252. Plaintiff's empirical calculations—completed before discovering the Hokwang EPD—predicted 25-28 Wh and 12-18 g CO<sub>2</sub> at actual drying times of 70-90 seconds. The convergence is striking: UL's certification at 30-35 seconds and Plaintiff's calculations at 70-90 seconds produce CO<sub>2</sub> values in the same range (12-18 g), while SmartEPD's certification at 8 seconds produces values 6-7 times lower (~2 g).

253. The Hokwang EPD was verified by the same personnel who verified Excel's certifications. Thomas Gloria signed both the Hokwang UL EPD and the Excel SmartEPD as independent verifier. [Exhibits AA, DD] The UL PCR Review Panel that approved the Hokwang certification was chaired by Jon Dettling—the same methodology, the same verifiers, the same standards.

254. The timeline is significant:

255. April 1, 2022: UL issues Hokwang EPD at 30-35 seconds

256. April 26, 2022: Anna Lasso incorporates EPD USA LLC in Virginia

257. July 2022: Excel's UL EPD expires, not renewed

258. June 23, 2023: SmartEPD certifies Excel at 8 seconds

259. UL certified a hand dryer at 30-35 seconds and would not certify lower. Excel needed 8 seconds for its marketing claims. Anna Lasso, who had worked with Excel's William Gagnon on the UL PCR committee for seven years, created a certification body that would certify what UL would not.

260. Even accepting UL's 30-35 second time as accurate—which the independent research data suggests it is not for a conventional warm-air dryer—UL's energy and CO<sub>2</sub> methodology validates Plaintiff's calculations while proving SmartEPD's certification physically impossible. If 30 seconds produces 14 g CO<sub>2</sub>, then 8 seconds cannot produce 2 g. The math does not work. The physics does not work. The certification is false. Further, by offering a certified calculation of its own that is in alignment with Plaintiff's calculations done separately, this entire project and this entire complaint is validated by a defendant.

## 7. The Causal Chain

261. A The false drying time claim is the root cause of environmental contamination and energy/environmental failure. Each step follows inevitably from the one before.

[Exhibits A, I, J, M, N]

262. Manufacturers claim 8 to 14 second drying times. Actual drying requires 80 to 90 seconds. The claim is false by 500 to 1,000 percent.

263. If a use stops drying at claimed times, 2.5 to 3.5 grams of water remain on hands.

264. That water has been infested with the microorganisms in the dryer output air stream.

265. Carrying that water after dryer use increases microorganism transfer by 1000x.
266. If a user dries until hands are dry – 80-90 seconds – microorganism amplifications on the hands increase over room air by 50-110X.
267. Energy and CO<sub>2</sub> production become equal to or greater than that of paper towels.
268. At 400 to 690 km/h air velocity in a Dispersal-type dryer water is violently blown onto walls, floors, users, and into the air as aerosol.
269. Dispersed water carries microorganisms from users' hands and the output air jets, contaminating the room for the users who come after.
270. Continuous deposition grows visible mold in 100% of installations, volume controlled by the cleaning practices of the restroom owners.
271. The restroom becomes a permanent contamination zone. Everyone who enters is exposed, regardless of whether they use the dryer.
272. The user faces several impossible choices with every restroom use: don't enter to avoid dryer contamination, wash and don't dry, dry for specified time and leave wet or dry for the actual time-to-dry and carry increased microbial exposure and use more energy.
273. The hypothetical answers itself. Remove the dryer and every step in this chain disappears. The water stays on hands or is absorbed by a towel. The mold doesn't grow. The contamination zone doesn't form. The impossible choices don't exist. The dryer is not incidental to the harm. The dryer is the harm.

#### **N. The Users' Dilemma**

#### **K. THE USERS' DILEMMA**

274. Users of certified hand dryers face two options, both creating harm.

275. Option one: Use the dryer for the specified 8 to 14 seconds. Leave with wet hands, freshly sprayed with bacteria and fungus. Transfer bacteria to every surface touched thereafter—doorknobs, phones, keyboards, other people, food.
276. Option two: Use the dryer for 70 to 90 seconds to actually achieve dry hands. During this extended exposure, breathe air contaminated by liquid aerosols with 50 to 110 times room air microorganism load and be sprayed with liquid water carrying the same.
277. A user cannot achieve dry hands without extended exposure to contaminated output or pull out prematurely and leave with wet hands transmitting organisms at a rate 500 times higher than dry hands. [Exhibit A]. A user cannot limit exposure without leaving with wet hands. The product design creates a forced choice between two harms.
278. Once the problem is understood, the user faces a third harm: the knowledge that entering a restroom with a hand dryer means accepting one of the two options above, or not entering at all.
279. Following the rules makes you sick. Every option the certification system provides leads to the same place: elevated contamination exposure. The user who trusts the certification and uses the dryer for the claimed time is worse off than the user who ignores it.

## **O. Certified Specifications Proven False**

### **L. CERTIFIED SPECIFICATIONS ARE PROVEN FALSE, DETAIL**

#### **1. Summary**

280. Defendants certified 8-second drying to 0.25 grams residual moisture and 12 seconds to 0.1g. Plaintiff documented 2.5 to 3.0 grams at 8 – 12 seconds—1,000 to 3,000 percent above the certified threshold. UL published the PCR. UL certified the

standards, Anna Lasso and Smart EPD certified the dryers. NSF Published the P335. NSF Certified the dryers. Plaintiff's 462 trials prove them false. The burden now shifts to Defendants to demonstrate that their certified specifications reflect physical reality.

281. The energy calculation certified in EPDs—3.68 Wh based on 8.355 seconds—cannot be achieved because the underlying dry time cannot be achieved. UL's own published data proves it. Defendants certified energy claims derived from impossible dry times using methodology that Defendants created and Defendants' own data contradicts.

282. Defendants certified products under NSF P335, titled "Hygienic Commercial Hand Dryers." The title is a representation. Plaintiff documented 50-110× bacterial amplification in dryer output air, visible mold in 100% of dispersal-type installations, and laboratory-confirmed pathogenic fungi in wall samples. NSF published P335. NSF certified the dryers. Excel's LEED v4.1 guidance claims certified products "may contribute to improved hand hygiene" — citing Defendants' certifications as authority. Products that amplify contamination by 50-110× are not hygienic. They are the opposite of hygienic. [Exhibits A, I, J]

283. Defendants certified drying time, energy consumption, and HEPA filtration of intake air. Defendants certified nothing about water dispersal — the primary output in the final, inescapable stage of the use cycle of the device. The omission is not reasonable. If Defendants failed to notice it, they lack the competence to certify anything. If Defendants were aware of it and chose not to address it, they have concealed a foundational part of the operational cycle of the devices. NSF P335 Section 6.5 imposes six-log bacterial kill requirements on capture dryers and zero requirements on dispersal dryers. Section 5.7 requires liquid containment during testing. NSF is undeniably aware that output water affects sanitation. Dispersal-type dryers do nothing to contain liquid. They blow it everywhere at 400-690 km/h.

NSF certified them anyway. This standards omission is either negligent failure to exercise reasonable care or knowing concealment of a material fact. [Exhibits C, F]

## 2. NSF P335 Section 6.2: HEPA Filtration

284. NSF P335 Section 6.2 requires HEPA filtration with 99.97% efficiency. The stated purpose is to prevent dryers from using air contaminated with microbes.

285. Plaintiff's Ambient Air Comparison Studies tested 144 restroom locations. Median ambient air bacterial counts were 1 colony-forming unit. Thirty-two percent of samples showed zero CFU. The air in typical restrooms is already nearly sterile. There is nothing for HEPA filters to remove. [Exhibits A,J]

286. We do not know where the contamination in hand dryer output air is coming from because we have not tested for it. We do not believe the source matters, only the result. The HEPA filter issue strongly suggests that bacterial amplification originates downstream of the HEPA filter. Section 6.2 tests the wrong variable. It measures intake filtration when contamination occurs at output. This is either incompetence or misdirection.

## 3. NSF P335 Section 6.5: Discriminatory Standards

287. NSF P335 Section 6.5 states that Capture dryers—products that collect water in receptacles—must achieve 99.9999% bacterial kill and 99.99% fungal kill. Six-log reduction. Four-log reduction.

288. Dispersal dryers—products that spray water throughout the restroom at 400 to 676 kilometers per hour and the predominant form of hand dryers in use today—are not mentioned in the document. Products that contain water must kill nearly everything. Products that disperse water into the shared environment face no standards at all.

289. Dispersal dryers create a far greater public health risk than capture dryers. Capture dryers contain contaminated water. Dispersal dryers spread it throughout the

restroom. NSF applies strict standards to the lower-risk category and no standards to the higher-risk category.

#### 4. NSF P335 Section 5.7: Categorical Ineligibility

290. NSF P335 Section 5.7 requires: “Liquid containment shall be monitored during all testing.”

291. Plaintiff has read this section 100 times and fails to understand its intention or what it’s referencing. It stands alone, with no context. High-velocity dispersal dryers do not contain liquid. They disperse it. At 400 to 676 kilometers per hour, water is scattered throughout the restroom—onto walls, floors, surfaces, other users, and into the air. Products designed to disperse liquid cannot comply with containment requirements and it makes no sense that this statement even exists without other supporting material.

#### 5. UL PCR Omissions

292. The UL PCR for Hand Dryers is 35 pages long. It addresses air velocity, air temperature, drying time methodology, energy consumption, lifecycle calculations, and numerous other technical specifications.

293. The word “hygiene” appears once. Water dispersal—the primary mechanism by which these products affect public health—is not mentioned at all.

294. A professional standard for hand dryers that mentions hygiene once and ignores water dispersal entirely is not incomplete by accident. It is incomplete by design. It addresses what manufacturers want addressed and ignores what manufacturers want ignored.

## **P. The Certification Network**

### **M. THE CERTIFICATION NETWORK**

295. The certification system is an incestuous closed loop. Manufacturers who could not pass existing standards created new ones. The people who created the standards conducted the testing. The people who conducted the testing issued the certifications. At no point does an independent party verify performance. Anna Lasso is the anchor. She helped write the UL standard while employed at UL. She founded Smart EPD after leaving. She now issues certifications under the standard she helped create—serving simultaneously as Program Operator, LCA Reviewer, and External Verifier on the same certificate. One person occupies three roles that ISO 14025 requires to be independent. She is checking her own work and the rest of the Defendants have allowed or encouraged it. This action names five Defendants who created, operated, and profited from an interconnected certification system as the anchors in a large web of multiple people and groups all declaring that hand dryers are safe and efficient. NSF International created the first non-manufacturer based standard. [Exhibit X] UL Solutions later created a weaker alternative. [Exhibit W] SGS North America, Inc. tested the products [Exhibit BB] and certified false drying times that cascaded into every later claim made by Smart EPD, and formerly UL in their prior, expired EPD. Smart EPD LLC certified the results [Exhibit AA]. Anna Lasso participated in creating the UL standard while employed at UL, then founded Smart EPD to certify products under the standard she helped write. [Exhibits KK, LL] Together, these Defendants' certifications enabled a market that has grown to an estimated 1.3 to 1.6 million commercial hand dryers installed across the United States, used approximately 55 billion times annually, and their official stamps of approval developed a fringe industry into a \$1.5B annual US commercial behemoth that would not exist without them.

