



UV Absorbers / Stabilizers

Other Names Benzotriazoles

CAS Number	Substance
3846-71-7	UV 320
3864-99-1	UV 327
25973-55-1	UV 328
36437-37-3	UV 350

May Be Found In

- PU foam materials such as open cell foams for padding
- Used as UV-absorbers for plastics (PVC, PET, PC, PA, ABS, and other polymers), rubber, polyurethane
- Some textiles

UV Absorbers / Stabilizers are used in a variety of polymers throughout the industry to protect the polymers from degradation by ultraviolet light.

Uses in the Supply Chain

The four UV Absorbers / Stabilizers listed have been used to absorb UV light. This protects the UV light from damaging the plastics, coatings, adhesives, etc. and thus stabilizing them to UV light or natural sunlight.

UV radiation is one of the major causes of degradation of textile materials, benzotriazoles can be found in some textiles

Why UV Absorbers / Stabilizers are Restricted

- These substances may cause damage to organs through prolonged or repeated exposure, are harmful to aquatic life with long lasting effects and are suspected of causing cancer.
- The UV Absorbers above are classified, under REACH as SVHCs.¹

Sourcing Compliant Materials from Your Suppliers

- Ensure that you have communicated the restrictions on UV stabilizers to your suppliers
- Ask your suppliers to engage with their upstream suppliers to ensure the restricted chemistries are not used in the manufacturing processes
- Ideally ask for what chemistries are used instead so that you are fully aware of what may be present in your product

Sourcing Compliant Formulations from Your Chemical Suppliers

- Communicate with upstream suppliers that formulations must meet brand requirements.
- Check regularly the formulation and SDS from the chemical supplier to review if any of the restricted UV stabilizers are being added.
- Communicate with responsible person for chemical management at the supplier. In many cases, it may be more efficient to replace the chemistry with a non-restricted substance than carefully controlling the concentration of the UV Stabilizers to meet product-level restrictions



Safer Alternatives

There are several UV-stabilizers that are not on the REACH SVHC list. Not all stabilizers are appropriate for all applications and the list below is not exhaustive. Brands and manufacturers are responsible for making their own sourcing decisions. AFIRM does not endorse any particular chemistry or manufacturer, however the following is a list of UV-stabilizers not currently listed as SVHCs:

CAS	Notes
127519-17-9; 108-65-6	Has not been cleared by the FDA for use in food contact applications; Known as Tinuvin 99-2 or BLS 99-2
70321-86-7	Regulated in food-contact items; Minnesota Chemicals of High Concern List; Also known as H413 or UV-234
1843-05-6	REACH CoRAP list; Regulated in food-contact items; May cause an allergic skin reaction ²
104810-48-2; 104810-47-1	Toxic to aquatic life with long lasting effects; May cause damage to organs through prolonged or repeated exposure; May cause an allergic skin reaction ²
3896-11-5	Potential bioaccumulation/aquatic concerns; Regulated in food-contact items
5232-99-5	Regulated in food-contact items
6197-30-4	REACH CoRAP list; Regulated in food-contact items; Very toxic to aquatic life with long lasting effects ²
3147-75-9	High-priority substance for PBT screening
103597-45-1	Environmentally hazardous, Chronic aquatic toxicity; May cause long lasting harmful effects to aquatic life ²
371146-04-2	None

Additional Information

- <https://echa.europa.eu/mapping-exercise-plastic-additives-initiative>
- <https://greenchemicals.eu/product-category/uv-absorbers/>
- <https://www.mayzo.com/uv-absorbers.html>
- http://www.amfine.com/uv_absorbers.shtml

References

¹ European Chemical Agency - Candidate List of substances of very high concern for Authorisation. <https://www.echa.europa.eu/candidate-list-table>, Retrieved April 2019.

² European Chemicals Agency – Information on Chemicals, <https://echa.europa.eu/information-on-chemicals>, Retrieved May 2019