MUTUAL CORNELL

August 27, 2025

CERTIFICATE OF ANALYSIS

PO Number: *****
SKU Number: TITCBB12833
UPC:
Item Description: Titanium Internally Threaded Horseshoe Circular Barbell
Sample Date: 08/14/25
Vendor:
Sample Type: Body Jewelry
Analyzed by: SH/MS on 08/18/25

Date Submitted: 08/18/25
25084330-1
Revised

ASTM F2923-20

Age Range: 3 years and up

Test Property	Test Method	Test Principle / Requirements	Test Results / Comments
Heavy Metals			
Lead in Substrate (Pb) Total	ASTM F2923-20 Section 5&6	0.010% (100 ppm)	PASS
Lead in Surface Coating (Pb) Total	ASTM F2923-20 Section 5	0.009% (90 ppm)	N/A
Arsenic (As) Soluble	ASTM F2923-20 Section 8	0.0025% (25 ppm)	N/A
Mercury (Hg) Soluble	Surface Coatings: CPSC-CH-E1003-09.1	0.006% (60 ppm)	N/A
Selenium (Se) Soluble	Metal Substrate CPSC-CH-E1001-08.3	0.05% (500 ppm)	N/A
Antimony (Sb) Soluble	Non-Metal Substrate CPSC-CH-E1002-08.3	0.006% (60 ppm)	N/A
Cadmium (Cd) Soluble		0.0075% (75 ppm)	N/A
Cadmium (Cd) Total	US 16 CFR 1303	0.004% (40 ppm) Washington State	PASS
Barium (Ba) Soluble	ASTM F963-23	0.100% (1000 ppm)	N/A
Chromium (Cr) Soluble		0.006% (60 ppm)	N/A
Nickel Release	ASTM F2923-20 Sec. 10 EN 1811:2011-05+A1:2015 EN12472:2020-11	Post assemblies - 0.2 Micrograms/cm^2 per week. Products that are in prolonged skin contact - 0.5 Micrograms/cm^2 per week.	N/A
Phthalates California Proposition 65 Phthalates: DBP, BBP, DEHP, DNOP, DINP, DIDP (DnHP) Consumer Product Safety Improvement Act (CPSIA) of 2008 Phthalates: DCHP, DIBP, DBP, DPP, DnHP, BBP, DEHP, DINP	ASTM F2923-20 Section 11 CPSC-CH-C1001-09.4 Solvent extraction/GC/MS	Maximum concentration limit of 0.100 %/wt (1000 ppm) DCHP DIBP DBP DPP DnHP BBP DEHP DNOP DINP DIDP	N/A

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Revision: Updated address per customer request, 8/29/25 ED.

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Mechanical Test Property	Test Method	Test Principle / Requirements	Test Results / Comments
Body Piercing Jewelry	ASTM F2923-20 Section 7 Table 3	Body piercing jewelry designed and intended primarily for children 12 and under shall be made exclusively of surgical implant stainless steel, surgical implant grade titanium, Niobium (Nb), solid 14 karat or higher white or nickel-free gold, solid platinum. A dense, low-porosity plastic, including, but not limited to, Tygon or Polytetrafluoroethylene (PTFE) if the plastic contains no intentionally added lead.	N/A
Liquid Filled Jewelry	ASTM F2923-20 Section 12	Children's jewelry should not contain any materials listed 16 CFR 1500.231 or materials that require special labeling under 16 CFR 1500.14.	N/A
Magnets	ASTM F2923-20 Section 13.1 ASTM F963-23	Children's jewelry shall not have an as-received hazardous magnet or as-received hazardous magnetic component with the exception of children's jewelry that complies with 12.1.3 Children's jewelry shall not liberate a hazardous magnet or magnetic component after being tested in accordance with magnet use and abuse testing as specified in 13.2 Children's jewelry intended for children under 8 years of age or older consisting of earrings, brooches, necklaces or bracelets which contain loose as-received hazardous magnets or as-received hazardous magnetic component, as well as their instructions, if any, shall include a warning statement Earrings: WARING Contains small magnets. Swallowed or inhaled magnets can attract through and squeeze intestines or other body tissue, causing serious injury or death. Seek immediate medical attention if swallowed or inhaled. Use only on ears. Prolonged wearing can form a hole in body tissue. Change earring position regularly to release pressure. Do not keep on overnight. For All other Jewelry: WARNING Contains small magnets. Swallowed or inhaled magnets can attract through and squeeze intestines or other body tissue, causing serious death. Seek immediate medical attention if swallowed	N/A

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Mechanical Test Property	Test Method	Test Principle / Requirements	Test Results / Comments
Breakaway Feaures and Releases	ASTM F2923-20 Sec.13.2	Children's jewelry intended to be attached around the neck shall release, either by designed breakaway feature, attachment design, or physical properties of the material, when subjected to 15 lb of tension in accordance with the breakaway tension test descibed in 13.1	N/A
Sharp Edges	ASTM F2923-20 Sec.13.3 16 CFR 1500.49	Shall have no accessible sharp edges before and after appropriate use and abuse testing	PASS
Sharp Points	ASTM F2923-20 Sec.13.3 16 CFR 1500.48	Shall have no accessible sharp points before and after appropriate use and abuse testing.	PASS
Small Parts	ASTM F2923-20 Sec.13.4	Childrens jewelry is subject to the applicable exemptions of 16 CFR 1501.3	PASS

