Slip Op. 14-139

UNITED STATES COURT OF INTERNATIONAL TRADE

RUBBERMAID COMMERCIAL PRODUCTS, LLC (successor in interest to TECHNICAL CONCEPTS, LLC),

Plaintiff,

v.

UNITED STATES,

Defendant.

Before: Mark A. Barnett, Judge

Court No. 10-00116

OPINION

[The court finds that the subject imports are properly classified as "electrical machines and apparatus" under heading 8543 and are not classified under heading 8424. Accordingly, the court denies Plaintiff's motion for summary judgment and grants Defendant's cross-motion for summary judgment.]

Dated: December 2, 2014

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Barnett, Judge: The case is before the court on cross-motions for summary judgment. Plaintiff, Rubbermaid Commercial Products, LLC ("Rubbermaid"), successor in interest to importer of record Technical Concepts, LLC, contests the denial of two protests in which U.S. Customs and Border Protection ("Customs") reliquidated the

subject imports under subheading 8543.90.88 of the Harmonized Tariff Schedule of the United States ("HTSUS") as "electrical machines and apparatus." Rubbermaid contends that Customs should have classified the subject imports under subheading 8424.90.90, as mechanical appliances for dispersing liquids. Defendant, United States, asserts that Customs correctly reliquidated the subject imports under subheading 8543.90.88.

No genuine issue of material fact exists regarding the properties of the subject imports or how they operate. Thus, the sole issue before the court is whether, as a matter of law, the subject imports should be classified under heading 8543 or under heading 8424.[1] For the reasons discussed below, the court holds that Customs correctly classified the subject imports as "electrical machines and apparatus" subject to heading 8543 and, therefore, denies Rubbermaid's motion for summary judgment and grants the United States' cross-motion for summary judgment.

BACKGROUND AND PROCEDURAL HISTORY

I. Overview of the Subject Imports

The subject imports are parts of TCell and SaniCell Tank products. (Pl.'s Material Facts ("Pl.'s Facts") ¶ 3; Def.'s Resp. Material Facts ("Def.'s Resp. Facts") ¶ 3.) A TCell dispenses a flow of fragrance oil to scent the air of public restrooms. (Pl.'s

[1] If the court determines that neither proposed heading applies to the subject imports, the court must identify the appropriate heading. *EOS of N. Am., Inc. v. United States*, 37 CIT __, __, 911 F. Supp. 2d 1311, 1317-18 (2013) (quoting *Jarvis Clark Co. v. United States*, 733 F.2d 873, 878 (Fed. Cir. 1984)); *see also Latitudes Int'l Fragrance, Inc. v. United States*, 37 CIT __, __, 931 F. Supp. 2d 1247, 1252 (2013).

Facts ¶¶ 10-12, 32; Def.'s Resp. Facts ¶¶ 10-12, 32.) A SaniCell delivers cleaning liquid into the water stream of a toilet or urinal. (Stipulation of Facts ("Stip.") ¶¶ 10, 12.)

II. The Parts at Issue

The parts at issue in this case are dispensers and refills, which together comprise complete TCells and SaniCells. (Stip. ¶¶ 1, 11; Pl.'s Facts ¶¶ 4-5; Def.'s Resp. Facts ¶¶ 4-5.) In both products, a refill is inserted into a dispenser, after which an electrochemical cell ("fuel cell") produces hydrogen gas which pushes liquid fragrance or cleaner out of the TCell or SaniCell. (Stip. ¶¶ 1, 6, 11-13; Pl.'s Facts ¶¶ 13, 16, 36-37; Def.'s Resp. Facts ¶¶ 13, 16, 36-37.)

A. Description of the TCell Parts at Issue

A TCell dispenser houses a TCell refill. (Stip. ¶ 1.) The dispenser has a plate that mounts to a bathroom wall, a front cover that opens by means of a hinge, and a circuit board assembly. (Pl.'s Facts ¶ 15; Def.'s Resp. Facts ¶ 15.) The circuit board assembly consists of a circuit board, a coil spring, two "V"-shaped leaf springs, two resistors, and a switch to select a resistor setting. (Pl.'s Facts ¶ 15; Def.'s Resp. Facts ¶ 15.) The resistor settings regulate the rate at which hydrogen is produced, which in turn affects the rate at which liquid is dispensed. (Pl.'s Facts ¶ 15; Def.'s Resp. Facts ¶ 15.) The dispenser does not have any means to connect to an external power supply. (Pl.'s Facts ¶ 17; Def.'s Resp. Facts ¶ 17.)

The TCell refill cartridge consists of a fuel cell secured in place by a metal cap, a rubber ring surrounding the fuel cell, and a cartridge head which holds the fuel cell and rubber ring in place. (Pl.'s Facts ¶ 18; Def.'s Resp. Facts ¶ 18.) The refill also includes

an upper and lower chamber separated by a hydrogen-permeable shield. (Stip. ¶ 3; Pl.'s Facts ¶ 18; Def.'s Resp. Facts ¶ 18.) The upper chamber sits below the fuel cell. (Pl.'s Facts ¶ 18; Def.'s Resp. Facts ¶ 18.) The lower chamber contains fragrance oil. (Pl.'s Facts ¶¶ 4; 18; Def.'s Resp. Facts ¶¶ 4, 18.) At the bottom of the fragrance chamber, an orifice plug ("restrictor") with small grooves creates "a tortuous path for liquid fragrance," preventing the fluid from leaving the chamber absent sufficient pressure. (*See* Stip. ¶ 6; Pl.'s Facts ¶¶ 18, 31; Def.'s Resp. Facts ¶¶ 18, 31.) A plastic cup encloses the bottom of the refill cartridge, including the restrictor, and surrounds the lower portion of an emanator pad, which is made of an absorbent material. (Pl.'s Facts ¶ 18; Def.'s Resp. Facts ¶ 18.) A plastic pull tab seals the plastic cup until a TCell user removes it when inserting a refill into a dispenser. (*See* Pl.'s Facts ¶ 19; Def.'s Resp. Facts ¶ 19.)