296. NSF International created NSF P335, titled "Hygienic Commercial Hand Dryers," establishing a 0.1 gram residual moisture threshold. [Exhibit X] NSF holds current

certifications for Dyson products under this standard. Dyson markets itself as “the only hand dryer certified by NSF International Protocol P335.” [Exhibit GG] Dyson products achieve zero percent compliance in all independent trials [Exhibits A, B, E, H]. Excel Dryer has never been NSF certified. Excel’s single-outlet design cannot achieve NSF’s 0.1 gram threshold in practice. Plaintiff’s 500+ trials recorded zero Excel units achieving below 0.15 grams. [Exhibits B, E, H]

297. UL Solutions created the Product Category Rules for Hand Dryers in 2016, establishing a 0.25 gram threshold—2.5 times weaker than NSF P335. [Exhibit W] The committee that wrote it consisted of 10 manufacturer representatives and 2 UL representatives. Excel Dryer held 4 of the 10 manufacturer seats. World Dryer held 3 seats: Dave Fisher, Susan Fan, and Dan Storto. Hokwang/FASTDRY held 3 seats. William Gagnon, Excel’s VP and COO, chaired the committee. His father Denis Gagnon purchased Excel Dryer in 1996, claiming to have invented the first high speed dryer [Exhibit OO]. No public health officials participated. No consumer representatives participated. No independent researchers participated. [Exhibit JJ] UL published this standard and continues to certify hand dryers under it, including Hokwang EPDs valid through April 2027, at claimed drying times of 30-35 seconds. [Exhibit DD]

298. The UL PCR Review Panel included Jon Dettling (Chair) and Jeremy Gregory. Jon Dettling authored the 2009 Quantis LCA commissioned by Excel Dryer. Jeremy Gregory co-authored the 2011 MIT LCA. [Exhibit FF] Both reviewed a PCR that cited their own prior work as authority. They evaluated a standard built on research they themselves had produced. Critically, both Dettling and Gregory had signed the Quantis October 2012 joint letter, stating, “The estimated dry times for the Dyson Airblade from SGS and Dyson tests are essentially the same, whereas the estimated dry times for the XLERATOR were significantly different in the SGS and Dyson tests (the Dyson test result was nearly 50% higher than the SGS result),” acknowledging the products were “statistically indistinguishable”—yet neither

disclosed this when serving on the Review Panel that would enable differentiated environmental claims. [Exhibit TT]

## 1. Special Note: Late Findings

299. The deeper Plaintiff's research goes the more there is to see in what seems to be an endless concatenation of companies and standards bodies doing interesting things. This brief summary addresses late findings regarding all the above and supplemental to what follows below.

300. World Dryer held three seats on the UL PCR development committee: Dave Fisher, Susan Fan, and Dan Storto. World Dryer does not maintain current EPD certifications under the standard it helped create. Excel Dryer chaired the committee and maintains four active EPDs through SmartEPD, operated by Anna Lasso. The companies that wrote the standard know what it tests and what it ignores and the choice to sell a product without certification in this market is an interesting one, particularly because World Dryer and Excel Dryer claim a relationship on their website. [Exhibit JJ]

301. Hokwang/FASTDRY held three seats on the same committee. Hokwang maintains active UL EPD certifications valid through April 2027, with the HK-2200 series certified at 30-35 seconds drying time to the same 0.25g residual moisture standard. [Exhibit DD]

302. World Dryer is the only PCR committee participant that maintains zero current EPD certifications under any program operator.

303. Excel Dryer chaired the committee and maintains four active EPDs through SmartEPD. UL continues to certify Hokwang at 30-35 seconds. Excel chose SmartEPD certification at 8 seconds rather than UL renewal. The inference is clear: UL would not certify 8 seconds. Smart EPD did.

304. Three-Manufacturer Certification Divergence (January 2026):

305. A The people and companies that wrote these standards know what they test and what they ignore. One manufacturer chose silence. One manufacturer chose realistic certification. One manufacturer doubled down on the false dry time claims. One manufacturer chose Anna Lasso. [Exhibit JJ]

## **Q. How These Certifications Came to Exist**

### **N. HOW THESE CERTIFICATIONS CAME TO EXIST**

306. In April 2007, NSF International established NSF P335, titled “Hygienic Commercial Hand Dryers.” Section 3.4 defined dry hands as “less than 0.1 g residual moisture.” Section 6.3 required 95% compliance across 20 trials. This was the original standard, created by the original certifier, with a rigorous threshold. Section 6.3 specifies, “Ability to dry hands within a specified drying time - The unit shall be 95% effective at achieving a residual hand moisture content of 0.1 g or lower within one operating cycle or 15 seconds, whichever is shorter, when the test is replicated a minimum of 20 times.” [Exhibit X]

307. In 2012, Excel Dryer proposed amending NSF P335 to change the dryness threshold from 0.1 grams to 0.2 grams. NSF rejected this proposal. Dyson’s attorneys stated in federal court filings: “Excel proposed an amendment to NSF Protocol P335 to amend the definition of ‘dry hands’ from 0.1 grams to 0.2 grams. However, NSF has rejected Excel’s proposal.” [Exhibit RR] Toby Saville, a Dyson microbiologist who served on the NSF P335 Protocol Development Panel, confirmed in his sworn declaration that NSF rejected Excel’s proposal. [Exhibit PP, ¶183]

308. Excel used the rejected standard anyway, advertising compliance under a “modified NSF protocol.” SGS testing commissioned by Excel in 2012 applied “a revised version of NSF Protocol P335 Hygienic Commercial Hand Dryers currently being developed and reviewed by NSF and its new technical panel for the 5 year protocol update.” This language appears in the SGS test report. [Exhibit BB] NSF had previously rejected the revision. Excel represented to the federal court that it

was using “the revised NSF Protocol P335” without disclosing that NSF had rejected it.

309. In July 2016, UL Solutions published the Product Category Rules for Hand Dryers with a 0.25 gram threshold—weaker than the proposal NSF had rejected four years earlier. [Exhibit W] The committee that created this standard was 80% manufacturer representatives. Excel held 40% of manufacturer seats. William Gagnon, Excel’s VP and COO, chaired the committee. No scientific justification for the 0.25 gram threshold appears anywhere in the 35-page document.

310. On July 25, 2017, UL Environment issued Environmental Product Declaration No. 4787137936.102.1 for Excel Dryer’s XLERATOR hand dryer. [Exhibit CC] The certificate stated:

311. Drying time: 8 seconds

312. Energy consumption: 3.68 Wh per use

313. Residual moisture threshold: 0.25 grams

314. Wade Stout, UL Environment EPD Project Manager, signed as external verifier. Thomas P. Gloria of Industrial Ecology Consultants verified the lifecycle assessment. The certificate had a five-year validity period.

315. The UL certificate expired in July 2022. Excel did not renew with UL. UL continues to certify hand dryers for other manufacturers.

316. Virginia State Corporation Commission records show the following timeline:

317. April 26, 2022: Articles of organization filed for “EPD USA LLC” with Anna Lasso as registered agent, qualified as “Member or Manager”

318. July 6, 2022: Articles of amendment filed changing company name to “Smart EPD LLC”

319. July 2022: UL EPD No. 4787137936.102.1 expires

320. At the time of the April 2022 LLC formation, Anna Lasso was either employed by UL Environment as Product Manager of EPDs and PCR Project Manager, or had recently terminated employment there.

321. The timing is significant. Anna Lasso formed EPD USA LLC in April 2022 while UL continued to certify hand dryers for other manufacturers. Hokwang's UL EPD was issued April 1, 2022—the same month Anna Lasso incorporated her company. [Exhibit DD] When Excel's UL EPD expired three months later, Excel, claiming an 8 second dry time rather than the 30 second dry time of the Hokwang product, did not renew with UL. Excel obtained certification from Anna Lasso's startup instead. UL was willing to certify Hokwang at 30-35 seconds. UL was apparently not willing to certify Excel at 8 seconds.

322. On June 23, 2023, Smart EPD issued Environmental Product Declaration No. SmartEPD-2023-002-0006-01 for Excel Dryer's XLERATOR hand dryer. [Exhibit AA] The certificate stated:

323. Drying time: 8 seconds

324. Energy consumption: 3.68 Wh per use

325. Residual moisture threshold: 0.25 grams

326. These specifications are identical to the expired UL certificate.

327. Discovery will seek to determine: (1) Whether Excel Dryer applied to renew its UL EPD certification in 2022; (2) If so, whether UL declined to renew, and on what grounds; (3) Communications between Anna Lasso and Excel Dryer regarding SmartEPD formation; (4) Communications between Anna Lasso and UL Environment regarding Excel's certification status; (5) Whether UL refused to certify 8-second drying time claims that SmartEPD subsequently certified.

328. Thomas P. Gloria of Industrial Ecology Consultants verified the lifecycle assessment for the 2023 SmartEPD certificate. Thomas P. Gloria had verified the lifecycle assessment for the 2017 UL certificate. The same LCA verifier signed both documents.

329. Page 13 of the SmartEPD certificate states: “Tests were performed by SGS International on standard XLERATOR Hand Dryer with 0.8 inch nozzle to 0.25g or less of residual moisture, pursuant to the UL Environment Global Product Category Rules (PCR) for Hand Dryers.” [Exhibit AA]

330. The SGS test report referenced—Performance Test Report No. 2774929EFF-001, [Exhibit BB], dated September 7, 2012—tested at 12 and 15 seconds, not 8 seconds. There are no other SGS test reports available after an exhaustive search. Excel, SGS, UL, and SmartEPD all claim an 8 second drying time without having provided any publicly available evidence at the time of this complaint. The test described in paragraph 1 of this Complaint is likely instructive in this instance.

331. On the SmartEPD certificate, Anna Lasso is listed as:

332. Program Operator (the entity that administers the EPD program)

333. Independent Critical Reviewer (required by ISO 14044)

334. Independent External Verifier (required by ISO 14025)

335. ISO 14025 Section 6.2 requires verification to be conducted by “an independent verifier.” ISO 14025 Section 8.1.3 requires that the program operator “shall not be the declaration holder.” [Exhibit Y] Anna Lasso holds three roles that the governing standard requires to be independent.

336. The trajectory is documented. NSF established 0.1 grams in 2007. Excel proposed 0.2 grams. NSF rejected it. UL created 0.25 grams in 2016. Anna Lasso certified Excel to that standard. All these thresholds—0.1, 0.2, and 0.25 grams—are proven false by Plaintiff’s data showing 2.5 to 3.0 grams at certified times. The threshold

differences are irrelevant when actual performance fails all of them by 1,000% to 2,500%.

