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An American National Standard

Standard Specification for Paintballs Used in the Sport of Paintball[1]

This standard is issued under the fixed designation F1979; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

This specification sets forth a set of guidelines and testing procedures for the manufacturing of ~~0.68 caliber paintballs.~~common calibers of paintball. The goal is to provide paintball manufacturers with a specification that promotes safety in the sport of paintball.

1. Scope

1.1 This specification establishes testing procedures and critical characteristics of ~~0.68 caliber paintballs~~common calibers of paintball which help define whether a paintball is suitable for use in the sport of paintball. Furthermore, the specification establishes minimum warning and package labeling to help ensure that the paintballs are used in a safe manner and that the risk of injury is reduced.

1.2 This specification does not cover non-recreational paintballs, for example, those used by law enforcement, scientific, military, or theatrical entities.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *This specification does not purport to address all of the safety issues associated with the sport of paintball. It is the responsibility of the user of this specification to establish appropriate safety and health practices and to comply with all applicable laws and regulations.*

2. ~~Terminology~~ Referenced Documents

2.1 *ASTM Standards:*[2]

F2272 Specification for Paintball Markers

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

~~2.1.1~~

3.1.1 *caliber*, *n*—the term used to refer to the size of a paintball projectile. Related to the measurement of the diameter of the paintball.

3.1.2 *cubic centimeter*, *n*—commonly used unit of volume extending the derived SI-unit cubic meter and corresponding to the volume of a cube measuring 1 × 1 × 1 cm.

~~2.1.1.1~~

3.1.2.1 *Discussion*—The mass of one cubic centimeter of water is approximately equal to 1 g.

~~2.1.2~~

3.1.3 *fill material*, *n*—liquid inside of a paintball.

~~2.1.3~~

3.1.4 *paintball*, *n*—~~spherical ball, commonly with a diameter of 17.3 mm (0.68 in.), comprised of a shell and a fill, and designed to be expelled from a paintball gun.~~

~~2.1.4~~ *—spherical ball, with a diameter and weight as defined in Table 1, comprised of a shell and a fill, and designed to be expelled from a paintball marker.*

[1] This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment and Facilities and is the direct responsibility of Subcommittee F08.24 on Paintball and Equipment.

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~~[2] U.S. Environmental Protection Agency, "Designation of Hazardous Substances List of Hazardous Substances and Reportable Quantities," *Comprehensive Environmental Response Compensation and Liabilities Act*, Bureau of Federal Affairs, 40CFR302.4, April 4, 1985.~~

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

TABLE 1 Common Calibers of Paintballs with Minimum and Maximum Diameter and Maximum Weight

	68 Caliber 18 mm	43 Caliber 11 mm	50 Caliber 13 mm	55 Caliber 14 mm	62 Caliber 16 mm
Min (mm) Diameter	16.500	10.430	12.130	13.340	15.000
Max (mm) Diameter	18.000	11.390	13.240	14.560	16.420
Min (in) Diameter	0.650	0.410	0.470	0.520	0.590
Max (in.) Diameter	0.709	0.448	0.521	0.573	0.646
Weight (g) Maximum	3.500	0.900	1.400	1.700	2.500
Weight (oz) Maximum	0.123	0.032	0.049	0.060	0.088

3.1.5 *paintball marker*, *n*—~~device specifically designed to discharge paintballs.~~

~~2.1.5~~—*device specifically designed to discharge paintballs which conforms to Specification F2272.*

3.1.6 *shell*—rigid to semirigid material (generally of gelatin) that encapsulates the fill of a paintball.

~~3.~~

4. General Requirements

~~3.1~~

4.1 *pH of Fill Material*—The pH of the fill material used in the paintball shall measure between 4.0 and 8.0 as measured using a 10 % solution of the fill in distilled water. Measurements shall be made using a properly calibrated pH meter. See Fig. 1 for the pH scale and pH levels for some common items.

~~3.2~~

4.2 *Paintball Fill Compatibility With Polycarbonate*—When tested in accordance with Section ~~4~~5, no more than one of the three polycarbonate tensile bars exposed to the fill material shall develop a visible crack that is greater than 6.5 mm (0.256 in.) in length.

~~3.3~~

4.3 *Maximum Weight*~~—The paintballs shall not weigh more than 3.5 g.~~

~~3.4~~—*The paintballs shall not weigh more than as defined in Table 1 based on the caliber of the paintball.*

4.4 *Fill Color Limitations*—The paintballs shall not contain fill material with a color mimicking that of human blood.

~~3.5~~

4.5 *Diameter of Paintball*~~—The diameter of the paintball as measured both polar and at the seam shall measure between 16.5 mm (0.650 in.) and 18 mm (0.709 in.).~~

~~3.6~~—*The diameter of the paintball as measured both polar and at the seam shall measure within the minimum and maximum range as defined in Table 1 based on the caliber of the paintball.*

4.6 *Impact Breakage*—The impact breakage of the paintball shall be tested in accordance with Section ~~5~~6. All ten of the paintballs that impact the target shall break upon impact.

~~3.7~~

4.7 *Environmental Safety*—Paintballs shall not contain environmentally hazardous or toxic substances as defined in CERCLA~~Regulations 40CFR302.4; SARA Toxic Chemical List~~[3] ~~Section 313; Clean Air Act~~Regulations 40CFR302.4; SARA

~~[3] U.S. Environmental Protection Agency, "Superfund Amendment and Reauthorization Act," *Environmental Protection Agency Regulation*, Bureau of Federal Affairs, Title III, 1986.~~

[3] U.S. Environmental Protection Agency, "Designation of Hazardous Substances List of Hazardous Substances and Reportable Quantities," *Comprehensive Environmental Response Compensation and Liabilities Act*, Bureau of Federal Affairs, 40CFR302.4, April 4, 1985.

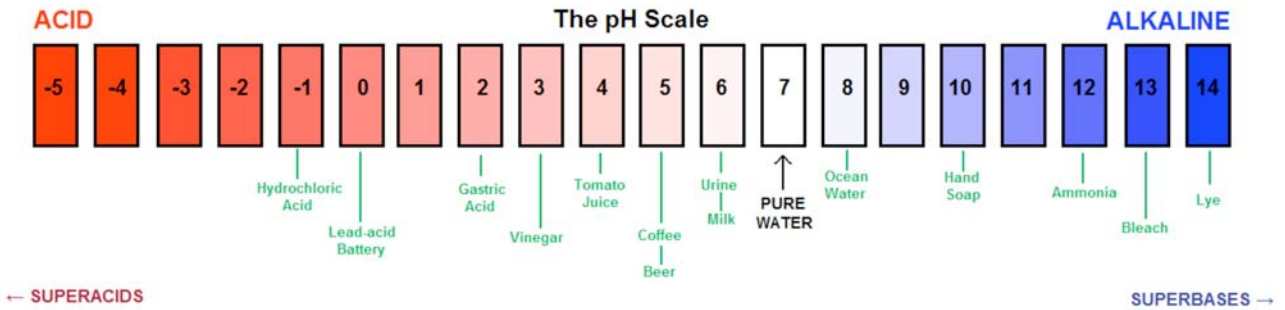

FIG. 1 The pH Scale