B. Description of the SaniCell Parts at Issue

A SaniCell dispenser houses a SaniCell refill. (Stip. ¶ 11; Pl.'s Facts ¶¶ 36, 40; Def.'s Resp. Facts ¶¶ 36, 40.) The dispenser includes a refill cartridge housing unit, a latching cover, and a resistor assembly, consisting of a resistor and two metal springs. (Stip. ¶ 11; Pl.'s Facts ¶ 37; Def.'s Resp. Facts ¶ 37; Pl.'s Mot. Summ. J. 4; Def.'s Cross Mot. 3.) It does not incorporate any means to connect to an external power supply. (Pl.'s Facts ¶ 38; Def.'s Resp. Facts ¶ 38.)

The SaniCell refill includes a fuel cell which is secured in place by a metal cap, a rubber ring around the fuel cell, and a cartridge head which holds the fuel cell and rubber ring in place. (Pl.'s Facts ¶¶ 39-40; Def.'s Resp. Facts ¶¶ 39-40.) The refill also

has a chamber in which gas generated by the fuel cell accumulates, a chamber which contains cleaning fluid, a restrictor between these two chambers, and a part[2] that prevents liquid cleaner from flowing out of the refill until the refill is placed in the dispenser. (Pl.'s Facts ¶¶ 39-40; Def.'s Resp. Facts ¶¶ 39-40.) The gas chamber is located immediately below the fuel cell, which produces hydrogen through an electrochemical process. (Pl.'s Facts ¶ 39; Def.'s Resp. Facts ¶ 39.) When sufficient pressure builds, hydrogen can pass around the restrictor through grooves on the restrictor's outside surface into the fluid chamber. (Pl.'s Facts ¶ 46; Def.'s Resp. Facts ¶ 46.) The bottom of the liquid chamber connects to a delivery tube, through which liquid cleaner passes when hydrogen gas displaces it from the fuel chamber. (Pl.'s Facts ¶ 46; Def.'s Resp. Facts ¶ 46; Pl.'s Mot. Summ. J. 4; Def.'s Cross Mot. 4.)

III. Operation of the TCells and SaniCells

The TCell and SaniCell function through pressure that builds when a fuel cell produces hydrogen gas. (*See* Stip. ¶ 6; Pl.'s Facts ¶¶ 18, 31; Def.'s Resp. Facts ¶¶ 18, 31.) As the fuel cell produces more hydrogen, the resulting pressure respectively forces fragrance and cleaning fluid out of the TCell's fragrance chamber and the SaniCell's liquid chamber. (Stip. ¶ 13.)

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[2] Rubbermaid claims that this part is a ball and spring check valve assembly. (Pl.'s Facts ¶¶ 39-40.) The United States alleges that it is actually "a bottle cap/closure that is opened when the refill is ready for use." (Def.'s Resp. Facts ¶ 39.) This dispute is not material to the court's analysis because, as discussed *infra*, the part is ancillary to the operation of the SaniCell.

A. Operation of the TCell

TCells operate by means of an electrochemical process that produces hydrogen. (Stip. ¶ 13.) The fuel cell contains zinc and water, and has a cathode and an anode. (Stip. ¶ 5; *see* Pl.'s Facts ¶¶ 21-22; Def.'s Resp. Facts ¶¶ 21-22.) A circuit forms between the cathode and the anode when the TCell refill is placed in the TCell dispenser. (Stip. ¶ 5; *see* Pl.'s Facts ¶¶ 20-22; Def.'s Resp. Facts ¶¶ 20-22.) An electrically-conductive cap in the dispenser holds the refill's fuel cell in place and comes into contact with the cathode of the fuel cell. (Stip. ¶ 5; *see also* Pl.'s Facts ¶¶ 20-21; Def.'s Resp. Facts ¶¶ 20-21.) When the dispenser's front housing cover is closed over the refill, a coil spring on the circuit board assembly contacts the anode portion of the fuel cell. (Stip. ¶ 5; *see also* Pl.'s Facts ¶¶ 20-21; Def.'s Resp. Facts ¶¶ 20-21.) Two leaf springs also contact the cap which is in contact with the cathode, thereby completing a circuit between the anode and cathode portions of the fuel cell. (Stip. ¶ 5; Joint Statement Describing Electrochemical Process ("Joint Statement") ¶ 3; *see also* Pl.'s Facts ¶¶ 20-21; Def.'s Resp. Facts ¶¶ 20-21.) This circuit generates a spontaneous electrochemical reaction between the zinc and water in the fuel cell. (Pl.'s Facts ¶¶ 21-22; Def.'s Resp. Facts ¶¶ 21-22; Joint Statement ¶¶ 1, 4.) The formula Zn + H_20 = ZnO + H_2 summarizes the reaction. (Pl.'s Facts ¶ 22; Def.'s Resp. Facts ¶ 22.) The reaction oxidizes zinc at the anode to produce zinc oxide, water, and two free electrons. (Joint Statement ¶¶ 2, 5.) The two electrons created during this reaction flow through the circuit to the fuel cell's cathode, where they react with the water to produce hydroxyl ions and the desired hydrogen gas. (Joint Statement ¶¶ 4-6.) The reaction

consumes all the electrons it creates and no electrons enter the system from an external source. (Pl.'s Facts ¶ 26; Def.'s Facts ¶ 26; Joint Statement ¶ 1.) No hydrogen gas is produced unless the circuit between the cathode and anode is closed, permitting the flow of electrons and the spontaneous oxidation-reduction reaction between the zinc and the water. (Joint Statement ¶ 4.) By selecting a resistor setting, which controls the rate at which the electrochemical reaction occurs, a user can determine whether the refill lasts 30, 60, or 90 days. (Joint Statement ¶ 7.)

As the electrochemical reaction creates hydrogen gas, pressure builds in the TCell refill's upper chamber. (Stip. ¶ 6; *see* Pl.'s Facts ¶¶ 22, 28-30; Def.'s Resp. Facts ¶¶ 22, 28-30.) When the pressure is sufficient, the hydrogen gas flows from the upper chamber through the hydrogen-permeable shield into the lower chamber. (Stip. ¶ 6; *see* Pl.'s Facts ¶¶ 22, 28-30; Def.'s Resp. Facts ¶¶ 22, 28-30.) The hydrogen gas displaces fragrance oil in that chamber and pushes it through the restrictor. (Stip. ¶ 6; *see* Pl.'s Facts ¶ 31; Def.'s Resp. Facts ¶ 31.) The displaced fragrance oil accumulates in a cup at the bottom of the TCell refill, where the emanator pad absorbs it. (Pl.'s Facts ¶ 32; Def.'s Resp. Facts ¶ 32.) The fragrance oil diffuses across the emanator pad, and the oil's scent spreads throughout a restroom with the movement of the surrounding air. (Pl.'s Facts ¶ 32; Def.'s Resp. Facts ¶ 32.) This process continues until the electrochemical process consumes all of the zinc and water in the fuel cell. (Pl.'s Facts ¶ 33; Def.'s Resp. Facts ¶ 33.)