## **R. The Certification Ecosystem**

### **O. THE CERTIFICATION ECOSYSTEM**

337. The certification system operates as an interconnected network where each entity relies on the entity before it.

338. Table 5: Certification Chain

339. Foundation: A drying time claim with no supporting test data Result: Every

340. downstream calculation is false

341. SGS independently verified drying performance at 12 and 15 seconds in 2012. No entity in the Excel Dryer portion of this chain independently verified the 8-second claim. Yet every downstream certification, calculation, and credit is based on 8 seconds—a claimed value that appears nowhere in any public test data Plaintiff can locate.

342. Excel's own LEED v4.1 Credit Contribution document demonstrates this cascade in explicit detail. [Exhibit HH] The document instructs building professionals: "Project teams may input 3.68 Wh per 8 second cycle use... for energy modelling purposes." It directs them to claim credits based on "Product-Specific Type III Environmental Product Declaration (EPD) certified by UL Environment." Defendants certify impossible specifications. Excel embeds those specifications in LEED guidance. Building professionals enter false data into certification software. LEED awards credits based on false data. At no point does any party verify that the underlying 8-second claim is true.

## **S. The 2012 SGS Report**

## P. THE 2012 SGS REPORT

343. SGS Performance Test Report No. 2774929EFF-001, dated September 7, 2012, was filed as Exhibit B to Excel's motion for preliminary injunction in Case 3:12-cv-30211-MAP, Document 6-2. [Exhibit BB] The report is signed by Martin Dodd, Project Engineer, and reviewed by Jody Leber. The client is Excel Dryer, Inc., 357 Chestnut Street, East Longmeadow, MA 01028.
344. The report tested five hand dryer models: Excel Dryer HO-IW, World Dryer XA5-974AU, Excel Dryer XL-BW, World Dryer K972A, Dyson AB04, and Dyson A01. Samples were received between June 29 and August 13, 2012. Testing occurred August 15-24, 2012.
345. Page 4 of the report states: "Each product was tested in accordance with a revised version of NSF Protocol P335 Hygienic Commercial Hand Dryers currently being developed and reviewed by NSF and its new technical panel for the 5 year protocol update."
346. Plaintiff states unequivocally after having had his hands in 200 unique hand dryers across all testing protocols that Excel Dryers cannot reach a dryness level of 0.1g, likely because one hand is always blocking the other. [Exhibits B, E, F, H] Excel performed testing via SGS before approval was given for the 0.2g NSF P335 modification and those numbers have migrated throughout the industry. NSF rejected the standard but Excel deferred to the testing done under the proposed standard for years and "SGS testing" is still referenced on their website as of the date of this complaint.
347. Page 9 of Annex A states: "For the purposes of NSF Protocol P335, 'thoroughly dry' means that less than 0.1 grams of residual moisture per hand for a total of 0.2 grams or less is recovered when a user dries his or her hands on a paper towel after using the hand dryer." SGS certified results using this methodology. Plaintiff,

following comparable methodology, documents 2.5 to 3.0 grams—not 0.1 to 0.2 grams. The certified results cannot be independently reproduced.

348. This is linguistic sleight of hand. NSF P335 Section 3.4 defines dry hands as “less than 0.1 g residual moisture”—total, not per hand. [Exhibit X] By redefining the threshold as “0.1 grams per hand for a total of 0.2 grams,” Excel doubled the acceptable moisture while preserving the appearance of the 0.1 gram figure.

349. Table 1 of the SGS report reveals the test results at 120V, 60Hz:

350. Excel Dryer XL-BW at 12 seconds: 0.186 grams average residual moisture.

351. Excel Dryer XL-BW at 15 seconds: 0.108 grams average residual moisture.

352. World Dryer XA5-974AU at 15 seconds: 0.916 grams average residual moisture.

353. World Dryer XA5-974AU at 30 seconds: 0.306 grams average residual moisture.

354. Dyson AB04 at 12 seconds: 0.183 grams average residual moisture.

355. Dyson AB04 at 15 seconds: 0.143 grams average residual moisture.

356. SGS certified these results: XLERATOR at 0.186 grams at 12 seconds, World Dryer at 0.916 grams at 15 seconds, Dyson Airblade at 0.183 grams at 12 seconds. These are the certified figures on which all subsequent certifications rely. Plaintiff’s 462 trials, following stated methodology, document 2.5 to 3.0 grams at equivalent times—15 to 25 times higher than SGS certified. The certified results cannot be independently reproduced and the failures are at one to two orders of magnitude out of compliance.

357. Excel’s current marketing claims 8 seconds. Denis Gagnon testified under oath to 12 seconds. [Exhibit OO] The SGS report tested at 12 and 15 seconds. The 8-second claim, while attributed to current models, has no foundation in any testing document anywhere in the evidentiary record.

## **T. ISO 14025 Independence Violation**

### **Q. ISO 14025 INDEPENDENCE VIOLATION**

358. ISO 14025:2006, Section 8.1.3 requires that EPD verification be performed by an independent verifier “independent of the organization, the EPD, and any parties that have a commercial interest in the product.” Section 8.1.4 specifies that the program operator “shall not act as verifier for EPDs within its own programme.”

[Exhibit Y]

## U. Excel vs Dyson Litigation

### R. EXCEL VS DYSON LITIGATION

359. In December 2012, Excel Dryer sued Dyson in the United States District Court for the District of Massachusetts, Case 3:12-cv-30211-MAP, documenting, under oath, previously proprietary or trade secret information displaying an entire trail of conflicting claims about drying time, testing protocols, and science. It leaves us with a comprehensive record of who did what when and answers many questions regarding why they did it, while raising many others. [Exhibits NN-UU]

360. The litigation produced sworn testimony and documentary evidence of both companies and the certifying agencies arguing about standards and test results that powerfully foreshadow the claims made in this complaint. Each manufacturer publicly accused the other of fraud. Both were right. They appear to have been so focused on proving the other was lying, they documented in great detail, under oath, exactly how the false claims interweave with each other. Dyson explained how Excel manipulated thresholds. Excel explained how Dyson generated self-serving data. Both of them provided a timeline for historical standards setting and the reasons they and the certifiers made the choices they did. Neither realized they were building the case against both of them, elements of which mirror and detail the false claims Plaintiff found in his science and are material here.

#### 1. The Core Dispute

361. Excel sought a preliminary injunction against Dyson's advertising, which claimed XLERATOR required 20 seconds to dry hands while Airblade required only 12 seconds. Excel's motion relied on a single SGS test purportedly showing the products' performance was "comparable" at 12 seconds.

362. Dyson's opposition memorandum, filed January 22, 2013 (Case 3:12-cv-30211-MAP, Document 27) [Exhibit RR], exposed Excel's deception.

## 2. The “Revised NSF Protocol P335” Fraud

363. Excel represented to the court that its SGS testing used “a revised version of NSF Protocol P335 Hygienic Commercial Hand Dryers currently being developed and reviewed by NSF.”

364. Dyson’s attorneys responded: “The phrase ‘revised NSF Protocol P335’ unambiguously communicates that at some point, NSF revised its protocol P335 and that Excel’s test was based on this revised protocol. That is absolutely untrue.” [Exhibit RR]

365. Dyson revealed that Excel had proposed amending NSF P335 to change the dryness threshold from 0.1 grams to 0.2 grams. NSF rejected this proposal. Excel used the rejected standard anyway and represented to the federal court that it was “the revised NSF Protocol P335” without disclosing that NSF had rejected the revision.

## 3. XLERATOR Is Not NSF Certified

366. Dyson’s memorandum stated explicitly: “The Xlerator is not NSF Certified, meaning NSF has not independently verified that it passes NSF P335 and dries hands within 15 seconds.” [Exhibit RR]

367. This remains true today. Excel has never achieved NSF P335 certification, likely due to its single airjet design forcing hands on top of each other to trade water back and forth. The company that proposed weakening the NSF standard, was rejected, helped create UL’s weaker standard, and now markets under SmartEPD certification has never met the original hygiene standard.

## 4. Dyson’s Sworn Counterclaims

368. On February 22, 2013, Dyson filed its Answer, Statement of Defenses, and Counterclaims (Case 3:12-cv-30211-MAP). [Exhibit QQ] In sworn counterclaims, Dyson alleged: “The claim that the Xlerator dries hands completely in 10-15 seconds is literally false. According to testing performed by Dyson in accordance

with NSF P335, the Xlerator takes approximately 20 seconds.” Dyson further alleged under oath that “the Airblade achieves hygienic dryness in less than 12 seconds.”

369. Both companies’ sworn claims are now proven false. Plaintiff’s 462 residual moisture trials demonstrate that neither product achieves threshold dryness until 70-90 seconds. Dyson was right about Excel. Excel was right about Dyson. Both are responsible for making false claims about themselves.

## 5. Dyson’s Testing Data

370. Dyson provided detailed testing results under oath. For XLERATOR, Dyson conducted three studies using NSF P335 methodology:

371. For Airblade, Dyson conducted 22 studies between 2009 and 2011. The aggregate mean dry time was 9.58 seconds. No test showed a mean dry time exceeding 11.34 seconds. Dyson provided MIT with a conservative 12-second figure—1 to 2 seconds longer than actual test results. [Exhibit PP]

372. Plaintiff’s independent testing data contradicts these claims by orders of magnitude. Dyson’s sworn mean of 9.58 seconds produces 2.547 grams residual moisture in Independent scientific research published by Blouch (2025) — more than 25 times the 0.1 gram threshold Saville claimed to achieve. The 19.86 to 19.99 second XLERATOR tests fare no better: the independent research data shows 2.77 grams average residual moisture at manufacturer-specified times. The laws of physics do not vary by laboratory. Discovery will determine how Dyson achieved results that independent testing proves impossible. Further, Defendants should be able to replicate their sworn results for the court in a matter of minutes with no equipment other than a stopwatch and a production dryer, properly installed. If they cannot, that failure will explain the discrepancy.

## 6. Excel’s Buried Admission

373. Dyson's memorandum cited Excel's own website: "On its website (but buried where consumers are not likely to see it) Excel notes that the 1.1 inch 'Noise Reduction Nozzle' will add about 2 to 3 seconds to the drying time compared to the original."  
[Exhibit RR]

## 7. The White Paper Admission

374. Dyson attached Excel's own White Paper, authored by Sol Aisenberg and G. Freedman and indeterminately dated, as an exhibit. [Exhibit UU] The White Paper used Excel's self-invented 0.2 gram threshold—not the NSF standard of 0.1 grams. Even using this weakened threshold, Excel's own data showed 14 seconds to reach 0.2 grams. The authors admitted they hoped to achieve drying times "in the 10 to 12 second range in the near future."

375. Excel's own researchers, in Excel's own document, using Excel's own weakened threshold, could not achieve the times Excel marketed.

