

To the members of FIFA

Zurich, April 2017 MDH/awe

A statement on potential cancer risks from exposure to SBR in artificial turf fields

Dear Sir or Madam,

During the recent FIFA Medical Committee meeting on the 13 March 2017, the issue of potential cancer risks from exposure to SBR on artificial turf fields was discussed and we are very pleased to share this information with you.

FIFA first responded to media coverage of the topic in 2006 when an open letter was published following several high profile articles that stipulated that there may be a link between the crumb rubber particles known as SBR (Styrene Butadiene Rubber) in artificial turf fields and the occurrence of cancer in players exposed to these surfaces. Studies dating until 2006 from various scientific disciplines found no evidence that contact with SBR was linked with the emergence of cancer. FIFA reiterated this position ahead of the FIFA Women's World Cup 2015 in Canada that was played on artificial turf surfaces based on published studies up until that date.

In light of increased public interest in the topic in 2016 and further studies carried out in the past months, FIFA would like to clarify its position on the use of artificial turf fields containing SBR infill.

FIFA has taken note of ECHA/PR/17/04 in which the European Chemicals Agency has found "at most, a very low level of concern from exposure to recycled rubber granules". Regulating authorities are conscious of the presence of potentially carcinogenic components in the compounds used for the production of tyres, the main source of SBR rubber and have labelled these products accordingly. In particular the presence of polycyclic aromatic hydrocarbons (PAH's) is undisputed but equally there is no scientific evidence of these being bioavailable in their application as car tyres and infill for artificial turf fields thereafter. The newest findings by Van Rooj and Jongeneelen (2010) concluded that "If there is any exposure, then the uptake is very limited and within the range of uptake of PAH from environmental sources and/or diet". A further study from New Jersey's State Medical School indicated that health risks to children and adults from extensive contact with crumb rubber ranged from none to negligible (Pavilonis et al. 2014).

Looking at specific issues such as ingestion or air pollution, a number of studies has investigated the intake of PAH from artificial turf and found less or comparable exposure than for grilled food products, smoked salmon or log burning. As a result, Dye et al concluded in 2006 that "on the basis of environmental monitoring, artificial turf football fields present no more exposure risks than the rest of the city".

While it will never be possible to exclude risk completely or prove this negative, the newer studies have confirmed the previous findings that there is no evidence of link between contracting cancer



and playing on artificial turf with SBR infill. A large number of studies have further confirmed that the effect of SBR rubber are as negligible as the effect of ingesting grilled foods or exposure to tyre wear on roads in everyday life.

As with all aspects relating to player safety, FIFA will continue to monitor the developments within the scientific debate and consider any future findings.

Yours faithfully,

FÉDÉRATION INTERNATIONALE DE FOOTBALL ASSOCIATION

Dr Michel D'Hooghe Chairman FIFA Medical Committee Member of the FIFA Council

References

- European Chemicals Agency (2017). Recycled rubber filling in artificial sports grounds causes at most a very low level of concern. ECHA/PR/17/04
- Nutt A (1983) Rubber work and cancer past, present and perspectives, Scand. J. Work Environ Health 1983;9 (Suppl.2);49-57
- Willoughby (1994) Rubber Fume Ingredient/Emission Relationships, Rapra Technology Ltd Shawbury UK, 1994
- 1973-75 BRMA survey, Willoghby BG, The monitoring of the Atmospheric Environment in the UK Tyre Manufacturing Work areas, Proceedings of the International Meeting on Occupational Health in the Rubber Industry, BRMA, Stratford upon Avon, UK, May 28-30 1975
- Dye et al 2006 Norwegian Pollution Control Authority/ Norwegian Institute fro Air Research, State Programme for Pollution Monitoring
- Norwegian Institute for water Research 2005 Serial No 5111-2005 19.12.2005, 1-19
- Nilsson et al (2005) Danish Ministry of the Environment Study: Emissions and Evaluation of Health Effects of PAH's and Aromatic amines from Tyres by NH Nilsson, Danish Technology Institute.
- Moretto 2007 Environmental and Health Evaluation of the use of Elastomer Granules (Virgin and Used Tyres) as filling in Third-Generation Artificial Turf. ADEME/ALIAPUR/FIELDTURF TARKETT
- Denly et al 2008 A Review of the Potential Health and Safety Risks from Synthetic Turf Fields Containing Crumb Rubber Infill. Prepared by TRC for the New York City Department of Mental Health and Hygiene, New York. NY, USA.



- Lim and Walker 2009 An Assessment of Chemical Leaching, Releases to Air and Temperature at Crumb-Rubber Infilled Synthetic Turf Fields, New York State Department of Environmental Conservation, New York State Department of Health. NY, USA.
- Li et al 2010 Characterization of Substances Released from Crumb Rubber Material Used in Artificial turf Fields. 2008 Chemosphere. 80(3):279-85.
- Schiliro et al 2012 Artificail Turf Fields: Environment and Mutagenicity Assessment. Arch Environ Contam Toxicol. 64(1):1-11.
- Pavilones et al (2013) Bioaccessability and Risk Exposure to Metals and SVOC's in Artificial Turf Field Materials and Fibers. 2013 Risk Anal.
- Van Rooj and Jongeneelen (2010) Hydroxypyrene in Urine of Football Players After Playing on Artificial Sports Fields with Tire Crumb Infill. Int arch Occup Environ Health 83(1):105-10.