B. Operation of the SaniCell

The SaniCell functions similarly. When a SaniCell refill cartridge is inserted into a SaniCell dispenser, the two metal springs in the dispenser's resistor come into contact with the refill's fuel cell. (Pl.'s Facts ¶ 37; Def.'s Resp. Facts ¶ 37.) These contacts create a complete circuit that initiates an electrochemical reaction inside the fuel cell. (Pl.'s Facts ¶ 41; Def.'s Resp. Facts ¶ 41.) As in the TCell, this electrochemical reaction creates hydrogen gas which moves through a restrictor which divides the SaniCell refill's two chambers. (Stip. ¶ 12; Pl.'s Facts ¶¶ 41, 46; Def.'s Resp. Facts ¶¶ 41, 46.) The gas displaces the cleaning fluid in the liquid chamber, pushing it through a delivery tube and into the water stream supplying a toilet or urinal. (Stip. ¶ 12; Pl.'s Facts ¶ 46; Def.'s Resp. Facts ¶ 46.) The cleaning liquid moves throughout the toilet or urinal with the flow of the toilet or urinal water. (Stip. ¶ 12; Pl.'s Facts ¶ 46; Def.'s Resp. Facts ¶ 46; Pl.'s Mot. Summ. J. 4-5; Def.'s Cross Mot. 4.)

IV. Procedural History

This case involves six entries of merchandise, consisting of dispenser and refill parts of TCells and SaniCells, imported between 2007 and 2008. (Pl.'s Facts ¶¶ 2-3; Pl.'s Mot. Summ J. Ex. A; Def.'s Resp. Facts ¶¶ 2-3.) Customs liquidated the TCell dispensers in 2008 under subheading 3926.90.99, HTSUS, as plastic housings, and the TCell refills under subheading 3307.49.00, HTSUS, as fragrance refills. (Pl.'s Facts ¶ 6; Def.'s Resp. Facts ¶ 6.) It liquidated the SaniCell dispensers in 2008 under subheading 3926.90.99, HTSUS, as plastic housings, and the refills under subheading 3307.49.00, HTSUS, as cleaner refills. (Pl.'s Facts ¶ 7; Def.'s Resp. Facts ¶ 7.) In 2009 and 2010,

Customs reliquidated the merchandise under subheading 8543.90.88, as "electrical machines or apparatus, having individual functions, not specified or included elsewhere in this chapter; parts thereof."[3] (Pl.'s Facts ¶ 8: Def.'s Resp. Facts ¶ 8.)

Technical Concepts, LLC, the importer of record, timely filed protests of these reliquidation classifications.[4] (Pl.'s Facts ¶ 1; Def.'s Facts ¶ 1; *see also* Pl.'s Mot. Summ. J. 7-8; Def.'s Resp. 5-6; *see also* Protest Nos. 3901-09-100784 and 3901-09-100133.) On December 14, 2009, Customs denied the TCell protest and reaffirmed that TCell parts fall under heading 8543, as parts of electrical machines or apparatus. HQ H033518. On January 8, 2010, Customs likewise denied the SaniCell protest and reaffirmed that SaniCell parts fall under heading 8543. (Pl.'s Mot. Summ. J. 9; Def.'s Cross Mot. 5.) As successor in interest to Technical Concepts, LLC, Rubbermaid now challenges the denial of these protests. The parties have fully briefed the issues. Oral argument was held on September 17, 2014, at which certain clarifications of fact were requested and, subsequently, received. The court now rules on the parties' respective motions for summary judgment.

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[3] Customs determined that the original classifications were inappropriate because imports that are solely or principally used as parts of goods falling under a heading of Chapter 84 or 85 should be classified under that heading. Note 2(b) to Section XVI. If complete TCells and SaniCells are properly classified in Chapter 84 or 85, then parts of the TCells and SaniCells also must be classified in Chapter 84 or 85. Plaintiff does not claim that the original classifications were correct.

[4] Technical Concepts, LLC also timely filed a protest of the original classification of the TCells and SaniCells under heading 3926. (Pl.'s Mot. Summ. J., Ex. A.) However, that protest is not material to the present action.

JURISDICTION AND STANDARD OF REVIEW

The court has subject matter jurisdiction pursuant to 28 U.S.C. § 1581(a). It may grant summary judgment when "there is no genuine issue as to any material fact," USCIT R. 56(a), and "the moving party is entitled to judgment as a matter of law." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247 (1986); *Mingus Constructors, Inc. v. United States*, 812 F.2d 1387, 1390 (Fed. Cir. 1987).

The court's review of a classification decision involves two steps. First, it must determine the meaning of the relevant tariff provisions, which is a question of law. *See Bausch & Lomb, Inc. v. United States*, 148 F.3d 1363, 1365 (Fed. Cir. 1998) (citation omitted). Second, it must determine whether the merchandise at issue falls within a particular tariff provision as construed, which is a question of fact. *Id.* (citation omitted). When no factual dispute exists regarding the import, resolution of the classification turns solely on the first step. *See id.* at 1365-66; *see also Carl Zeiss, Inc. v. United States*, 195 F.3d 1375, 1378 (Fed. Cir. 1999).