## 8. Denis Gagnon's Testimony

376. Denis Gagnon, Excel's President, signed a declaration under pains and penalties of perjury. [Exhibit OO] He testified that 12 seconds was accurate for XLERATOR. He also signed the Verification to Excel's Complaint, swearing that all allegations therein were "true and accurate to the best of my personal knowledge."

377. On June 24, 2016—nineteen days before UL published the PCR on July 13, 2016—Denis Gagnon Jr., Excel's CFO, signed a verified complaint with the International Trade Commission stating that XLERATOR drying time was "10-15 seconds."  
[Exhibit VV]

378. Plaintiff's 451 retained moisture trials unequivocally disprove those claims.  
( $P < .001$ ;  $r = .99$ )

## 9. Toby Saville's Testimony

379. Toby Saville, the Dyson microbiologist who served on the NSF P335 Protocol Development Panel in 2007, provided a sworn declaration exceeding 120 paragraphs. [Exhibit PP] He testified that DTM 553 testing achieved 0.1 grams residual moisture in 9.58 seconds mean—the aggregate of Dyson’s 22 studies.
380. Plaintiff’s 429 time-to-dry trials document a different reality: only 15 trials (3.5%) ever achieved 0.1 grams residual moisture, and only with extended drying far beyond any manufacturer’s claimed times. Plaintiff’s 212 Dyson-specific trials show mean residual moisture of 2.547 grams at 10 seconds—a differential of 20 to 40 times versus Saville’s sworn claim. [Exhibit PP-A]
381. This discrepancy—a differential of 20 to 40 times—cannot be explained by normal experimental variation. Discovery will seek: (1) complete raw data from all 22 Dyson DTM 553 studies; (2) detailed methodology including subject selection criteria, hand wetting protocols, ambient conditions, and measurement calibration; (3) identity and qualifications of all test subjects; (4) whether test subjects were Dyson employees; (5) any internal communications discussing test results, methodology selection, or result variability; (6) any Dyson testing that produced results inconsistent with the 9.58-second claim; (7) the basis for excluding any trials from the aggregate; and (8) any communications between Dyson and NSF regarding incorporation of DTM 553 into P335. If Saville's sworn testimony reflects legitimate testing Defendants can produce the data and replicate the results for the court. If they cannot replicate their own sworn testing, that failure will demonstrate why.

#### 10. The MIT Study’s Data Source

382. A The MIT Materials Systems Laboratory Life Cycle Assessment, filed as Document 6-1 in the Excel v. Dyson litigation, reveals the circular nature of the competing claims. [Exhibit FF] The study’s Table 4 lists XLERATOR’s dry time as “20 sec [27].” Reference 27 is: “Blower, L. Personal communication with Dyson, Ltd., (2010).”

383. Dyson provided the dry time data for its competitor's product. The study states explicitly: "NSF protocol measurements were performed by Dyson." MIT did not independently verify either company's dry times. The study further acknowledges: "Neither Excel Dryer nor the standard dryer manufacturers, however, provide documentation on how they arrived at their dryers' respective dry times or what their basis was for dryness."

384. The 20-second XLERATOR figure that Dyson used in advertising came from Dyson's own testing of a competitor's product, reported through "personal communication" to researchers Dyson had commissioned. Excel's allegation that Dyson's data was "self-serving" was literally true—Dyson tested Excel's product and reported the results to its own commissioned study.

385. On October 17, 2012, the authors of both competing lifecycle assessments—Jon Dettling (Quantis, Excel's 2009 LCA), Jeremy Gregory (MIT, Dyson's 2011 LCA), and Randolph Kirchain (MIT)—wrote a joint letter to William Gagnon. [Exhibit TT] The letter admitted: "the Airblade and the XLERATOR are statistically indistinguishable" in environmental impact. It also revealed that Dyson's test of its own product matched independent SGS results, while Dyson's test of Excel's XLERATOR was "nearly 50% higher than the SGS result." The authors admitted: "We cannot explain these differences since we did not observe the testing by either entity." The entire comparative advantage Dyson advertised rested on dry time data Dyson itself had generated for its competitor's product—data the study's own authors could not verify.

386. The certifiers watched two manufacturers publicly accuse each other of fraud and certified both anyway.

## 11. Excel's Delay

387. Dyson noted that Excel delayed seeking injunctive relief for at least seven months, and possibly thirteen months, after learning of Dyson's advertising claims. Excel

never sent a cease-and-desist letter. Excel never contacted Dyson at all before filing suit.

388. Dyson argued: “Excel’s ‘leisurely pace and lack of urgency’ undercuts a presumption of irreparable harm.” [Exhibit RR]

389. A company suffering genuine harm from false advertising does not wait a year to act. Excel’s delay suggests Excel knew its own claims were equally vulnerable to scrutiny.

## 12. The Settlement

390. The case settled before discovery. Neither company wanted its testing methodology examined under oath. Neither company wanted to explain how products claiming 8-12 second drying times were tested at 12-20 seconds. Neither company wanted to reconcile marketing claims with physical impossibility.

391. The settlement silenced the dispute but preserved the underlying false claims. Both companies continue marketing times neither can achieve.

## V. The Document That Proves It

### S. THE DOCUMENT THAT PROVES IT

392. Page 3 of the certificate states: “The XLERATOR dries hands completely in 8 seconds.”

393. Page 4 lists product specifications including: “Dry time: 8 seconds.”

394. Page 13, under Additional Environmental Information, states: “Dry Time and Energy Use: Tests were performed by SGS International on standard XLERATOR Hand Dryer with 0.8 inch nozzle to 0.25g or less of residual moisture, pursuant to the UL Environment Global Product Category Rules (PCR) for Hand Dryers.”

395. This certificate is not limited to environmental claims. It embeds the 8-second drying time as a product specification and uses that specification as the basis for all energy and lifecycle calculations. The functional unit is 100,000 instances of hand drying. Energy consumption is calculated assuming 8-second cycles. If the drying time is false, every downstream calculation in the certificate is false.
396. The certificate explicitly documents testing to 0.25 grams—the UL PCR threshold that is 2.5 times weaker than NSF P335. [Exhibit W] The certificate does not claim NSF compliance. It does not claim UL certification. It claims testing to the UL PCR standard, verified by the person who helped create that standard while employed at UL.
397. The TrueNorth Collective Life Cycle Assessment underlying this certificate states on page 1: “Dry time, power and energy consumption are based on the average test results provided by Excel.” [Exhibit EE] No independent verification. Manufacturer-provided data, certified by the manufacturer’s former collaborator.
398. The same TrueNorth LCA states: “Although hygiene is another purpose for hand dryers that is of interest to the scientific community (Materials Systems Laboratory, 2011), hygiene is not considered in this study.” A Life Cycle Assessment for products marketed as “hygienic” explicitly excludes hygiene from consideration.
399. Excel Dryer’s current marketing claims XLERATOR dries hands in 8 seconds. [Exhibit II] This claim appears on Excel’s website, on Smart EPD certificates, and in LEED credit documentation. No test data in the evidentiary record supports this claim.
400. The 2012 SGS report tested at 12 seconds and 15 seconds. [Exhibit BB] No 8-second data exists.
401. Denis Gagnon testified under oath in 2012 that 12 seconds was accurate. [Exhibit OO]

402. On June 24, 2016, Denis Gagnon Jr., Excel's CFO, signed a verified complaint with the International Trade Commission stating that XLERATOR drying time was "10-15 seconds." [Exhibit VV] This was filed 19 days before UL published the PCR on July 13, 2016.
403. Excel's own White Paper, authored by Sol Aisenberg and G. Freedman, showed 14 seconds to reach 0.2 grams and expressed hope to achieve "10 to 12 second range in the near future." [Exhibit UU]
404. The 2023 Smart EPD certificate states 8 seconds as a product specification but cites testing to the UL PCR's 0.25 gram threshold. [Exhibit AA] The certificate does not cite any test data validating the 8-second claim itself.
405. Plaintiff's 500+ independent trials show actual drying time to 0.1 grams is 70-90 seconds across all manufacturers. No Excel unit achieved below 0.15 grams at any tested interval. [Exhibits B, E, H]
406. The claim has propagated through the certification ecosystem without ever being validated. Excel claims 8 seconds. Smart EPD certifies a document stating 8 seconds. LEED credits reference documentation claiming 8 seconds. Building Green databases list 8 seconds. At no point in this chain has any party independently verified that 8 seconds is achievable. The claim is an input, not a finding. It is assumed, not tested. It flows from manufacturer to certifier to green building system without scrutiny. [Exhibits AA, HH]
407. The drying time claim evolution under oath and certification [EXHIBITS NN-SS]:
408. The actual, historical performance of all production hand dryers has never not been 70-90 seconds to 0.1g of residual water. Claims otherwise must be publicly validated. If they cannot be validated, the certifications must be publicly revoked. Plaintiff's test trials were perfectly executed using the testing protocols of the certifiers themselves. Both cannot be true.

409. Defendants can replicate their certified results for the Court in minutes. Or not.

## **W. Systemic Consequences and Ongoing Harm**

### **T. SYSTEMIC CONSEQUENCES AND ONGOING HARM**

410. Defendants' certifications remain active. The same standards govern purchasing decisions. The same claims appear in product literature, green building documentation, and sustainability programs. The same marks appear on products installed in facilities throughout the United States. At any moment during business hours, approximately 125,000 Americans are simultaneously being exposed to the amplified microbial loads documented in this Complaint. The harm is not historical. It renews with each use of each certified device.

411. Despite the evidence assembled here—462 trials showing zero compliance, 136 contamination tests showing 100% amplification, visible mold in 100% of installations—Defendants have not withdrawn, corrected, or revised the certifications at issue. The system has not corrected itself. No internal reform has occurred. Plaintiff's verification process required 2.5 years and \$60,000—an entirely unreasonable burden for any consumer. If Plaintiff was able to notice these issues and begin testing purely out of human curiosity arising during public restroom use, manufacturers, certifying bodies, and regulatory agencies were obligated to notice and test for them as well. They did not. Or they did and certified anyway.

412. The combination of ongoing reliance, persistent public exposure, and absence of self-correction establishes a continuing course of wrongful action. In the absence of judicial intervention, Defendants' certifications will continue to govern public behavior, commercial decision-making, and exposure conditions indefinitely. The Court's intervention is necessary to halt ongoing harm and protect the public from continued reliance on false representations.

413. Remove the dryer from the room. What is the impact on the room?

#### **X. Plaintiff's Harm**

414. Class members have been harmed by Defendants' conduct in the following ways:

- a. Occupational exposure to airstreams containing 50-110 times amplified bacterial and fungal contamination, thousands of times per employee per year;
- b. Occupational exposure to workplace restrooms with confirmed mold colonization, including *Aspergillus*, *Penicillium*, *Alternaria*, *Cladosporium*, and *Chaetomium* species known to cause respiratory illness, allergic reactions, and hypersensitivity pneumonitis;
- c. Being placed in an impossible position where compliance with food safety handwashing requirements exposes workers to contamination hazards;
- d. Being forced to choose between leaving with wet hands (up to 1,000× increased bacterial transfer to food and beverages served to customers) or extended drying (70+ seconds of contamination exposure while customers wait);
- e. Being instructed to follow hygiene protocols that Defendant Starbucks has made physically impossible to complete;
- f. Handling food and beverages served to customers with hands that remain wet and contaminated due to Defendants' defective products and Starbucks' removal of safe alternatives;
- g. Increased risk of illness from occupational exposure to contaminated environments; and
- h. Working under conditions predicated on false environmental claims while being told their use of contamination-amplifying equipment was benefiting the planet.

