

SAFE GUARDS

SGS CONSUMER TESTING SERVICES

HARDGOODS, SOFTLINES

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ASTM PUBLISHES NEW STANDARD SAFETY SPECIFICATION FOR ADULT JEWELRY

In November 2011, the American Society for Testing and Materials (ASTM) International announced the release of the new standard method ASTM F 2923-2011 'Standard Specification for Consumer Product Safety for Children's Jewelry'¹. In May 2013, ASTM International published the new standard method ASTM F 2999-13 'Standard Consumer Safety Specification for Adult Jewelry'².

The new standard establishes test methods and requirements for chemicals as well as requirements for certain mechanical hazards³. It also provides guidelines for jewelry designed or intended primarily for consumers over the age of 12, including the use of intended user labeling such as:

- Not for children 12 and younger
- Not for < 12
- For 13+
- Adult use only

Under the new standard, jewelry is defined as a product principally designed and intended as an ornament worn by a person and includes:

1. Anklet, arm cuff, bracelet, brooch, chain, crown or tiara, cuff link, hair accessory with significant decorative elements, earrings, ear cuffs, necklace, pins such as tie tacks and trading pins, ring, body piercing jewelry,
2. Jewelry placed in the mouth for display or ornament,
3. Any component of a product listed in (1-2) above,
4. Any charm, bead, chain, link, pendant or other attachment to shoes or clothing designed to be removed and worn, alone or attached to an item in (1-2) above, as an ornament by a person,
5. Watch in which a timepiece is a component of an ornament, excluding the timepiece itself if the timepiece can be removed from the ornament,

6. Jewelry components in craft kits where the final assembled jewelry product is principally designed and intended as an ornament worn by a person.

Additional requirements covered by the new standard include:

1. body piercing jewelry is required to be manufactured exclusively from specific materials,
2. a list of materials that are exempted from lead limits (Table 1).

Body piercing jewelry shall be made exclusively from:

- Surgical implant stainless steel,
- Surgical implant grade titanium
- Niobium (Nb),
- Solid 14K 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.

[SafeGuards 203/11](#)

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[ASTM F2999-13 Standard Consumer Safety Specification for Adult Jewelry](#)

The logo for SGS, consisting of the letters 'SGS' in a bold, sans-serif font. A vertical line is positioned to the right of the letters, and a horizontal line is positioned below the letters, forming an L-shaped frame around the text.

Table 1

| Materials excluded from lead limits | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <ul style="list-style-type: none"> • Stainless or surgical steel • Precious metals [karat gold, sterling silver (at least 925/1000), platinum, palladium, iridium, ruthenium, rhodium, osmium and titanium] • Natural or cultured pearls • Glass, ceramic, or crystal decorative components, including cat's eye, cubic zirconia, cubic zirconium (CZ), rhinestones and cloisonné • Non-lead containing semi-precious gemstones and other minerals, excluding aragonite, bayldonite, boleite, cerussite, crocoite, ekanite, linarite, mimetite, phosgenite, samarskite, vanadinite, and wulfenite. • Wood provided not treated with lead • Paper and similar materials manufactured from wood or other cellulosic fiber, including, but not limited to, paperboard, linerboard and medium, and coatings on such paper that soak into the paper and cannot be scraped off • Elastic, fabric, ribbon, rope, or string, unless it contains intentionally added lead • All natural decorative material, including amber, bone, coral, feathers, fur, horn, leather, shell, or wood, that is in its natural state and is not lead treated • Adhesive • Repurposed components. These are found 'objects' that are incorporated into jewelry, and may include, but are not limited to, silver or pewter utensils, bottle caps, buttons | |

Highlights of the new standard for chemicals and non-chemicals are summarised in Tables 2, 3 and 4.

Table 2

| ASTM F2999-13 (Chemical requirements) | | | | |
|----------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item | Substance / parameter | Scope (Accessible unless liquid-filled) | Method | Requirement |
| 1 | Lead content | Electroplated metal | See Table 3 | ≤ 6.0% |
| 2 | Lead content | Unplated metal | | ≤ 1.5% |
| 3 | Lead content | Plastic or rubber including acrylic, polystyrene, plastic beads and stones and polyvinyl chloride (PVC) | | ≤ 200 ppm |
| 4 | Lead content | Materials not otherwise classified | | ≤ 600 ppm |
| 5 | Lead content | Paint or surface coating | | ≤ 600 ppm |
| 6 | Soluble heavy metals | Paint or surface coating (≤ 10 mg not to be tested) | ASTM F 963-11 | ≤ 60 ppm (antimony) ≤ 25 ppm (arsenic) ≤ 1000 ppm (barium) ≤ 75 ppm (cadmium) ≤ 60 ppm (chromium) ≤ 60 ppm (mercury) ≤ 500 ppm (selenium) |

To be continued

| ASTM F2999-13 (Chemical requirements) | | | | |
|---------------------------------------|-----------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Item | Substance / parameter | Scope (Accessible unless liquid-filled) | Method | Requirement |
| 7 | Cadmium | Small part plastic / polymeric component | Cadmium content See Table 3 Soluble cadmium EN 71-3 | ≤ 1.5% cadmium content otherwise ≤ 75 ppm soluble cadmium |
| 8 | Cadmium | Small part metal | Cadmium content See Table 3 Migratable cadmium CPSC-CH-E1004-11 | ≤ 1.5% cadmium content otherwise ≤ 200 µg migratable cadmium |
| 9 | Cadmium | Mouthable plastic / polymeric or metal (component < 5 cm in 1 dimension) but not small part | Cadmium content See Table 3 Extractable cadmium Modified CPSC SOP for measuring lead in children's metal jewelry (Feb 3, 2005, Section II) | ≤ 1.5% cadmium content otherwise ≤ 18 µg extractable cadmium |
| 10 | Nickel release | Metal components | EN 12472:2011 and / or EN 1811:2011 CR 12471:2002 (screening) | Statements regarding the propensity to release or expose consumers to nickel |
| 11 | 16 CFR § 1500.14 | Liquid filled | — | Liquid should not contain materials which would require special labeling under 6 CFR § 1500.14 |

Table 3

| Test methods to determine total heavy element content, including for screening purposes | | | |
|-----------------------------------------------------------------------------------------|---------------------|------|----------------------------------|
| Item | Method | Item | Method |
| 1 | ASTM F 2853-10 | 4 | CPSC-CH-E1002-08.2 |
| 2 | CPSC-CH-E1003-09.01 | 5 | EPA 3050B, EPA 3051A or EPA 3052 |
| 3 | CPSC-CH-E1001-08.2 | | |

Table 4

| Item | Scope | Remark |
|------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Adult jewelry containing batteries | Small part battery must not be accessible without use of coin, screwdriver or common household tool |
| 2 | Hazardous magnet | Presence of hazardous magnets should include warning statement EXAMPLE OF WARNING WARNING. Contains magnets. Prolonged wearing can form a hole in body tissue. 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 |
| 3 | Suction tongue studs | Should include warning statement EXAMPLE OF WARNING WARNING. CHOKING HAZARD. Keep away from children |



Throughout our global network of laboratories, we are able to provide a range of services, including materials composition and analytical testing for restricted substances including; California Proposition 65, California metal – containing jewellery law, ASTM F2923, CPSIA, US State laws and EU REACH. Please do not hesitate to contact us for further information or [visit our website](#).

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