



European Synthetic
Turf Organisation

Environmental and toxicological properties of synthetic turf surfaces ESTO position paper and recommendations

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Ensuring human safety and protecting the earth's eco-systems should be a key objective for all of us. Every little thing helps and synthetic turf surfaces offer a number of environmental benefits compared to natural grass. Synthetic turf surfaces are able to sustain much greater levels of use without an adverse effect on performance or appearance; they do not require frequent watering, preserving an essential resource for more important uses; nor do they need regular applications of fertilisers and herbicides that can migrate into water courses with a major impact on wildlife. In addition, synthetic turf surfaces require less mechanised maintenance per user hour, thereby reducing fuel consumption and the harmful discharge of greenhouse gases.

Now a well-established form of sport and landscaping surfacing, synthetic turf has now been in use for over 50 years. As the surfaces are manufactured from plastics and rubbers it is essential that these materials do not have a harmful effect on human health or the environment.

As the use of synthetic turf has increased questions have understandably been asked about their safety and effects on the environment and this has resulted in extensive independent research ⁽¹⁾ which has concluded that there are no scientific reasons to worry about the impact of synthetic turf on those using them or the environment in which they are laid.

The results of the research are very reassuring, but the synthetic turf industry needs to ensure and demonstrate that the quality of its products continues to meet or exceed current quality levels. ESTO recognises it is in a key position to help its members achieve this. Working with its Technical Committee and Workings Groups and supporting the work of the European Standards Committee (CEN)⁽²⁾, ESTO is helping set the guidelines and standards for the environmental properties of synthetic turf surfaces.

Whilst synthetic turf surfaces, like many other construction and consumer products, need to currently comply with national and European regulations such as REACH ⁽³⁾ there are at present no universally recognised standards specifically addressing the environmental properties of synthetic turf surfaces. This is a concern as it could allow less safe products to enter the market or result in a multitude of differing guidelines being introduced country by country. Having considered the various options available ESTO now recommends the requirements of European Standard EN 71-3⁽⁴⁾ Table 2 Category III be adopted for synthetic turf surfaces.



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ESTO has included these requirements in its *Landscape Quality Classification* ⁽⁵⁾. Whilst ESTO does not consider synthetic turf surfaces to be children's toys, it does believe that by adopting the same environmental migration limits as those applied to toys it is sending a positive and strong message of confidence and reassurance to those using synthetic turf surfaces.

EN 71-3 specifies requirements for the migration of aluminium, antimony, arsenic, barium, boron, cadmium, chromium (III), chromium (VI), cobalt, copper, lead, manganese, mercury, nickel, selenium, strontium, tin, organic tin and zinc. The migration limits apply to toys which may cause a hazard due to sucking, licking, swallowing or prolonged contact with skin and are based on the requirements of the European Union's Toy Safety Directive⁽⁶⁾. EN 71-3 classifies toys based on three different potential forms of consumption. Category III includes textiles, polymeric materials and foams which can be ingested as a result of biting, tooth scraping, sucking or licking. ESTO believes this to be the closest match to the typical use of synthetic turf surfaces.

Looking forward, ESTO and its members are playing a leading role in the work of the European Standards Committee responsible for developing standards for synthetic turf sports surfaces⁽²⁾. This includes a standard for synthetic turf surfaces used indoors, which is being written as a harmonised European Standard complying with the requirements of EU Mandate M119⁽⁷⁾ allowing the future CE marking of synthetic turf products complying with the standard. The requirements within the standard will be based on the list of dangerous substances defined in EU Mandate M119.

It is hoped that the standard being developed by the European Standards Committee will be published in 2017/18, until then ESTO considers the migration limits of EN71-3 to be the most appropriate way of demonstrating the environmental and toxicological safety of synthetic turf surfaces and recommends Table 2 Category III of EN 71-3 be referenced by any organisation having the need to set environmental requirements for synthetic turf surfaces.

References

- 1 www.syntheticurfCouncil.org/resources
- 2 CEN TC 217: Surfaces for sports areas; Working Group 6 – synthetic turf surfaces
- 3 (REACH) EU Regulation concerning the Register, Evaluation, Authorisation & Restriction of Chemicals
- 4 EN 71: Safety of Toys; Part 3 Migration of Certain Elements; Table 2 Category III
- 5 ESTO Landscape Quality Classification, 2015
- 6 Annex II, III.13 - European Union's Toy Safety Directive 2009/48/EC [1]
- 7 EU mandate to CEN/CENELEC concerning the execution of standardisation work for harmonized standards on flooring