415. Property where Class members work has been damaged by Defendants' products.

The cost of repairing or replacing walls, floors, and fixtures damaged by water

dispersal and mold colonization—property distinct from the hand dryers themselves—includes drywall replacement, repainting, tile repair, and fixture replacement in restrooms where mold growth has compromised building materials.

## **Y. Timeliness of Claims**

416. Continuing Conduct. Defendants' false representations are ongoing. Dyson's website, marketing materials, and product specifications continue to make the false claims described herein. Starbucks continues to operate restrooms with Dyson hand dryers, continues to display signage making false environmental claims, and continues to require employees to use defective equipment—with actual knowledge of the hazards.

417. Discovery Rule. The scientific research establishing the specific nature and magnitude of hand dryer performance failures was conducted between August 2023 and December 2025, with results published beginning in 2025. Prior to this research, the mechanisms of failure—particularly the bimodal loose water/bound water mechanism, the universal nature of specification failure across manufacturers ( $r > 0.99$ ), and the 100% mold colonization rate—were not known or reasonably discoverable by ordinary consumers, workers, or employers.

418. Plaintiff's claims are timely under the discovery rule, the continuing violation doctrine, and principles of equitable tolling.

NSF continues to list Dyson as P335 certified. SGS testing remains cited as third-party validation. The certifications that enabled Dyson's false marketing claims remain active and continue to cause ongoing harm.

## **VI. CAUSES OF ACTION**

### **COUNT I**

#### **PRODUCTS LIABILITY—DESIGN DEFECT**

(Against Defendants Dyson and Excel)

419. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

420. Dyson designed, manufactured, marketed, distributed, and sold the Airblade line of hand dryers installed in Starbucks locations where Class members work. Excel designed, manufactured, marketed, distributed, and sold the XLERATOR line of hand dryers installed at Starbucks locations where Class members work — documented, photographed, and tested at twenty such locations. Both product lines share the dispersal-type design, and the empirical record establishes that they fail identically: cross-manufacturer correlation coefficients exceed  $r = 0.99$ .

421. Under Washington's Product Liability Act, RCW 7.72.030(1), a product is defective in design if, at the time of manufacture, the likelihood and severity of harm caused by the product outweighed the burden on the manufacturer to design a product that would have prevented the harm, and the manufacturer's failure to design the safer product was a proximate cause of the harm.

422. The defect is the design itself, not a manufacturing flaw. Dispersal-type hand dryers — the Dyson Airblade at 374-430 mph outlet velocity, the Excel XLERATOR at 12,000 to 20,000 linear feet per minute — use high-velocity air to strip water from hands. This design necessarily disperses water into the environment rather than containing it for disposal, necessarily amplifies microbial contamination through biofilm accumulation and aerosolization, necessarily fails to remove bound water held by

capillary action, and necessarily creates conditions for mold colonization. These are not defects in particular units—they are inherent to the design of dispersal-type hand dryers. Cross-manufacturer correlation coefficients exceeding  $r = 0.99$  establish that all dispersal-type dryers fail identically because the limitation is physical, not engineering.

423. A reasonable alternative design exists. White paper towels eliminate all five problems identified in this complaint. White paper towels are frequently sterile (55.6% showed zero colonies), tested as statistically indistinguishable from ambient air ( $p = 0.24$ ), achieve hand drying in 20 to 30 seconds through absorption rather than dispersal, cause no microbial amplification, create no water dispersal onto walls or floors, and produce no mold colonization (13% versus 100% for dispersal-type dryers). The solution is simpler than the problem.

424. The burden of designing or selecting a safer product was minimal—the alternative (paper towels) is ubiquitous, well-understood, and costs comparably or less to operate under real-world conditions where actual drying times are 7-10× longer than Dyson claims.

425. Dyson's failure to design a product that would have prevented the harm was a proximate cause of Class members' exposure to amplified contamination, wet-hand bacterial transfer in food service environments, mold exposure, and working conditions predicated on false claims.

## **COUNT II**

### **PRODUCTS LIABILITY—FAILURE TO WARN**

(Against Defendants Dyson and Excel)

426. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

427. Under Washington's Product Liability Act, RCW 7.72.030(1)(b), a product is defective because of failure to warn if, at the time of manufacture, the manufacturer knew or should have known of the risk but failed to provide adequate warnings.

428. Each manufacturer Defendant knew or should have known that its products: (a) do not achieve claimed dryness thresholds at claimed times; (b) amplify microbial contamination; (c) disperse contaminated water into the environment; and (d) create conditions for mold colonization.

429. Dyson's knowledge is evidenced by: (a) its creation of proprietary "test method 769," never published, described by Dyson as based on NSF P335 rather than complying with it — the method is Dyson's, the description is Dyson's, and what Dyson understood in choosing both is a matter for discovery; (b) its citation of Patrick et al. research establishing that wet hands transfer bacteria, demonstrating knowledge that leaving hands wet creates hygiene hazards; (c) NSF P335 Section 1.2—the protocol Dyson cites for certification—which acknowledges that hand dryers "can promote distribution of potentially pathogenic bacteria and allergenic mold spores"; (d) Dyson's employment of microbiologists capable of testing hand dryer output; and (e) as to food-service deployment specifically, Dyson marketed the Airblade Wash+Dry as "certified for use in food preparation environments" by HACCP International, and both manufacturers marketed to food service facilities knowing workers must wash their hands before handling food — the setting in which wet hands transfer up to 1,000 times more bacteria.

430. Neither manufacturer provided any warning regarding the hazards associated with its products — at the time of sale or afterward, when the 2012 litigation between them, the UL Product Category Rule's own Figure 2 data, and the published independent research each placed the hazards in view. Instead, both made

affirmative representations that its products are "hygienic" and create "cleaner" environments—the opposite of the truth.

431. The absence of adequate warnings was a proximate cause of Class members' harm. Adequate warnings would have enabled Starbucks to make informed decisions about restroom equipment and would have enabled Class members to understand the hazards to which they were being exposed.

### **COUNT III**

#### **PRODUCTS LIABILITY—FAILURE TO CONFORM TO EXPRESS WARRANTY (RCW 7.72.030(2)(c))**

(Against Defendants Dyson and Excel)

432. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

433. Under Washington's Product Liability Act, RCW 7.72.030(2)(c), a product is not reasonably safe — and the manufacturer is subject to strict liability — when the product did not conform to the manufacturer's express warranty. This theory runs within the Product Liability Act itself and requires no privity: it protects the persons harmed by the nonconforming product, including the Class members required to use it.

434. Dyson expressly warranted that its Airblade hand dryers: (a) achieve drying in 10-14 seconds (varying by model); (b) are "Hygienic" and "independently proven safe"; (c) produce "HEPA-filtered" and "HEPA-purified air"; (d) "help to create a cleaner, more hygienic washroom"; (e) have "no significant impact on the surrounding air"; (f) provide environmental benefits including reduced CO<sub>2</sub> emissions compared to paper towels; and (g) provide cost savings compared to paper towels.

435. Excel likewise expressly warranted that the XLERATOR dries hands “completely in 8 seconds,” is “a hygienic hand drying solution,” consumes 3.68 watt-hours per use, and delivers 95 percent cost savings and an 88 percent carbon-footprint reduction versus paper towels — figures carried on its certified Environmental Product Declarations. Both manufacturers’ warranties were directed to commercial facilities, including the food service establishments where the Class works.

436. The products conform to none of these warranties. The dryers do not achieve drying in 10-14 seconds (actual: 70-90 seconds). The dryers are not hygienic (they amplify contamination 49.6×–110×). The dryers do not produce cleaner air (contamination occurs downstream of HEPA filtration; HEPA provides no statistically significant benefit,  $p = 0.803$ ). The dryers do not create cleaner washrooms (100% develop mold colonization). The dryers do not save CO<sub>2</sub> or costs (actual energy consumption is 600-900% higher than claimed).

437. The Class members are within the protection of RCW 7.72.030(2)(c) as the persons who use the nonconforming products as part of mandatory handwashing protocols; no contractual privity is required.

438. As a direct and proximate result of the products’ failure to conform to the manufacturers’ express warranties, Class members have suffered the damages described herein.

#### **COUNT IV**

#### **NEGLIGENT MISREPRESENTATION**

(Against Defendants Dyson and Excel)

439. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

440. Dyson made representations regarding the drying time, hygiene, environmental benefits, and HEPA filtration of its Airblade hand dryers, and Excel made representations regarding the drying time, hygiene, energy consumption, and environmental benefits of its XLERATOR hand dryers, in marketing materials, product specifications, certified declarations, technical documentation, and on the products themselves.
441. These representations were false. Dyson hand dryers do not achieve claimed drying times (10-14 seconds claimed; 70-90 seconds actual). Dyson hand dryers are not hygienic (they amplify contamination 50-110×). Dyson hand dryers do not provide claimed environmental benefits (energy consumption is 600-900% higher than claimed). Dyson's HEPA filtration provides no statistically significant hygiene benefit ( $p = 0.803$ ).
442. Dyson failed to exercise reasonable care in determining the truth of these representations. The physical impossibility of achieving 0.1g residual moisture in 10-14 seconds is demonstrable through straightforward testing following Dyson's own cited methodology. The bimodal physics of water removal from skin is well-established. Dyson created a proprietary "test method 769" that deviates from NSF P335 in undisclosed ways; what Dyson understood in choosing a method of its own over the standard it advertises is a matter for discovery.
443. Dyson intended that purchasers and users rely on these representations. Starbucks and Class members justifiably relied on Dyson's representations. Dyson is in the business of manufacturing hand dryers and held itself out as having superior expertise in hand hygiene technology.
444. As a direct and proximate result of Dyson's negligent misrepresentation, Class members have suffered the damages described herein.

## **COUNT V**

### **VIOLATION OF WASHINGTON CONSUMER PROTECTION ACT**

(Against Defendants Dyson and Excel)

RCW 19.86

445. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

446. The Washington Consumer Protection Act, RCW 19.86.020, prohibits "unfair or deceptive acts or practices in the conduct of any trade or commerce."