The court reviews classification decisions *de novo*. *See* 28 U.S.C. §§ 2640(a), 2643(b). While the court accords deference to Customs classification rulings relative to their '"power to persuade,'" *United States v. Mead Corp.*, 533 U.S. 218, 235 (2001) (quoting *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944)), it has "an independent responsibility to decide the legal issue of the proper meaning and scope of HTSUS terms." *Warner-Lambert Co. v. United States*, 407 F.3d 1207, 1209 (Fed. Cir. 2005) (citing *Rocknel Fastener, Inc. v. United States*, 267 F.3d 1354, 1358 (Fed. Cir. 2001)). The court first considers whether "the government's classification is correct, both

independently and in comparison with the importer's alternative." *Jarvis Clark Co. v. United States*, 733 F.2d 873, 878 (Fed. Cir.1984). If the court concludes that the government's classification is incorrect, then the court must determine the correct classification. *Id.*

DISCUSSION

The General Rules of Interpretation ("GRIs") provide the analytical framework for the court's classification of goods. *See N. Am. Processing Co. v. United States*, 236 F.3d 695, 698 (Fed. Cir. 2001). "The HTSUS is designed so that most classification questions can be answered by GRI 1." *Telebrands Corp. v. United States*, 36 CIT __, __, 865 F. Supp. 2d 1277, 1280 (2012). GRI 1 states that "for legal purposes, classification shall be determined according to the terms of the headings and any relevant section or chapter notes." HTSUS, GRI 1. The court must consider Chapter and Section Notes of the HTSUS in resolving classification disputes because they are statutory law, not interpretive rules. *See Libas, Ltd. v. United States*, 193 F.3d 1361, 1364 (Fed. Cir. 1999).

"Absent contrary legislative intent, HTSUS terms are to be 'construed [according] to their common and popular meaning.'" *Baxter Healthcare Corp. v. United States*, 182 F.3d 1333, 1337 (Fed. Cir. 1999) (brackets in original) (quoting *Marubeni Am. Corp. v. United States*, 35 F.3d 530, 533 (Fed. Cir. 1994)). Courts may rely upon their own understanding of terms and/or consult dictionaries, encyclopedias, scientific authorities, and other reliable information. *Brookside Veneers, Ltd. v. United States*, 847 F.2d 786, 789 (Fed. Cir. 1988); *BASF Corp. v. United States*, 35 CIT __, __, 798 F. Supp. 2d

1353, 1357 (2011). For additional guidance on the scope and meaning of tariff headings and Notes, the court also may consider the Explanatory Notes ("EN") to the Harmonized Commodity Description and Coding System, developed by the World Customs Organization. *See Deckers Outdoor Corp. v. United States*, 714 F.3d 1363, 1367 n.1 (Fed. Cir. 2013). Although Explanatory Notes do not bind the court's analysis, they are "indicative of proper interpretation" of the tariff schedule. *Id.* (quoting H.R. Rep. No. 100-576, at 549 (1988) (Conf. Rep.), *reprinted in* 1988 U.S.C.C.A.N. 1547, 1582) (quotation marks omitted); *see also E.T. Horn Co. v. United States*, 367 F.3d 1326, 1329 (Fed. Cir. 2004) (citing *Len-Ron Mfg. Co. v. United States*, 334 F.3d 1304, 1309 (Fed. Cir. 2003)). Interpretation of Explanatory Notes speaks to statutory construction and thus are questions of law. *Goldhofer Trailers USA, Inc. v. United States*, 7 CIT 141, 142 (1984) (citations omitted).

I. Tariff Headings at Issue

On reliquidation, Customs determined that the subject imports are electrical machines, falling within subheading 8543.90.88. This subheading states:

> **8543** Electrical machines and apparatus, having individual functions, not specified or included elsewhere in this chapter; parts thereof:
>
> 8543.90 Parts:
>
> 8543.90.88 Other 2.6%

Rubbermaid alleges, however, that Customs improperly classified the subject imports as "electrical machines and apparatus" covered by heading 8543. (Pl.'s Mot. Summ. J. 12-14.) Rubbermaid denies that the subject imports function by means of

electricity, contending instead that they operate mechanically to disperse liquids, thereby satisfying the criteria for classification within heading 8424. (Pl.'s Mot. Summ. J. 10-12.) It contends that the subject imports are properly classified under subheading 8424.90.90 as mechanical appliances for dispersing liquids. This provision states:

> **8424** Mechanical appliances (whether or not hand operated) for projecting, dispersing or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and similar jet projecting machines; parts thereof:
>
> 8424.90 Parts:
>
> 8424.90.90 Other: . . . . . FREE

The United States responds that the subject imports are not "mechanical appliances" and do not disperse liquid. (Def.'s Cross Mot. 16-27.) The United States argues that any mechanical feature of TCells and SaniCells is subsidiary to the products' electrical function, such that they should remain classified in the basket provision for electrical machines, heading 8543. (Def.'s Cross Mot. 21 n.15; Def.'s Reply 14-16.)

If TCells and SaniCells do not disperse liquid, as required to be classified under heading 8424, they may meet the criteria to fall in the basket provision for Chapter 84, heading 8479. The relevant subheading covers:

> **8479** Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter; parts thereof:
>
> 8479.90 Parts:
>
> 8479.90.94 Other: . . . . . FREE

If the court determines that the subject imports do not disperse liquid, and so are not classified under heading 8424, it will have to determine whether the basket provision for electrical machines, heading 8543, or machines and mechanical appliances, heading 8479, applies. Understanding the relationship between the competing Chapters is central to that determination.

II. Relationship Between the Competing Classifications

The parties' proposed tariff headings fall under Chapters 84 and 85 of Section XVI, HTSUS. Section XVI covers, among other things, "machinery and mechanical appliances; electrical equipment; parts thereof." Within Section XVI, Chapter 84 generally covers "nuclear reactors, boilers, machinery and mechanical appliances; parts thereof," while Chapter 85 includes "electrical machinery and equipment and parts thereof." The relationship between Chapters 84 and 85 is thus central to the court's analysis.

Neither Section XVI's Notes, nor the related Explanatory Notes, discuss the relationship between Chapters 84 and 85. The Notes do, however, confirm that parts, "if suitable for use solely or principally with a particular kind of machine . . . are to be classified with the machines of that kind." Notes to Section XVI. Section XVI's Notes also establish a broad definition of the term "machine," indicating that it "means any

machine, machinery, plant, equipment, apparatus or appliance cited in the headings of chapter 84 or 85."[5] Notes to Section XVI.

