Risk Assessment

Product Identification

Product Name	Metal Button
Intended Use	Metal buttons are intended for use as fasteners or decorative elements on clothing items, such as shirts, trousers, jackets, and outerwear in the garment industry.
Target Consumer Group	The target consumer group includes clothing manufacturers, fashion brands, retailers, and end consumers who purchase garments with metal button fastenings or designs.
Product Material	Metal
Function	Metal buttons serve as both functional fasteners to secure garments and as decorative elements to enhance the overall design or branding of clothing items.

Risk Category	Risk	Potential Hazard	Likelihood (1-5)	Severity (1-5)	Risk Rating (L x S)	Control Measures
Physical Risk	Choking Hazard	Small metal buttons or button parts (e.g., loose threads or rivets) may detach and pose a choking hazard, especially to children.	2	5	10	Ensure buttons are securely attached to garments during manufacturing. Use larger buttons or secure them with stronger stitching to prevent detachment. Warning labels for products unsuitable for children.
	Injury from Sharp Edges	Metal buttons may have sharp edges that can cause cuts, abrasions, or other injuries, particularly when handling or when in contact with skin.	3	3	9	Inspect all buttons for smooth edges. Use rounded or deburred edges to reduce injury risk.
	Detachment from Garment	Buttons could become loose or detached, causing potential injury (e.g., if a button detaches suddenly).	3	3	9	Ensure proper stitching and secure attachment to the garment. Use strong threads and reinforce stitching points.
Environmental Risk	Degradation from UV Exposure	Prolonged exposure to sunlight can cause metal buttons to discolor, corrode, or degrade over time.	3	4	12	Use UV-resistant finishes or coatings on metal buttons. Advise consumers on garment care to minimize exposure to direct sunlight.

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	Environmental Impact (Waste)	Metal buttons can contribute to waste if not disposed of properly, leading to environmental pollution.	3	4	12	Use recyclable or eco-friendly metals (e.g., stainless steel or recycled materials). Promote garment recycling programs to reduce waste.
	Corrosion from Moisture	Metal buttons can rust or corrode when exposed to moisture, leading to discoloration or weakening of the button.	3	3	9	Apply anti-corrosion treatments (e.g., galvanizing or coating). Advise consumers on proper care to avoid prolonged exposure to water.
Fire Risk	Combustibility	Metal buttons themselves are non-flammable, but the garment fabric they are attached to may be flammable, posing a fire risk.	3	4	12	Ensure garments with metal buttons meet flammability standards. Provide care instructions to avoid placing garments near open flames or high heat.
	Melting or Deformation in Heat	Metal buttons may deform or lose their structural integrity when exposed to excessive heat (e.g., during washing or ironing).	2	4	8	Advise consumers to avoid high heat settings during washing or ironing. Test buttons for heat resistance to ensure durability.
Chemical Risk	Toxicity from Metal Alloys	Some metal alloys used for buttons (e.g., lead or nickel) may cause skin irritation or allergic reactions.	3	4	12	Use hypoallergenic, non-toxic metals such as stainless steel or brass. Ensure compliance with regulations regarding restricted substances (e.g., lead, cadmium).
	Off-Gassing of Chemicals	Certain finishes, coatings, or adhesives used on metal buttons may release harmful VOCs (volatile organic compounds) during manufacturing or after purchase.	2	3	6	Use VOC-free or low-VOC finishes and coatings. Ensure proper ventilation during manufacturing and storage.

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	Chemical Contamination from Manufacturing	Residual chemicals from the manufacturing process (e.g., polishing agents or cleaning solvents) could remain on the buttons and transfer to the skin.	2	3	6	Implement rigorous cleaning processes to remove chemical residues. Use safe, skin-friendly chemicals during production.

Residual Risk Assessment:

After implementing the control measures above, the residual risks associated with the product will be significantly reduced.

Ongoing Monitoring and Review:

We regularly review and update the risk assessment if any new hazards or risks are identified through product testing or feedback.