447. Dyson engaged in unfair or deceptive acts or practices by: (a) making false representations regarding drying time (10-14 seconds claimed; 70-90 seconds actual); (b) making false representations regarding hygiene ("hygienic" when products amplify contamination 50-110×); (c) making false representations regarding environmental benefits (CO<sub>2</sub> savings when actual consumption is 600-900% higher); (d) making false representations regarding HEPA filtration benefits (when HEPA provides no statistically significant hygiene improvement); (e) displaying NSF certification marks prominently while basing performance claims on proprietary, unpublished "test method 769"; (f) citing Patrick et al. research showing wet hands transfer bacteria, then selling products that leave hands wet; and (g) marketing products as creating "cleaner, more hygienic washrooms" when the products demonstrably degrade restroom hygiene.

448. These unfair or deceptive acts occurred in trade or commerce.

449. These unfair or deceptive acts affect the public interest because they involve standardized marketing materials disseminated to thousands of commercial purchasers and affect hundreds of thousands of end users across the United

States, including the approximately 200,000 Starbucks employees who constitute the Class.

450. Class members have been injured by these unfair or deceptive acts through occupational exposure to contaminated environments, wet-hand bacterial transfer, mold exposure, and the other damages described herein.

451. Pursuant to RCW 19.86.090, Plaintiff and Class members are entitled to actual damages, treble damages up to \$25,000, and reasonable attorneys' fees and costs.

#### **WORKERS' COMPENSATION EXCLUSIVITY AND ITS LIMITS**

452. Washington's Industrial Insurance Act, Title 51 RCW, provides the exclusive remedy for workplace injuries within its scope, and Plaintiff pleads with that doctrine in view rather than around it. Three limits on exclusivity govern the Counts against Starbucks. First, RCW 51.24.020 preserves claims for injuries resulting from the employer's deliberate intention to produce injury, and under *Birklid v. Boeing Co.*, 127 Wn.2d 853 (1995), deliberate intention is established where the employer had actual knowledge that injury was certain to occur and willfully disregarded that knowledge. Plaintiff pleads that standard in the alternative on the record set out above: Starbucks received actual notice of the documented hazards on March 16, 2025; the empirical record establishes contamination amplification in 100 percent of tested units, so that continued mandatory exposure was not a risk but a certainty; and Starbucks thereafter declined all contact for five consecutive days at its own headquarters while the mandate continued unchanged. Second, exclusivity addresses industrial injury; it does not bar the deception-based claims — the misrepresentation and Consumer Protection Act Counts arising from false workplace signage — nor claims for restitution of unjust enrichment. Third, exclusivity does not bar prospective injunctive and declaratory relief directed at ongoing workplace conditions, which is the primary relief this action seeks.

## **COUNT VI**

### **NEGLIGENCE**

(Against Defendant Starbucks)

453. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

454. Starbucks owed a duty to its employees, including Class members, to provide a reasonably safe workplace. This duty includes the obligation to investigate whether equipment mandated for employee use performs as claimed and does not pose health hazards.

455. Starbucks breached this duty by: (a) installing Dyson hand dryers in employee restrooms without adequate investigation of their performance; (b) removing paper towel alternatives, leaving employees with no option but to use defective equipment; (c) continuing to mandate use of these dryers despite observable evidence of their failure (visible mold, visibly wet hands at claimed drying times); (d) posting signage making affirmative false representations about the dryers' environmental benefits; (e) failing to investigate after receiving actual notice of the defects on March 16, 2025; and (f) refusing to receive information about the defects during five consecutive days at corporate headquarters from March 31 through April 4, 2025.

456. The hazards associated with Dyson hand dryers were discoverable through ordinary observation. The Test described in this Complaint requires no scientific equipment, no expert testimony, no specialized knowledge. Any Starbucks employee—and any Starbucks manager—could observe that hands remain wet at claimed drying times and that mold grows beneath the dryers. Starbucks had both constructive and actual notice of these hazards and failed to act.

457. A reasonable employer exercising ordinary care would have investigated the performance of hand hygiene equipment before compelling employees to use it in food service environments. A reasonable employer, upon receiving actual notice of product defects supported by scientific evidence, would have investigated rather than refusing all contact for five consecutive days.

458. Starbucks' breach of duty was a proximate cause of Class members' exposure to amplified contamination, wet-hand bacterial transfer in food service environments, mold exposure, and working conditions predicated on false environmental claims.

## **COUNT VII**

### **NEGLIGENT MISREPRESENTATION**

(Against Defendant Starbucks)

459. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

460. Starbucks made representations to employees regarding hand dryers through workplace signage. This signage states: "HAND DRYER: Using these energy efficient hand dryers reduces paper towel consumption" and displays a wind turbine icon reinforcing environmental claims.

461. These representations were false or misleading. The dryers are not "energy efficient" when actual drying times (70-90 seconds) are 7-9 times longer than claimed, resulting in energy consumption 600-900% higher than represented. Under actual operating conditions, hand dryers consume 10-13× more energy annually than paper towels.

462. Starbucks failed to exercise reasonable care in determining the truth of these representations before posting them in employee restrooms. A reasonable

investigation would have revealed that hands remain wet at claimed drying times and that energy consumption claims are based on false drying time assumptions.

463. Starbucks intended that employees rely on these representations about workplace equipment.

464. Employees justifiably relied on their employer's representations. Employees reasonably expected that their employer would not post false environmental claims in the workplace, and employees used the dryers believing—as Starbucks told them—that doing so was environmentally beneficial.

465. As a direct and proximate result of Starbucks' negligent misrepresentation, Class members have suffered the damages described herein, including being deceived about the environmental impact of mandatory workplace practices.

## **COUNT VIII**

### **VIOLATION OF WASHINGTON CONSUMER PROTECTION ACT**

(Against Defendant Starbucks)

RCW 19.86

466. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

467. The Washington Consumer Protection Act, RCW 19.86.020, prohibits "unfair or deceptive acts or practices in the conduct of any trade or commerce."

468. Starbucks engaged in unfair or deceptive acts or practices by: (a) posting workplace signage making false claims that hand dryers are "energy efficient" when actual energy consumption is 600-900% higher than represented; (b) posting workplace signage with wind turbine imagery implying environmental benefits that do not exist

under actual operating conditions; (c) creating conditions where employees cannot comply with posted hygiene instructions ("Turn Off Water with paper towel" where no paper towels exist); and (d) requiring employees to use hand dryers as part of mandatory handwashing while representing that this practice is environmentally beneficial.

469. These unfair or deceptive acts occurred in trade or commerce. Starbucks' employment relationships and workplace conditions are part of the conduct of its trade or commerce.

470. These unfair or deceptive acts affect the public interest because they involve standardized workplace signage disseminated across thousands of Starbucks locations and affect approximately 200,000 Starbucks employees.

471. Class members have been injured by these unfair or deceptive acts through being required to work under conditions predicated on false environmental claims and through the other damages described herein.

472. Pursuant to RCW 19.86.090, Plaintiff and Class members are entitled to actual damages, treble damages up to \$25,000, and reasonable attorneys' fees and costs.

## **COUNT IX**

### **UNJUST ENRICHMENT**

(Against All Defendants)

473. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

474. Dyson has been unjustly enriched by receiving payment for products that do not perform as warranted, that expose users to health hazards, and that were sold

based on false representations regarding drying time, hygiene, and environmental benefits. Dyson sells Airblade dryers at premium prices (\$949-\$1,949 per unit) based on claimed performance advantages that do not exist.

475. Starbucks has been unjustly enriched by avoiding the cost of paper towels while externalizing the health costs of defective drying equipment onto employees. Starbucks made the decision to install Dyson dryers and remove paper towels based on claimed cost savings and environmental benefits that do not exist under actual operating conditions.

476. It would be unjust for Defendants to retain these benefits.

477. Plaintiff and Class members are entitled to restitution and disgorgement of Defendants' unjust enrichment.

NSF has been unjustly enriched by receiving certification fees for issuing P335 certifications for products that do not meet certified specifications. NSF marketed these certifications to induce commercial reliance while failing to verify that certified products achieved the performance standards NSF certified.

SGS has been unjustly enriched by receiving fees for testing services that supported false performance claims, while possessing data showing that marketed drying times were not achieved under test conditions.

478. Excel has been unjustly enriched by receiving payment for products that do not perform as warranted and that were sold on certified specifications that cannot be reproduced. UL has been unjustly enriched by fees for authoring the governing Product Category Rule and issuing declarations under it. Smart EPD and Anna Lasso have been unjustly enriched by fees for certifying, reviewing, and verifying — through one person occupying all three roles — the identical figures UL had allowed to lapse.

## **COUNT X**

### **NEGLIGENT MISREPRESENTATION**

(Against Defendant NSF International)

479. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

480. NSF supplied false information to the market by issuing P335 certification for Dyson Airblade hand dryers.

481. NSF knew or should have known this certification would guide both commercial purchasing decisions and the trust of end users. The P335 mark is consumer-facing by design: it appears in Dyson's marketing as "the only hand dryer certified hygienic by NSF International," and its entire function is to assure the person at the machine that an independent body has evaluated it.

482. NSF was negligent in issuing P335 certification. NSF allowed Dyson's employee to participate in the Protocol Development Panel. NSF incorporated Dyson's internal test method into the certification standard. NSF certified Dyson products without adequate verification that the products achieved the certified specifications under real-world conditions.

483. The certification operated on the Class at both ends of the chain: Starbucks relied on it in selecting and mandating the devices, and Class members — the end users the mark exists to assure — encountered it on the devices they were required to use and in the "certified hygienic" representations surrounding them.

484. That reliance was justified at both links. NSF holds itself out as an independent certification body accredited under ISO/IEC 17065, and the Class members — who never saw the certificate, never read the standard, and never heard of the certifying

body — are precisely the audience for whom the mark's assurance is manufactured.

485. NSF's negligent certification proximately caused the Class members' harm.

## **COUNT XI**

### **NEGLIGENT MISREPRESENTATION**

(Against Defendant SGS North America Inc.)

486. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

487. SGS supplied false information to the market by providing testing services that manufacturers cited as third-party validation of performance claims.

488. SGS knew or should have known its testing and its name would guide commercial purchasing decisions and would carry independent-validation weight with facility operators and end users. SGS's report tested the Dyson AB04 at 12 seconds and reported 0.183 grams — a result independent testing across 462 trials cannot reproduce within an order of magnitude — and the report entered the public record of the federal litigation between the manufacturers.

489. SGS was negligent in conducting and reporting testing. SGS test data documented performance at drying times materially longer than manufacturer marketing claims. SGS continued providing testing services that supported false performance claims.

490. Facility operators, including Starbucks, relied on third-party testing as validation of manufacturer claims, and the Class members bore the exposure that reliance produced.

491. SGS's negligent testing and reporting proximately caused the Class members' harm.

## **THE CERTIFIER COUNTS**

492. The Counts against the certifier Defendants are brought on the duty grounds the Certification Chain above establishes for the user: Restatement (Second) of Torts § 552 — Washington has adopted it — and Restatement (Second) of Torts § 324A, which requires no privity of any kind and protects the third persons for whose benefit the certification undertaking exists. The Class members are those persons. As the Chain itself states, the user pleads no contract count — the contract belongs to the purchaser — and the Mark Is A Contract analysis serves here as what the Chain says it is: argument establishing the scope and seriousness of the duty owed at the fourth link, where the Class stands.