The court next looks to the individual Chapter Notes for relevant guidance. The Notes to Chapter 84 state that "a machine the principal purpose of which is not described in any heading or for which no one purpose is the principal purpose is, unless the context otherwise requires, to be classified in heading 8479." Notes to Chapter 84. These Notes dictate that a machine is to be classified in one of the headings of Chapter 84 based on its principal purpose or in the Chapter's basket provision, 8479, if none of the chapter headings specifically describes the machine's principal purpose. *See id.* Heading 8479 broadly covers "[m]achines and mechanical appliances having individual functions, not specified or included elsewhere in this chapter." The Chapter Notes do not provide direction about the relationship between Chapters 84 and 85.

However, Chapter 84's Explanatory Notes provide guidance on differentiating between machines in Chapters 84 and 85. They indicate that "[i]n general, Chapter 84 covers machinery and mechanical apparatus and Chapter 85 electrical goods," with the qualification that "certain machines are specified in headings of Chapter 85 . . . while Chapter 84 on the other hand covers certain non-mechanical apparatus." EN to Chapter 84. They further state that Chapter 84 "covers all machinery and mechanical appliances, and parts thereof, not more specifically covered by Chapter 85." *Id.*

[5] The parties do not dispute that the goods at issue are parts to TCells and SaniCells, or that the complete TCells and SaniCells comprise machines for the purposes of classification in Section XVI. (*See* Pl.'s Facts ¶¶ 47-48; Def.'s Resp. Facts ¶¶ 47-48.)

(emphasis removed). To that end, "[i]t should also be noted that machinery and apparatus of a kind covered by Chapter 84 remain in this Chapter even if electric." *Id.* The Explanatory Notes thus suggest that, as a general rule, a machine may be classified in a heading of Chapter 85 according to its principal function. *See id.* However, the machine's classification will properly lie in Chapter 84 if it is of a kind covered by that Chapter, even if the machine includes electrical features, absent a more specific heading in Chapter 85. *See id.*

Turning to Chapter 85, the Explanatory Notes state that "[t]his Chapter covers all electrical machinery and equipment, other than: . . . [m]achinery and apparatus of a kind covered by Chapter 84, which remains classified there even if electric." EN to Chapter 85 (emphasis removed). However, if a machine is not excluded from Chapter 85 because it is described specifically by a heading of Chapter 84, the machine may be classified in Chapter 85 to the extent that it "depend[s] for [its] operation on the properties or effects of electricity." *Id.* Thus, machines that depend on the properties or effects of electricity to operate may be classified in Chapter 85, unless they are described specifically by a heading of Chapter 84. *See id.*

Within Chapter 85, heading 8543, the basket provision, is at issue. The related Explanatory Notes provide that the heading "covers all electrical appliances and apparatus, not falling in any other heading of this Chapter, nor covered more specifically by a heading of any other Chapter of the Nomenclature . . . . The principal electrical goods covered more specifically by other Chapters are electrical machinery of Chapter 84 . . . ." EN to 8543 (emphasis removed). This explanation echoes that of the

Explanatory Notes to Chapter 85, indicating that a machine is covered by Chapter 84, even if it is electric, if a specific heading of Chapter 84 covers it. EN to Chapter 85. "However, the heading [8543] also includes electrical goods incorporating mechanical features provided that such features are subsidiary to the electrical function of the machine or appliance." EN to 8543 (emphasis removed). Therefore, certain electrical machines may fall under Chapter 85's basket provision.

The statement that Chapter 85's basket provision covers certain electrical machines not otherwise specified stands in contrast to the broad language in the Explanatory Notes to Chapter 84 suggesting that Chapter 84's basket provision is the default heading for machines not specifically covered in Chapters 84 and 85. *Compare* EN to 8543, *with* EN to Chapter 84. However, taking the Explanatory Notes to Chapter 84 to their logical extreme would require Chapter 84's basket provision to consume Chapter 85's basket provision. The Explanatory Notes to heading 8543 acknowledge that the heading operates in juxtaposition to heading 8479, stating that "[t]he introductory provisions of Explanatory Note to heading 84.79 concerning machines and mechanical appliances having individual functions apply, *mutatis mutandis*, to the appliances and apparatus of this heading." EN to 8543. However, the Explanatory Notes do not suggest a resolution when one is called upon to elect between the two chapters' basket provisions in classifying a machine. *See id.* Though the Explanatory Notes to Chapter 84 suggest that a machine not specified elsewhere in Chapter 84 or 85 should default to heading 8479, the context would appear to require that an electrical machine be classified in heading 8543 if its mechanical features are subsidiary to the

electrical function of the machine or appliance. *See* EN to Chapter 84 (indicating that a machine defaults to heading 8479 if it does not serve a principal function described in a specific heading of Chapters 84 or 85 "unless the context otherwise requires"); *see also* EN to 8543.

III. Specific Headings of Chapters 84 and 85

The parties have not proposed, and the court has not identified, a specific heading in Chapter 85 that describes the principal function of TCells and SaniCells. Therefore, the court concludes that the subject imports do not fall under an *eo nomine* provision of Chapter 85. The court therefore considers whether TCells and SaniCells fall under a specific heading of Chapter 84, as the Notes to Chapter 84 require. *See* Notes to Chapter 84 (indicating that a machine should be classified based on its principal use in a heading of Chapter 84 if its principal use is not described in Chapter 85).

Rubbermaid proposes one such specific heading of Chapter 84. It contends that TCells and SaniCells should be classified under heading 8424, as "[m]echanical appliances . . . for . . . dispersing or spraying liquids." (*See generally* Pl.'s Mot. Summ. J.) The United States responds that TCells and SaniCells do not "disperse" liquids because the fragrance and cleaning fluids enter the ambient environment passively after being dispensed from the devices. (Def.'s Cross Mot. Summ. J. 4, 23-28.) Relying on various Customs rulings, Rubbermaid contends that TCells and SaniCells disperse liquids by releasing drips of cleaning or fragrance fluid, and thus fall under heading 8424. (*See, e.g.*, Pl.'s Resp. 38.) The Explanatory Notes to heading 8424 explain that

"[t]his heading covers machines and appliances for projecting, dispersing or spraying steam, liquids or solid materials . . . in the form of a jet, a dispersion (whether or not in drips) or a spray." EN to 8424. As this dispute centers on the interpretation of the term "dispersing" in heading 8424, it presents a question of statutory interpretation for the court. *See Bausch*, 148 F.3d at 1365-66; *see also Carl Zeiss*, 195 F.3d at 1378.