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Mechanical Test Property	Test Method	Test Principle / Requirements	Test Results / Comments
Battery Operated jewelry	ASTM F2923-20 Section 13.6 16 CFR 1500.50-53	For all children's jewelry with batteries, batteries that fit completely within the small parts test cylinder not be accessible before or after use and abuse testing in accordance with 16 CFR 1500.50-53 (as applicable), without the use of a coin, screwdriver, or other common household tool. Testing is performed using using the recommended batteries installed. For children's jewelry that use more than one replaceable battery in one circuit, the instructions or the product shall be marked with the following (or equivalent) information: • Do not mix old and new batteries • Do not mix alkaline, standard (carbon-zinc), or re-chargeable (nickel-cadmium) batteries Children's jewelry with non-replaceable batteries that are accessible with the use of a coin screwdriver, or other common household tool shall shall bear a statement that the battery is not replaceable. Battery-operated children's jewelry shall be designed so that it is not possible to charge any non-rechargeable battery. Children's jewelry shall be marked permanently on the battery compartment or on the area immediately adjacent to the battery compartment to show the correct battery polarity using the polarity symbols "+" and "−".	N/A

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Analyzed by: JM on 8/22/2025
Vendor:
Sample Type: Body Jewelry

Total Lead and Cadmium in Substrates and Surface Coatings
Specifications for Lead in Children's Jewelry & Exclusions from Lead Content Testing Requirements in Children's Jewelry
ASTM F2923-20 Section 5 & 6 & 9

#	Accessible components	Lead ppm	Lead Limit (ppm)	Cadmium ppm	Cadmium Limit (ppm)
1	Barbell	< 20	100	< 10	40

Surface Coatings
N/A

Soluble metals in Paints & Surface Coatings
Specification for Antimony, Arsenic, Barium, Cadmium, Chromium, Mercury and Selenium in Paint & Surface Coatings of Children's Jewelry
ASTM F2923-20 Section 8

#	Surface Coatings		Cadmium 75 ppm	Arsenic 25 ppm	Mercury 60 ppm	Selenium 500 ppm	Antimony 60 ppm	Barium 1000 ppm	Chromium 60 ppm
	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A

Method Reporting Limit (ppm)		10	20	10	20	20	10	10

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The reference method was CPSC-CH-E1001-08.3 and/or CPSC-CH-E1003-09.1 and/or CPSC-CH-E1002-08.3 with instrument parameters set in accordance with Perkin-Elmer Atomic Absorption and Inductively Coupled Plasma Metals Testing Procedures for the analysis of Metals. Test report shall not be reproduced except in full, without written approval of the laboratory.

Method Reporting Limit for Lead 20 ppm and for Cadmium 10 ppm

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N/A	
Nickel Release Pass/Fail limits	
Non-piercing components	**Limit**
Pass	< 0.88
Fail	> 0.88
Piercing components	**Limit**
Pass	< 0.35
Fail	≥ 0.35

Nickel Release
Specification for Nickel in Metal Components of Children's Jewelry
ASTM F2923-14 Section 10

#	Non-piercing components	Nickel	Unit	Result

The reference method is EN 12472:2020-11, "The Method for Simulation of Wear and Corrosion for the Detection of Nickel Release from Coated Items" and EN 1811:2011-05+A1:2015 "The Reference Test Method for Release of Nickel from all post assemblies which are inserted into pierced parts of the human body and Products intended to come into Direct and Prolonged Contact with the Skin."
Note: Item tested as a whole as per EN 1811:2011-05+A1:2015 Annex C Section C.4.2.1

Method Reporting Limit for Nickel 0.05

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Sample Type: Body Jewelry

Analyzed by: on

N/A	
Consumer Product Safety Improvement Act (CPSIA) of 2008 and California Proposition 65	
Maximum Allowable Limits: Phthalates	
DCHP	0.10% (1,000 ppm)
DIBP	0.10% (1,000 ppm)
DBP	0.10% (1,000 ppm)
DPP	0.10% (1,000 ppm)
DnHP	0.10% (1,000 ppm)
BBP	0.10% (1,000 ppm)
DEHP	0.10% (1,000 ppm)
DNOP	0.10% (1,000 ppm)
DINP	0.10% (1,000 ppm)
DIDP	0.10% (1,000 ppm)

#	Components	DCHP	DIBP	DBP	DPP	DnHP	BBP	DEHP	DNOP	DINP	DIDP
Method Reporting Limit		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Unit: %wt.

Kevin E. Donahue
Laboratory Director

Jeff Mascoli
Laboratory Manager

Samples were analyzed in accordance with CPSC-CH-C1001-09.4 Standard Operating Procedures for Determination of Phthalates January, 2017.
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XRF Assay Composition

Date Analyzed: 08/18/25
Analyzed by: SH/MS

	Results	Unit	Grade 23 (Pass / Fail)
Titanium	89.756	%/wt.	**PASS**
Aluminum	5.712	%/wt.	
Vanadium	4.404	%/wt.	
Iron	0.128	%/wt.	

Note(s): The submitted samples were tested in accordance with the TI-6AL-4V ELI ASTM F136 guidelines.

The chemical composition for Grade 23 Ti 6Al 4V Eli Alloy is specified as 88 -91% Titanium, 5.5 - 6.5% Aluminum, 3.5 - 4.5% Vanadium, and ≤ 0.25% Iron. The sample was digested and measured for aluminum by inductively coupled plasma (ICP) with the above test results. The results do not included composition of Nitrogen, Carbon, Hydrogen, or Oxygen which may be present in the alloy.

Kevin E. Donahue
Laboratory Director

Jeff Mascoli
Laboratory Manager

The above results were obtained using a Fischer Technologies Fischerscope XAN-DPP-X-Ray Fluoroscope (XRF).

The approx. measurement error is within +/- 5.0%, max., of the measured values per typical instrumental methods.
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