Chemical Information Document
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BISPHENOL-A (BPA)

Other Names	[Phenol, 4,4'-(1-methylethylidene)bis-, Diphenylolpropane]

CAS Number	Substance
80-05-7	Bisphenol-A

May Be Found In

- Polycarbonate bottles
- Food and beverage cans
- Thermal paper
- Storage containers
- Plastic sunglasses
- Impact resistant safety equipment
- Adhesives, coatings, trims

Bisphenol A (BPA) is a precursor chemical used along with other chemicals to create some plastics and resins. It is commonly used to harden plastics.

Uses in the Supply Chain

Bisphenol-A (BPA) occurs in its pure form as white flakes with a faint phenol-like smell. Bisphenol A (BPA) is a chemical used in the production of polycarbonate plastics and epoxy resins. Polycarbonate plastic is used across various product types for its durability, clarity and shatter resistance, making it an important component in medical appliances and optical lenses.[1] Epoxy resins are used to prevent rust and corrosion as in the lining for food and drink cans. BPA is also known to be used in the development of dyes that are used with thermal paper (commonly seen in cash register receipts).[2]

BPA is also used in production of flame retardants and in PVC production and processing.

Why Bisphenol-A is Restricted

- Numerous countries in the European Union, Americas and Asia have adopted restrictions against the use of BPA in infant products, namely products such as baby bottles.
- Human exposure to BPA is pervasive. A national health survey conducted in 2003-2004, reported that 93% of Americans aged 6 years or older had detectable levels of BPA.[3]
- BPA is an endocrine disrupter, associated with risks that may include metabolic changes, cardiovascular diseases, impact to reproductive systems, and others.[4]
- At the manufacturing level, human exposure can result from inhalation or contact to the skin.
- At the consumer level, BPA exposure is a result of migration that occurs when BPA penetrates food or beverage from the lining of the container or containers made from BPA containing plastics. Additional exposure routes can occur through leaching from dental fillings that contain BPA or contact with thermal paper.

Sourcing Compliant Materials from Your Suppliers

- Contact your suppliers and explain that you require materials for use in items intended to come in contact with the oral cavity (e.g. food & drink containers) that do not contain Bisphenol-A (BPA) at amounts that exceed 1 ppm.[5]
- Pay special attention to suppliers of polycarbonate plastics in products such as food and beverage containers and impact resistant plastic products such as sunglasses.
- Share this information sheet with your material suppliers and instruct them to work with their chemical suppliers

to source BPA-compliant chemical formulations using the guidance in the next section.
- Have your suppliers confirm that their manufactured materials meet the BPA <1ppm limit with a certification or, if necessary, by providing a test report from a third-party laboratory.
- Perform risk-based checks of your suppliers' materials by submitting samples to a third-party laboratory for testing to ensure BPA is not present above the 1ppm limit.

Sourcing Compliant Formulations from Your Chemical Suppliers

- Contact your chemical suppliers and explain that you require chemical formulations with no intentionally added BPA.
- Check the Safety Data Sheets (SDS) of all chemical formulations to ensure that BPA is not listed as an ingredient.
- Perform risk-based checks of your chemical suppliers' formulations by submitting samples to a third-party laboratory for testing to ensure that BPA is not present.
- Discuss with your chemical supplier whether the below safer alternatives are suitable substitutes for your production needs

Safer Alternatives

- Bottles and containers made of BPA containing polycarbonate can be made of other polymers that do not represent the same hazards. Alternative materials would include glass or stainless steel as well as other plastic materials such as polyethylene, polypropylene, polyester or polyamide.[6]

Additional Information

Visit ECHA's Candidate List of substances of very high concern to view dossiers for many restricted substances https://echa.europa.eu/candidate-list-table.

References

[1] Bisphenol-A in Polycarbonates. (n.d.). Retrieved February 07, 2017, from http://www.bisphenol-a-europe.org/what-is-bpa/

[2] Textile Exchange (January 2013). Chemical Snapshot: Bisphenol A (BPA).

[3] National Institute of Environmental Health Sciences NIH-HHS (August 2010). National Toxicology Program: Bisphenol A (BPA) Factsheet.

[4] Textile Exchange (January 2013). Chemical Snapshot: Bisphenol A (BPA).

[5] Apparel and Footwear International RSL Management Group (Ed.). (2018, January 31). Restricted Substances List (RSL) Retrieved http://afirm-group.com/afirm-rsl/

[6] Hohenstein Institute & Textile Exchange. *Chemical Snapshots – Bisphenol A (BPA).* 3/17/2017, Revision 0.2. Links: www.hohenstein.com, www.textileexchange.com.