Customs has considered the meaning of "disperse" for purposes of heading 8424, particularly in comparison to "dispense." In January 2012, they issued Customs Ruling HQ H103965, stating that:

> [t]he functions performed under heading 8424—projecting, dispersing, or spraying liquids—are different than the function of dispensing a liquid. According to lexicographic authority, the definition of disperse is to spread or distribute widely from a fixed or constant source, to scatter, to distribute more or less evenly through a medium. The definition of dispense is to deal out in portions.

(Pl.'s Mot. Summ. J. Ex. L.) This Ruling offers a persuasive interpretation consistent with the plain meanings of "disperse" and "dispense." *See Mead*, 533 U.S. at 235. For example, the *Oxford English Dictionary* defines "disperse" as "[t]o cause to separate in different directions; to throw or drive about in all directions, to scatter; to rout" and "[t]o send off or cause to go in different directions." Oxford English Dictionary (2014), *available at* http://www.oed.com/view/Entry/55006?rskey=5mDTOk&result=2&isAdvanced=false#eid (last visited Nov. 12, 2014); *accord* Merriam-Webster Dictionary (2014), *available at* http://www.merriam-webster.com/dictionary/disperse (defining "disperse" as "to spread or distribute from a fixed or constant source"). In contrast, the *Oxford English Dictionary*

defines "dispense" as "[t]o mete out, deal out, distribute; to bestow in portions or from a general stock." Oxford English Dictionary (2014), *available at* http://www.oed.com/view/Entry/54981?rskey=u9wnl0&result=3#eid (last visited Nov. 12, 2014); *accord* Merriam-Webster Dictionary (2014), *available at* http://www.merriam-webster.com/dictionary/dispense (last visited Nov. 12, 2014) (defining "dispense" as "to deal out in portions").

Rubbermaid urges that the Explanatory Notes to heading 8424 provide persuasive examples of products that disperse through drips. In particular, the Explanatory Notes reference irrigation systems such as "dripper lines incorporating drippers." (Pl.'s Resp 38.) However, "dripper lines" release liquids in drips at multiple points through a network of pipes or hoses, thereby satisfying the definition of "disperse," which requires scattering or release in different directions. In contrast, TCells and SaniCells dispense cleaning fluid or fragrance oil to a single point, passively permitting air and water currents to carry the liquid in different directions.

The court concludes that the principal function of TCells and SaniCells is not to disperse liquid and, therefore, they are not properly classified under heading 8424. The court further concludes that no other specific heading of Chapter 84 describes the principal function of the machines in this case.

IV. Basket Provisions of Chapters 84 and 85

Because TCells and SaniCells do not fall under an *eo nomine* provision of Chapter 84 or 85, the court considers whether they properly fall under the basket provisions for those chapters.

a. Basket Provision to Chapter 84, Heading 8479

Chapter 84's basket provision, heading 8479, covers "[m]achines and mechanical appliances having individual functions, not specified or included elsewhere in this chapter." As the Notes to Chapter 84 provide, a machine will fall under heading 8479 if it has a principal function not specifically described in another heading of Chapter 84 or 85, "unless the context otherwise requires." *See* Notes to Chapter 84.

i. "Mechanical Appliances"

Rubbermaid urges that the subject imports' mechanical features remove them from Chapter 85's basket provision, heading 8543. The United States responds that TCells and SaniCells are not "mechanical" because they do not incorporate moving parts. (Def.'s Cross Mot. 16-23.) Rubbermaid disputes whether a product must include a moving part to be "mechanical," but urges that TCells and SaniCells satisfy the government's definition regardless. (Pl.'s Mot. Summ. J. 22-24.) Specifically, Rubbermaid argues that TCells and SaniCells incorporate six moving parts: (i) the hydrogen gas, which moves from one chamber to another, pushing out the fragrance oil and cleaning fluid, (ii) the fragrance oil and cleaning fluid, which move from the refill into the surrounding environment, (iii) the switch on the TCell's circuit board, which allows a user to set the pace for emitting the fragrance, (iv) the plastic pull tab on the TCell refill, (v) the front housing cover of the TCell, which opens on a hinge, and (vi) the SaniCell part, which prevents liquid from flowing out of a refill until installation into a dispenser, alternatively labeled a "ball and spring check valve assembly" by Rubbermaid and "a bottle cap/closure" by the United States. (Pl.'s Mot. Summ. J. 22-24; Pl.'s Reply 31-34.)

The United States counters that neither the hydrogen gas nor the fluids in the refills constitute "moving parts" because they do not transmit force, but passively fill a space. (Def.'s Reply 17-18.) It contends that the electricity, not the hydrogen gas, generates the motive force that pushes the fluids from the TCells and SaniCells. (Def.'s Reply 17-18.) It urges that the remaining alleged "moving parts" are ancillary to the TCells' and SaniCells' primary function and insufficient to render them "mechanical" products. (Def.'s Cross Mot. 21 n.15; Def.'s Reply 14-16.)

Whether the subject imports satisfy the definition of "mechanical" for the purposes of heading 8479 (or, for that matter 8424) presents a question of statutory interpretation for the court. *See Bausch*, 148 F.3d at 1365-66; *see also Carl Zeiss*, 195 F.3d at 1378. As a general matter, "mechanical" means "of or relating to machines or tools." American Heritage® Dictionary of the English Language (2014), *available at* https://ahdictionary.com/word/search.html?q=mechanical (last visited Oct. 22, 2014). Principal definitions of "machine," in turn, indicate that the object in question incorporates moving parts to do work. American Heritage® Dictionary of the English Language (2014), *available at* https://ahdictionary.com/word/search.html?q=machine (last visited Oct. 22, 2014) (defining "machine" as "a device consisting of fixed and moving parts that modifies mechanical energy and transmits it in a more useful form"); Merriam-Webster Dictionary (2014), *available at* http://www.merriam-webster.com/dictionary/machine (last visited Oct. 22, 2014) (defining "machine" as "a piece of equipment with moving parts that does work when it is given power from electricity, gasoline, etc."). Considering these definitions, the court concludes that

TCells and SaniCells must incorporate moving parts to perform work to qualify as "mechanical appliances" under heading 8479.

