

## **SUCCESS IN THE IMPLEMENTATION OF RISK MANAGEMENT MEASURES TO PREVENT THE RELEASE OF MICROPLASTICS FROM ARTIFICIAL TURF PITCHES**

***After almost 2 years of work, SIGNUS, in collaboration with the Instituto de Biomecánica de Valencia (IBV), concludes the [monitoring project of an artificial turf football pitch in Ribeira \(A Coruña, Spain\)](#) to assess the effectiveness of the risk management measures included in the European standard CEN/TR 17519 that prevent the release of microplastics into the environment***

In Spain, around 300,000 tonnes of end-of-life tyres (ELT) are generated each year, of which some 75,000 tonnes are used as infill for artificial turf football pitches. The European Commission is currently considering a regulation to restrict the use of microplastics intentionally added to the environment. One of the possible restrictions is the use of recycled ELT rubber granulate in this application, since the particle size (between 0.8 and 2.5 mm) used in artificial turf pitches is considered as such.

To prevent the release of microplastics, a series of risk management measures (RMM) have been established through a European technical standard. For this reason, SIGNUS in collaboration with the Instituto de Biomecánica de Valencia (IBV) launched a project almost 2 years ago to find out the effectiveness of these RMM in a federated football pitch in the municipality of Ribeira (A Coruña) since it is exposed to a climate of intense rain. The [RMM](#) are quite simple and consist of the installation of filters in the rain and irrigation water drainage system of the pitch, a barrier along the pitch perimeter, as well as a brushing station at the entrance-exit of the pitch and, finally, the placement of containers in the changing rooms to make players aware of the importance of collecting any particles that may be on their boots and clothing.

The main conclusion drawn from the project results is that the implementation of the RMM ensures that the release of ELT rubber granules would be below the microplastic dispersion limit specified in the report of the European Chemicals Agency (ECHA), which sets a limit of 7 g/m<sup>2</sup>/pitch equivalent to 35 – 50 kg of rubber granules per year per pitch (depending on the surface area). The results of the study indicate that in playing conditions without rain there would be a release from players' boots and clothing of approximately 6 kg of granules per year per pitch, i.e. 86% below the limit. In the worst case scenario, i.e. rain 365 days a year, the dispersion would be 23 kg of granules per year per pitch, 43% below the limit set by the European body.

In addition, it is important to highlight that the implementation of RMM would also prevent the release of non-intentionally added microplastics generated from the wear of artificial turf fibres, estimated to be released at approximately 9 kg per year per pitch.

These results show that a decision to ban the use of one of the two sources of microplastics identified in this application would be both ineffective and insufficient.

However, RMM in all artificial turf pitches would ensure high effectiveness in preventing the release of all microplastics used in this application, both intentionally and non-intentionally.

Summary of results: [https://www.signus.es/wp-content/uploads/2023/03/Summary-SIGNUS-Monitoring-Pitch\\_Feb2023.pdf](https://www.signus.es/wp-content/uploads/2023/03/Summary-SIGNUS-Monitoring-Pitch_Feb2023.pdf)

For more information: [ilopez@signus.es](mailto:ilopez@signus.es)  
[www.signus.es](http://www.signus.es)