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## An Open Letter concerning the potential cancer risk from certain granulate infills from artificial turf

As you will be aware both FIFA and UEFA have invested substantial resources in recent years in the development of artificial turf to ensure more people, more often have more opportunities to participate in Football at all levels of the game in a safe environment.

Both organisations have both been aware of recent reports that have suggested a potential cancer risk from certain granulate infills from artificial turf.

FIFA and UEFA have investigated this issue and analysed the risk involved. In particular we have reviewed the results of numerous studies into this issue and our findings to date are listed below:

- The list of publications which FIFA and UEFA have scrutinised is given below.
- The studies to date have concluded that "PAHs [Polynuclear Aromatic Hydrocarbons] are not released or at most negligibly released from tyre abradate" (The University of Dortmund Institute for Environmental Research 1997). Epidemiological studies conducted by the Health Effects Institute, The World Health Organisation and other investigators do not implicate tyre wear particles in ambient air as contributing to human health effects (respiratory and cardiovascular diseases)
- In general tyre abradate is a much finer particulate than the granules used as infill materials in Football Turf. The research demonstrates that the finer the particles the greater the surface area and higher potential for chemicals to leach out of the rubber.
- The majority of the studies have been on higher surface area particles and have concluded they are currently acceptable. Therefore the larger granules used in artificial turf will have even less potential for emissions. For example a study undertaken by the Danish Ministry of the Environment



concluded that the health risk on children's playgrounds that contained both worn tyres and granulate rubber was insignificant.

The available body of research does not substantiate the assumption that cancer resulting from exposure to SBR granulate infills in artificial turf could potentially occur. For further information of the issue and the risk, please consult the references below.

Prof. Dr. Jiri Dvorak

James Jan

FIFA



## **References**

European Commission Opinion of the Scientific Committee on Toxicity, Ecotoxicity and the Environment (CSTEE) ON Brussels, C7/GF/csteeop/PAHs/12-131103 D(03)

European Union Commission Report IP/04/208 Brussels 16th February 2004

European Union Commission 27th amendment to the Council Directive 76/769/EEC

TÜV Produkt und Umwelt Information 08/2005

Department of the Environment Investigation Denmark 2004

Goodyear Tyres 2003 Environmental Health and Safety Report

Chelsea Center for recycling and Economic Development University of Massachusetts Technical Report 2 Environmental Impacts of Recycled Rubber in Light Fill Applications August 1998

BIOLOGI Rapport, provtagningsären 96/97, 97/98, 98/99 Environmental monitoring in Stockholm Municipality Laboratory for Aquatic Ecotoxicology and Institute of applied Environmental research Stockholm University 2002

Perspect 110 Suppl 3 451-489 2002 Cancer risk assessment, indicators, and guidelines for polycyclic aromatic hydrocarbons

Gas and Particle Emissions from automobile Tires in Laboratory and Field Studies Rubber Chemistry and Technology, 52, 146-158 1978

Rubber Dust from the normal wear of tires Rubber Chem. Technol. 47, 1011-1037, 1974

The Determination of Rubber in Atmospheric Dusts Rubber Chem. Technol. 232-241 1974

EEA CORINAIR Summary Report Final Version. Report to the European Environmental Agency from the European Topic Center on Air Emissions 1997

Particulate air pollution with emphasis on traffic generated aerosols Riso R-1053(EN), Riso National Laboratory, Roskilde, Denmark, 1999

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans. Polynuclear Aromatic Compounds Part 1, Chemical, Environmental and Experimental Data, Vol. 32, Lyon, France P.39. 1983

IPCS Environmental Health Criteria 202, World Health Organisation Geneva 1998

The effects of motorway runoff on freshwater ecosystems: 1 Field Study. Env Toxicol Chem 14, 1079-1092 1995a

The effects of motorway runoff on freshwater ecosystems: 2 Identifying major toxicants Env Toxicol Chem 14, 1101-1092, 1995b



Tire wear as a source of PAH, Umweltbundesamt, Berlin CSTEE/2003/18/4

Source of fine organic aerosol 3. Road dust, tyre debris, and organometallic brake lining dust: Roads as sources and sinks. Environ Sci Technol 27, 1892-1904, 1993

Biomarker responses and chemical analyses in fish indicate leakage of polycyclic aromatic hydrocarbons and other compounds from car tire rubber. Environ Toxicol Chem 22, 2926-2931 2003

Fate and effect of Zinc from Tire Debris in Soil Environ. Sci. Technol. 2002, 36, 3706-3710

Kazakova SV et al. A clone of methicilline-resistant Staphylococus aureas among professional football players. The New England Journal of Medicine 2005 352(5); 468-475.

Health and Safety Executive. Cancer risk following exposure to polycyclic aromatic hydrocarbons (PAHs): a meta-analysis. Research Report 2003/068. Published by the HSE avaiable on-line at: <a href="http://www.hse.gov.uk/research/rrpdf/rr068.pdf">http://www.hse.gov.uk/research/rrpdf/rr068.pdf</a>

The Norwegian Pollution Control Authority (SFT), 23.01.06

Other references also used.