### **COUNT XII**

#### **NEGLIGENT MISREPRESENTATION**

**(Against Defendant UL Solutions Inc.)**

493. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein. This Count is brought on both grounds set out above.

494. UL supplied false information for the guidance of others by authoring and publishing the Product Category Rule for Hand Dryers and by issuing Environmental Product Declaration No. 4787137936.102.1 certifying the XLERATOR at 8-second drying and 3.68 watt-hours per use — specifications contradicted by UL's own Figure 2 data, published in the same rule, showing 0.456 grams of residual moisture at 8 seconds.

495. UL failed to exercise reasonable care: it constituted the drafting committee of ten manufacturer seats and two UL employees under the chairmanship of Excel's own

executive; it adopted a threshold weaker than the proposal NSF had rejected, without scientific explanation; it omitted any standard for the water the products disperse; and it certified figures its own published data contradicted. The declarations and the rule guided facility operators, including Starbucks, and reached the end users whose trust the UL mark is built to command. UL's negligence proximately caused the Class members' harm.

### **COUNT XIII**

#### **NEGLIGENT MISREPRESENTATION**

##### **(Against Defendants Smart EPD LLC and Anna Lasso)**

496. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein. This Count is brought on both grounds set out above.

497. Smart EPD and Anna Lasso supplied false information for the guidance of others by issuing Certificate No. SmartEPD-2023-002-0006-01, certifying the XLERATOR at the identical figures UL had allowed to lapse — 8 seconds and 3.68 watt-hours — while the underlying life-cycle assessment states that the figures are “based on the average test results provided by Excel” and that “hygiene is not considered in this study.”

498. They failed to exercise reasonable care: Anna Lasso occupies all three verification roles — program operator, independent critical reviewer, and independent external verifier — that ISO 14025 requires to be independent of one another, on certificates issued for a manufacturer whose executive she worked closely with while the governing standard was written. The certification keeps the 8-second figure in commerce, where it reaches facility operators and the end users required to stand at the machine. Their negligence proximately caused the Class members' harm.

### **COUNT XIV**

## NEGLIGENT UNDERTAKING

(Against Defendants NSF International, SGS North America Inc., UL Solutions Inc., Smart EPD LLC, and Anna Lasso)

499. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

500. Under Restatement (Second) of Torts § 324A, one who undertakes to render services to another that it should recognize as necessary for the protection of third persons is subject to liability for physical harm to those third persons resulting from failure to exercise reasonable care, where the harm is suffered because of reliance of the other or the third person upon the undertaking.

501. The certifier Defendants undertook to provide certification, testing, standard-development, and verification services for hand dryer manufacturers: NSF the P335 protocol and certification; SGS the performance testing; UL the Product Category Rule and its Environmental Product Declarations; Smart EPD and Anna Lasso the successor declarations and their verification.

502. Defendants recognized or should have recognized that commercial purchasers—including Starbucks—would rely on these certifications when making purchasing decisions affecting the health and safety of their customers and employees.

503. Defendants failed to exercise reasonable care in performing their undertakings. Defendants allowed manufacturers to control certification development. Defendants failed to verify that certified products achieved certified specifications. Defendants continued certifying products despite evidence—including the Excel v. Dyson litigation—that manufacturer claims were false.

504. The Class members are the third persons for whose protection the certification undertakings existed, and they suffered the exposure that the failed undertakings

produced. Their harm requires no privity and no purchase: § 324A protects precisely the person who stands at the certified machine.

## **COUNT XV**

### **DECLARATORY AND INJUNCTIVE RELIEF**

(Against All Defendants)

505. Plaintiff incorporates by reference all preceding paragraphs as though fully set forth herein.

506. An actual controversy exists between Plaintiff and Defendants regarding the truth and validity of Defendants' representations and certifications concerning hand dryer hygiene, performance, and environmental claims.

507. Plaintiff seeks a declaration that:

508. a. Dyson's claims that Airblade is "the most hygienic hand dryer" are false;

509. b. Dyson's claims that Airblade dries hands in 10-12 seconds are false;

510. c. Dyson's HEPA filtration claims are misleading;

511. d. Dyson's environmental superiority claims are false;

512. e. NSF's P335 certification of Dyson products was negligently issued;

513. f. SGS's testing supported false manufacturer claims; g. Excel's claims that the XLERATOR dries hands completely in 8 seconds are false; h. UL's Environmental Product Declaration certified specifications contradicted by UL's own published Figure 2 data; i. The Smart EPD certifications violate ISO 14025 independence requirements and are void; and

514. Plaintiff seeks injunctive relief:

515. a. Enjoining Dyson from continuing to make false hygiene, performance, and environmental claims;

516. b. Requiring Dyson to issue corrective advertising;

517. c. Enjoining NSF from continuing to list Dyson as P335 certified until independent verification confirms compliance; d. Enjoining Excel from continuing to make false drying-time, hygiene, and environmental claims; e. Enjoining Smart EPD and Anna Lasso from issuing or maintaining certifications that do not comply with ISO 14025 independence requirements; and

518. f. Such other injunctive relief as justice requires.

#### X. PRAYER FOR RELIEF

### VII. DAMAGES

519. As a direct and proximate result of Defendants' conduct, Plaintiff and Class members have suffered and will continue to suffer damages including but not limited to:

520. Increased healthcare costs associated with occupational exposure to contaminated environments and mold;

b. Costs of medical monitoring for conditions associated with mold exposure, including respiratory symptoms and hypersensitivity pneumonitis;

c. Property damage consisting of the cost of repairing or replacing walls, floors, and fixtures damaged by water dispersal and mold colonization—property distinct from the hand dryers themselves;

d. Damages for annoyance, discomfort, and diminished quality of working conditions;

e. Statutory damages under the Washington Consumer Protection Act;

- f. Restitution and disgorgement of Defendants' unjust enrichment; and
- g. Such other damages as may be proven at trial.

## **VIII. JURY DEMAND**

521. Plaintiff demands a trial by jury on all claims so triable.

## **IX. PRAYER FOR RELIEF**

WHEREFORE, Plaintiff Starbucks Workers United, on behalf of itself and all others similarly situated, respectfully requests that this Court:

- A. Certify this action as a class action pursuant to Federal Rules of Civil Procedure 23(a), 23(b)(2), and 23(b)(3), appoint Plaintiff as class representative, and appoint Plaintiff's counsel as class counsel;
- B. Enter judgment in favor of Plaintiff and the Class against Defendants;
- C. Grant injunctive relief requiring Starbucks to remove all Dyson hand dryers from employee restrooms and install paper towel dispensers;
- D. Grant injunctive relief requiring Starbucks to remediate mold damage in restrooms where mold colonization has occurred;
- E. Grant injunctive relief requiring Starbucks to remove false environmental signage from restrooms;
- F. Grant injunctive relief requiring Dyson and Excel to cease making false representations regarding drying time, hygiene, filtration benefits, and environmental benefits of their hand dryers;

G. Grant injunctive relief requiring NSF to suspend or revoke P335 certification for Dyson products until independent verification confirms compliance with certified specifications;

H. Grant injunctive relief requiring NSF to conduct public surveillance testing of certified hand dryer products under real-world conditions;

I. Grant injunctive relief requiring the certifier Defendants to publish corrective notices regarding hand dryer testing and certifications, and requiring Smart EPD to withdraw certifications issued in violation of ISO 14025 independence requirements;

J. Grant injunctive relief requiring the certifier Defendants to notify LEED, WELL, and BuildingGreen of the certification deficiencies documented herein;

K. Award compensatory damages to Plaintiff and the Class in an amount to be determined at trial;

L. Award property damages for repair and remediation of walls, floors, and fixtures damaged by water dispersal and mold colonization;

M. Award statutory damages, including treble damages, pursuant to the Washington Consumer Protection Act, RCW 19.86.090;

N. Award restitution and disgorgement of Defendants' unjust enrichment;

O. Establish a medical monitoring fund for Class members given cumulative occupational exposure to amplified microbial contamination and confirmed mold species associated with respiratory illness;

P. Award pre-judgment and post-judgment interest as permitted by law;

Q. Award reasonable attorneys' fees and costs pursuant to the Washington Consumer Protection Act and other applicable law; and

R. Grant such other and further relief as the Court deems just and proper.

DATED: \_\_\_\_\_, 2026

Respectfully submitted,

\_\_\_\_\_

[Attorney Name]

[State Bar No.]

[Firm Name]

[Address]

[City, State ZIP]

[Phone]

[Email]

Attorneys for Plaintiff Starbucks Workers United

and the Proposed Class

**NOTE TO COUNSEL — FORUM, CLASS ARCHITECTURE, AND THE SCOPE OF  
DISCOVERY**

This note is addressed to counsel evaluating this complaint.

Forum and jurisdiction. This action proceeds in federal court under the Class Action Fairness Act, 28 U.S.C. § 1332(d): minimal diversity, an aggregate amount in controversy

exceeding \$5,000,000, and a class exceeding 100 members. CAFA's treatment of unincorporated associations, § 1332(d)(10), resolves the union-citizenship problem that would defeat ordinary diversity. The Western District of Washington at Seattle is Starbucks' home district; no forum conversion is required.

Class representation. The complaint names the union as class representative. Counsel should strongly consider adding individually named employee plaintiffs as class representatives alongside the union: courts divide on whether a labor organization satisfies Rule 23(a)(4) typicality and adequacy for a class of employees, individual representatives moot the question, and the members whose exposure records are strongest make the class concrete. The class period is bracketed for counsel to set against the applicable limitations and tolling analysis.

Workers' compensation. The exclusivity analysis and its three limits — Birkliid deliberate intention pleaded in the alternative on the actual-notice record, the deception-based claims, and prospective injunctive relief — are set out in the body before the Counts against Starbucks. The March 16, 2025 notice event and the five days of refused contact at corporate headquarters (March 31—April 4, 2025) are the facts that carry the Birkliid alternative; counsel should develop them first in discovery.

The fleet. Both fleets are pleaded on the documented record. The Dyson deployment spans company-operated stores generally; Excel XLERATOR units are documented, photographed, and tested at twenty Starbucks locations identified in the exhibits. The complete restroom-equipment census is within Starbucks' exclusive possession and is an early document request; the documented twenty establish the Excel chain's factual predicate, and discovery establishes its scale.

The interlocking relationships. The facts pleaded describe a small and interlocking world across two certification chains: a manufacturer's microbiologist on the panel that wrote the standard his employer's products are certified under; a manufacturer's executive chairing the committee that wrote the rule governing his own product's declarations; the rule's project manager becoming the program operator, independent critical reviewer, and

independent external verifier of the successor declaration; and a 2012 federal litigation in which the two manufacturers accused each other, under oath, of falsely advertising the very drying-time claims at issue. These facts are pleaded individually and are independently actionable. No fraud or collusion is pleaded, because the internal communications that would establish coordination as a matter of proof are within the Defendants' exclusive possession. The Counts, as pleaded, open those records.