The hydrogen gas in the subject imports does not satisfy this definition. Though the gas molecules move between chambers and push fluids out of the subject imports, they do so only while the fuel cell circuit is complete, enabling the electrochemical reaction to produce hydrogen gas at a rate established by the selected resistor setting. While the reaction is ongoing, the quantity of hydrogen gas increases, and pressure builds within the subject imports' chambers. The hydrogen gas thus displaces the fragrance and cleaning fluids. If, however, the circuit is disrupted, the production of gas, and the consequent displacement process, halts. It is only the constant production of hydrogen gas, and the accompanying build-up of pressure, that allows work to occur; if the circuit is interrupted, the production of hydrogen gas ceases, the system returns to equilibrium, and no more fragrance oil or cleaning fluid emerges from the second chamber, notwithstanding the continued presence of the hydrogen. In other words, the hydrogen gas moves and exerts pressure only because of the work of the fuel cell in generating additional hydrogen gas. For this reason, the court finds that the fuel cell is the predominant factor in evaluating the operation of TCells and SaniCells. This same logic disqualifies the fragrance oil and cleaning fluid from constituting "moving parts." As a result, TCells and SaniCells are not "mechanical" for the purposes of heading 8479.

The remaining "moving parts" that Rubbermaid identifies likewise fail to qualify TCells and SaniCells as "mechanical appliances." As the parties agree, these devices

release fragrance oil or liquid cleaner by harnessing pressure from hydrogen gas molecules produced through an electrochemical reaction. This process is the basis of TCells' and SaniCells' primary function. Consequently, the remaining moving parts that Rubbermaid identifies are ancillary features, subsidiary to the electrochemical process that releases hydrogen gas. The various mechanical features therefore cannot control the subject imports' classification, *Nadel Indus., Inc. v. United States*, 95 F.3d 1092, 1093 (Fed. Cir. 1996) (per curiam) (affirming that product should be classified based on primary, rather than "incidental" and "ancillary," features), and the subject imports are not classifiable as mechanical appliances under heading 8479.

ii. "Machines"

Heading 8479 covers "[m]achines" in addition to "mechanical appliances." To avoid redundancy, the drafters must have intended "machines" to broaden the scope of the basket provision so that it would capture products that are not "mechanical appliances." In this context, a broader definition of "machine" than used for defining "mechanical appliances" is appropriate. *See also* Notes to Section XVI (providing a broad definition of machine for purposes of Section XVI). The Oxford English Dictionary provides one such definition, describing a "machine" as "[a] structure regarded as functioning as an independent body, without mechanical involvement." Oxford English Dictionary (2014), *available at* http://www.oed.com/view/Entry/111850?rskey=G51zf8&result=1&isAdvanced=false#eid (last visited Nov. 12, 2014). Under this definition, heading 8479 captures a broad range of machines, including perhaps electrical ones. The Notes to Chapter 84 contain a

proviso, however, indicating that the context may require classification of some machines in another provision. *See* EN to Chapter 84. The court therefore considers whether, in this context, the subject imports may be classified elsewhere.

b. Basket Provision for Chapter 85, Heading 8543

Because the Explanatory Notes to Chapter 85 and heading 8543 suggest that the basket provisions for Chapters 84 and 85 operate in juxtaposition to each other, the court considers whether the subject imports satisfy the criteria to fall under Chapter 85's basket provision, heading 8543. *See* EN to Chapter 85; *see also* EN to 8543. The United States urges that the subject imports operate electrically and therefore should be classified under heading 8543, as "[e]lectrical machines and apparatus, having individual functions, not specified or included elsewhere in this chapter."

The parties dispute whether TCells and SaniCells are "electrical machines," but agree on how they function. Thus, the dispute poses no genuine issues of material fact, revolving instead around the meaning of tariff provisions, which are properly questions of law for the court to resolve. *See Bausch*, 148 F.3d at 1365-66; *see also Carl Zeiss*, 195 F.3d at 1378.

With respect to how the subject imports function, the parties agree that, when a circuit is completed between the cathode and anode of the subject imports' fuel cell, an electrochemical reaction occurs, creating the hydrogen gas which displaces fragrance or cleaning fluid located in the chamber adjoining the fuel cell. (Stip. ¶¶ 5, 6, 12, 13; Joint Statement ¶ 4.) The parties further agree that electrons flow through, but do not

enter or leave, the completed circuit and that the electrons are consumed by this reaction. (Pl.'s Facts ¶¶ 25-26; Def.'s Resp. Facts ¶¶ 25-26; Joint Statement ¶ 4.)

The parties, however, disagree about whether the transfer of electrons through the fuel cell's circuit is sufficient for TCells and SaniCells to be classified as "electrical machines" under heading 8543. (Def.'s Cross Mot. 7-14; Pl.'s Reply 12-25.) Rubbermaid argues that TCells and SaniCells are not electrical machines because they do not require electricity to operate. (Pl.'s Reply 18-19.) Rubbermaid contends that the "sole purpose" of the fuel cell is to produce hydrogen gas, which does not necessitate an output or input of electrical current. (Pl.'s Mot. Summ. J. 13; Pl.'s Reply 3, 15.) Relying on the expert report of Dr. Herman Krier, Rubbermaid distinguishes between "a battery-type cell" and the fuel cell at issue in this case. (Pl.'s Reply 3-4, 6.) It contends that a battery facilitates an electrochemical reaction that does not produce gas, just "the flow of electrons, hence electricity," whereas the subject imports' fuel cell facilitates an oxidation-reduction reaction between zinc and water with the goal of creating hydrogen gas. (Pl.'s Reply 3-4, 6.) Rubbermaid avers that the fuel cells produce hydrogen gas and a flow of electrons simultaneously, and that the zinc – not electricity – creates the hydrogen gas by reducing the water molecules in the fuel cell. (Pl.'s Reply 4-6.) Rubbermaid considers any electrons freed through this reaction to be incidental to the production of hydrogen gas by the zinc. (Pl.'s Reply 4-6.) Thus, Rubbermaid concludes, TCells and SaniCells are not electrical in nature. (Pl.'s Reply 18-19.)

