



BUTYLATED HYDROXYTOLUENE (BHT)

Other Names Dibutylhydroxytoluene, 2,6-di-tert-butyl-4-methyl phenol

CAS Number	Substance
128-37-0	Butylated Hydroxytoluene (BHT)

May Be Found In ▪ Plastic packaging such as polybags

Butylated hydroxytoluene (BHT) is used to prevent aging of plastics.

Uses in the Supply Chain

Butylated hydroxytoluene (BHT) is an antioxidant added to plastics such as polyethylene and polypropylene films and polybags to prevent aging.

Why Butylated Hydroxytoluene (BHT) is Restricted

- BHT is very toxic to aquatic life and is also a skin and eye irritant.¹
- BHT can be transferred from the plastic packaging to the fabric which can react with the nitrogen oxide in the air and in alkaline conditions can form nitrobenzenes. This reaction can cause phenolic yellowing. Although this can occur with all colors, it is most visible with white and pastel colors. Darker colors may appear duller in appearance.
- The solvent in the adhesive tape used to seal the packaging can leach the BHT out of the packaging film and onto the garment.

Sourcing Compliant Materials from Your Suppliers

- Contact your suppliers and explain that you require their manufactured materials to be compliant with the current AFIRM Packaging RSL limits.²
- Require suppliers to submit a confirmation of material compliance or a test report from a third-party laboratory.
- When materials are received, consider performing risk-based testing to ensure the current AFIRM Packaging RSL limits for BHT are met.
- Share this information sheet with your material suppliers so they have full visibility and understand your sourcing requirements.

Sourcing Compliant Formulations from Your Chemical Suppliers

- For all formulations, request SDS documentation that meets current GHS requirements.
- Contact your chemical suppliers and explain that you require formulations with no intentionally-added BHT.
- Discuss with your chemical supplier whether any safer alternatives are available that are suitable substitutes for your production needs.
- Check the Safety Data Sheet (SDS) of all chemical formulations to ensure that BHT 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 the BHT limits are not exceeded.
- Prior to procuring any formulation, the chemical properties must be reviewed to ensure that proper protective equipment, chemical storage facilities, facility engineering controls, and associated treatment/disposal facilities are appropriate for the chemical(s).



Chemical Information Sheet

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Safer Alternatives

- There are many suppliers who can supply “BHT-free” polybags for your packaging needs.
- You may need to conduct periodic compliance testing (as mentioned above) to ensure you obtain BHT-free alternatives.

Additional Information

- Ensure the fabric is slightly acidic (e.g. pH 6 or slightly lower). The use of acid finishes instead of alkaline and/or the application of an acid finish after having applied any alkaline finish will help to prevent phenolic yellowing. Alkaline conditions can be caused by insufficient washing and neutralizing of chemicals used for bleaching and dyeing.
- Minimalize the quantity of nitrogen oxide in the warehouse where materials are stored. Nitrogen oxide can be present due to car/truck exhaust or direct heating in warehouses.

References

¹ European Chemical Agency - Substance Information (Retrieved April 2019) <https://echa.europa.eu/substance-information/-/substanceinfo/100.004.439>

² Apparel and Footwear International RSL Management Group Packaging Restricted Substances List (AFIRM PRSL) <https://www.afirm-group.com/packaging-restricted-substance-list/>