## **TABLE OF AUTHORITIES**

CONTROLLING (Washington and federal): RCW 7.72.030 (Washington Product Liability Act — design, warnings, express-warranty conformance); RCW 19.86.020, .090 (Consumer Protection Act); Title 51 RCW; *Birklid v. Boeing Co.*, 127 Wn.2d 853 (1995) (deliberate-intention exception); 28 U.S.C. § 1332(d) (CAFA); Fed. R. Civ. P. 23. Washington has adopted Restatement (Second) of Torts § 552.

PERSUASIVE: *Hempstead v. General Fire Extinguisher Corp.*, 269 F. Supp. 109 (D. Del. 1967); *Hanberry v. Hearst Corp.*, 276 Cal. App. 2d 680 (1969); *Brand Marketing Group LLC v. Intertek Testing Services, N.A.*, 801 F.3d 347 (3d Cir. 2015); *Warren Technology, Inc. v. UL LLC*, 962 F.3d 1324 (11th Cir. 2020); *Toman v. Underwriters Laboratories, Inc.*, 532 F. Supp. 1017 (D. Mass. 1982); *Idaho Potato Commission v. M & M Produce Farm & Sales*, 335 F.3d 130 (2d Cir. 2003); *The T.J. Hooper*, 60 F.2d 737 (2d Cir. 1932). SECONDARY: Restatement (Second) of Torts §§ 552, 324A; Restatement (Second) of Contracts §§ 4, 19. STANDARDS: NSF Protocol P335; UL PCR for Hand Dryers (2016); ISO 14025.

Note on authority: a filing party should confirm and supplement Washington authority for each Count — including the contract-formation equivalents for the certification-chain analysis, whose stated authorities are Pennsylvania — before filing.

## **EXHIBITS**

### **Journal Preprints**

**[EXHIBIT-A]** Transmission of Bacteria and Fungus via Dyson and Xlerator Hand Dryers, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.15504115; Journal Preprint 1 of 11

**[EXHIBIT-B]** Testing the Validity of Hand Dryer Drying Time Specifications, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.15503698; Journal Preprint 2 of 11

**[EXHIBIT-C]** Visual Analysis of Water Dispersion Patterns, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.15503304; Journal Preprint 3 of 11

**[EXHIBIT-D]** Bacterial and Fungal Contamination Assessment of Paper Towel Types, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.15504144; Journal Preprint 4 of 11

**[EXHIBIT-E]** Systematic Performance Failure in Commercial Hand Dryers, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17858443; Journal Preprint 5 of 11

**[EXHIBIT-F]** Baseline Water Mass on Freshly Washed Hands, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17858834; Journal Preprint 6 of 11

**[EXHIBIT-G]** An Empirical Refutation of Green Energy Claims, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17859198; Journal Preprint 7 of 11

**[EXHIBIT-H]** Catastrophic Time-To-Dry Failures via Bi-Modal Mechanism, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17869567; Journal Preprint 8 of 11

**[EXHIBIT-I]** Validation of Hand Dryer Microbial Amplification, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17859894; Journal Preprint 9 of 11

**[EXHIBIT-J]** The Wandering Plume of Filth, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17860971; Journal Preprint 10 of 11

### **Complete List of Testing Data Files**

**[EXHIBIT-K]** Complete Data File Index, Blouch 2025

### **Dryer Time Test Results Graphs**

**[EXHIBIT L]** Comprehensive All-Trials Time-To-Dry Hand Dryer Data Graph

### **Petri Dish Images**

**[EXHIBIT-M]** 136 Ambient Room Air Petri Dish Images Sampled In Front of Machines, Blouch, R. A. Jr. (2025)

**[EXHIBIT-N]** 60 Hand Dryer Output Air Jet Petri Dish Sample Images, Blouch, R. A. Jr. (2025)

**[EXHIBIT-O]** 28 Brown Paper Towel Petri Dish Sample Images, Blouch, R. A. Jr. (2025)

**[EXHIBIT-P]** 47 White Paper Towel Petri Dish Sample Images, Blouch, R. A. Jr. (2025)

### **Plume of Filth Images**

**[EXHIBIT-Q]** Hand Dryer Plume of Filth Images

**[EXHIBIT-R]** Hand Dryer Mold Images with Corroborating Petri Dish Test Images

## **Comprehensive summary articles**

**[EXHIBIT-S]** Comprehensive Hand Washing and Hand Drying Efficacy Studies, 59, AI, (December 2025)

**[EXHIBIT-T]** Comprehensive Functioning Hand Dryer Output Air Studies, 18, AI, (December 2025)

## **Lab Testing**

**[EXHIBIT-U]** Hayes Microbial Consulting Report (EPA Laboratory ID: VA01419)

## **Evidence of Plaintiff Exposure**

**[EXHIBIT-V]** Evidence of Plaintiff Exposure — Starbucks Rewards History + M&T Bank Statements

## **Standards documents**

**[EXHIBIT-W]** UL PCR for Hand Dryers (July 13, 2016)

**[EXHIBIT-X]** NSF Protocol P335: Hygienic Commercial Hand Dryers (April 2007)

**[EXHIBIT-Y]** ISO 14025 Environmental Standards Principles and Procedures

**[EXHIBIT-Z]** ISO 14044 Life Cycle Assessment Requirements and Guidelines

## **Certifications**

**[EXHIBIT-AA]** Smart EPD Certificate SmartEPD-2023-002-0006-01 (XLERATOR)

**[EXHIBIT-BB]** SGS Performance Test Report No. 2774929EFF-001 (Sept. 7, 2012)

**[EXHIBIT-CC]** UL Environment EPD No. 4787137936.102.1 — XLERATOR Hand Dryer certification; July 25, 2017

**[EXHIBIT-DD]** UL Environment EPD No. 4787616201.106.1 — Hokwang 2200 Hand Dryer certification; April 1 2022

**[EXHIBIT-EE]** TrueNorth Collective LCA (May 2023): Comparative Life Cycle Assessment of Hand Drying Systems: Excel Hand Dryers and Paper Towel Systems

**[EXHIBIT-FF]** MIT Materials Systems Laboratory Lifecycle Assessment — Document 6-1, September 2011.

**[EXHIBIT-GG]** NSF P335 Dyson Certified Live Listing 251231

**[EXHIBIT-HH]** XLERATOR LEED v4.1 Document

**[EXHIBIT-II]** DYSON LEED May 2014 Document

## **Collusion Network Structures**

**[EXHIBIT-JJ]** Personnel and Committee Connections Master Reference Document

**[EXHIBIT-KK]** Standards and Certification Chronology UL to Smart EPD, Lasso, Blouch 2025

## **Defendant Source Documents**

[EXHIBIT-LL] Anna Lasso, The First Sustainable Hand Dryer, Excel UK Website December 2025

## **Journalistic Industry Analysis and History**

[EXHIBIT-MM] Hand dryers v paper towels, The Guardian\_files, The Guardian, 25 April, 2019

## **Excel V Dyson Court Documents — Case\_3:12-cv-30211-MAP\_(D.\_Mass.)**

[EXHIBIT-NN] Excel V Dyson Original Complaint, PACER

[EXHIBIT-OO] Denis Gagnon Affidavit Excel V Dyson, PACER

[EXHIBIT-PP] Toby Saville Affidavit Excel V Dyson, PACER

[EXHIBIT-PP-A] Toby Saville Claimed Dry Times Versus Ron Blouch Data, a Detailed Comparison

[EXHIBIT-QQ] Dyson's Answer, Statement of Defenses, and Counterclaims — Document filed February 22, 2013.

[EXHIBIT-RR] Defendant Dyson, Inc.'s Memorandum of Law in Opposition to Plaintiff Excel Dryer, Inc.'s Motion for Preliminary Injunction

[EXHIBIT-SS] Excel Reply to Dyson Opposition — Document 32, Filed February 4, 2013; includes Second Declaration of Denis Gagnon (Document 32-1)

[EXHIBIT-TT] MIT-QUANTIS Letter in response to dry time testing conflicts, 17 October 2012

[EXHIBIT-UU] Excel White Paper: "An Ultrafast, Comfortable Hand Dryer"

## **ITC Complaint**

[EXHIBIT-VV] ITC COMPLAINT; Excel Dryer V Multiple Respondents, China; DN 3159; June 24, 2016

## **False Claims Summary Documents**

[EXHIBIT-WW] False Advertising Claims Analysis Dyson

[EXHIBIT-XX] False Advertising Claims Analysis Excel

[EXHIBIT-YY] False Claims Analysis NSF with UL Supplemental Analysis

[EXHIBIT-ZZ] False Claims Supporting Screenshots and Document Images

## **Global Dryer Statistical Estimates**

[EXHIBIT-AAA] US Dryer Use Estimates Annual and Per Use with microbe estimates, Blouch 2025

[EXHIBIT-BBB] US Dryer Use Estimates Annual and Per Use with energy estimates, Blouch 2025

[EXHIBIT-CCC] US Dryer Use Estimates Annual and Per Use with LEED estimates, Blouch 2025

## **Hokwang Dryer Product Sheets, UL**

[EXHIBIT-DDD] Hokwang 2200W product sheet with UL certification, December 2025

**[EXHIBIT-EEE]** Hokwang high speed EcoHygiene product sheet without UL certification, December 2025

**Journal Preprint**

**[EXHIBIT-FFF]** Performance Failures in Commercial Hand Dryers: An Historical Synthesis and Sequential Summary Review of an Eleven-Study Research Program, Blouch, R. A. Jr. (2026); DOI: 10.5281/zenodo.18322481; Journal Preprint 11 of 11

**[EXHIBIT-GGG]** Dyson False Advertising Claims, Blouch 2025

**[EXHIBIT-HHH]** Excel False Advertising Claims, Blouch 2025

**[EXHIBIT-III]** NSF False advertising Claims, Blouch 2025

**[EXHIBIT-JJJ]** Screenshot False Advertising Claims Supporting Material

**[EXHIBIT-KKK]** Grand Central Terminal Excel Case Study

**[EXHIBIT-LLL]** US Green Building Council Excel Case Study

**[EXHIBIT-MMM]** Northwestern University Hospitals Excel Case Study

**[EXHIBIT-NNN]** Seabury Excel Case Study

**[EXHIBIT-OOO]** USDA Excel Case Study

**[EXHIBIT-PPP]** Dyson Energy Saving Signs

**[EXHIBIT-QQQ]** Excel Energy Savings Signs

**[EXHIBIT-RRR]** Gia AIRMID study

**[EXHIBIT-SSS]** Xlerator Hygiene Technical Data Sheet

**[EXHIBIT-TTT]** Unified Certifiers Civil Complaint, Blouch 2026

**[EXHIBIT-UUU]** Excel XLERATOR Units at Starbucks Locations — photographs, test records, and location identifications for twenty documented installations, Blouch 2025