The United States responds that TCells and SaniCells are electrical machines because they depend upon the completion of an electrical circuit, which permits the flow

of electrons to reduce water, releasing the hydrogen gas, which pushes the fragrance or cleaning fluid out of the subject imports. (Def.'s Reply 2, 5, 12.) If the circuit did not enable the flow of electrons, no oxidation-reduction reaction could occur to produce the hydrogen gas. (Def.'s Reply 2, 5.) Because the hydrogen is created by electrical, as opposed to mechanical, means, the United States contends that the subject imports qualify as electrical machines. (Def.'s Reply 2, 5.)

For TCells and SaniCells to be "electrical" machines under heading 8543, the relevant Explanatory Notes advise that they must "depend for their operation on the properties or effects of electricity." EN to Chapter 85. According to the American Heritage Science Dictionary, "electrical" means "relating to or operated by electricity." The American Heritage® Science Dictionary (2002), *available at* http://dictionary.reference.com/science/electricity (last visited Oct. 22, 2014); *see also* Merriam-Webster Dictionary (2014), *available at* http://www.merriam-webster.com/dictionary/electrical (last visited Oct. 22, 2014) (defining "electrical" as "of or relating to electricity"). The term "electricity," in turn, means "[t]he collection of physical effects related to the force and motion of electrically charged particles, typically electrons, through or across matter and space." The American Heritage® Science Dictionary (2002), *available at* http://dictionary.reference.com/science/electricity (last visited Oct. 22, 2014); *see also* Collins English Dictionary (2012), *available at* http://dictionary.reference.com/browse/electricity (last visited Oct. 22, 2014) (defining "electricity" as "any phenomenon associated with stationary or moving electrons, ions, or other charged particles"). Thus, the definition of "electricity" contemplates a broad

swath of electrons' effects, and nothing in the definition indicates that electrons must enter or leave a closed system to qualify as "electricity." In the subject merchandise, the effects of electrons are at play when a complete circuit forms in the subject imports' fuel cells; the hydrogen gas is released when water is reduced as a result of reacting with electrons freed in the zinc oxidation reaction. The other effect is that the hydroxyl ions created in the reduction reaction react with the zinc, oxidizing the zinc (creating zinc oxide). That oxidation creates additional free electrons that, in turn, reduce more water. Thus, the reaction in the subject imports' fuel cells involves the effects of electrons – and of "electricity" – rendering the subject imports "electrical" in nature.

The parties dispute, however, whether TCells and SaniCells "depend" on electricity to operate, as the pertinent Explanatory Notes advise. Rubbermaid argues that the transfer of electrons between water and zinc in the fuel cell is incidental to the creation of hydrogen gas and that the subject imports "depend" on the hydrogen gas, not electricity, to operate. (Pl.'s Reply 4-6.) The United States urges that the transfer of electrons is essential to the generation of the hydrogen gas without which the subject imports could not operate. (Def.'s Reply 7-11.) The dispute thus centers on what it means to "depend" on the effects of electricity for the purposes of Chapter 85's Explanatory Notes.

The term "depend" means "[t]o be determined, influenced, or contingent" on or upon. The American Heritage® Dictionary of the English Language (2014), *available at* https://ahdictionary.com/word/search.html?q=depend (last visited Oct. 22, 2014). Here, the creation of hydrogen gas is contingent on the flow of electrons. For the desired

hydrogen gas to form, electrons must flow through the circuit between the anode and the cathode, where they reduce the water, resulting in the release of hydrogen gas. Absent this transfer of electrons which liberates the hydrogen molecules, pressure from hydrogen gas would not push fragrance or cleaning fluid into the ambient environment. The production of hydrogen gas – and the operation of TCells and SaniCells – thus depends upon the movement of electrons and, therefore, upon electricity.

The role of the resistors in TCells and SaniCells further supports this conclusion. In both products, the resistor settings regulate the flow of electrons through the circuit and thereby determines the lifespan of the fragrance or cleaner refill. The more electrons flow through the circuit, the faster the water and zinc in the fuel cell are consumed by the electrochemical reaction. (Joint Statement ¶ 7.) The fact that the refills' lifespan depends on the rate of electron flow underscores the electrical nature of the products. As a result, TCells and SaniCells meet the criteria to be classified as "electrical" machines under the basket provision of Chapter 85 because they "depend for their operation on the properties or effects of electricity." EN to Chapter 85.

The conclusion that TCells and SaniCells may properly fall in Chapter 85's basket provision requires careful consideration of the relationship this provision bears to its counterpart in Chapter 84. As noted above, the basket provision for Chapter 84, heading 8479, ostensibly covers all "machines" that are not more specifically covered in another heading of Chapter 84 or 85 "unless the context otherwise requires." Notes to Chapter 84. Reading 8479 so broadly as to cover machines such as those that are classifiable in Chapter 85's basket provision contradicts the cannon of statutory

interpretation that cautions against interpreting one provision of a statute so as to nullify another. *See Princess Cruises, Inc. v. United States*, 201 F.3d 1352, 1362 (Fed. Cir. 2000) ("It is a long-held tenet of statutory interpretation that one section of a law should not be interpreted so as to render another section meaningless."). Other than the first four words ("Machines and mechanical appliances" as compared to "Electrical machines and apparatus"), the terms of headings 8479 and 8543 are identical ("having individual functions, not specified or included elsewhere in this chapter"). Consequently, heading 8479 must be interpreted to exclude "electrical machines and apparatus" to avoid sweeping all products into it that could fall under heading 8543. While the term "machine" may allow heading 8479 to capture products that are not "mechanical appliances" and that do not have a predominantly electrical function, it should not be construed so as to swallow heading 8543.

The court therefore concludes that the reference to context in the Notes to Chapter 84, and the traditional rules of statutory construction, lead to the conclusion that TCells and SaniCells are properly classified under Chapter 85's basket provision. TCells and SaniCells are "electrical machines" because they depend on the effects of electricity to operate. Any of their "mechanical" features are subsidiary to their electrical function, and no more specific provision of Chapter 84 removes them from Chapter 85.

CONCLUSION

For the reasons stated above, Customs properly classified the subject imports in 8543.90.88, HTSUS, subject to duty at 2.6 percent *ad valorem*. The court denies Rubbermaid's motion for summary judgment and grants Defendant's cross-motion for summary judgment. Judgment will be entered accordingly.

/s/ Mark A. Barnett
Mark A. Barnett, Judge

Dated: December 2, 2014
New York, New York