



# **Assessment on the health and environmental impact of GENAN PUR Coated Coarse 2-4 mm granulates in different colours in relation to the PAH content for use as top layer on playgrounds**

Evaluation performed by Danish Technological Institute (DTI)

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It is concluded that there is no risk of PAH exposure to the environment and no health risk connected with children's skin contact to PAHs in the PUR-coated granulates as top layer for playgrounds. This conclusion is also valid when wear and weathering actions result in direct exposure to the SBR rubber granulate in areas of high wear.

Besides the aesthetic look of the playground due to the different colours available, the PUR coat system from GENAN offers several advantages:

- It embeds and protects the rubber granulates against exposure to weathering.
- Light-coloured PUR coat also reduces the temperature of the playing ground due to less absorption of sunlight.
- The PUR coat gives a high barrier towards diffusion of gasses (e.g. oxygen and ozone) and protects in this way the SBR rubber.
- The PUR coat contributes with a very good resistance towards oils and fuels eventually spilled on the playground surface.
- The PUR coat's wear and tear resistance and abrasion properties are excellent and help against the formation of rubber dust from the rubber granulate used.
- Besides, it should be mentioned that the granulate is further protected by the approx. 20% PUR used to glue the PUR-coated granulates together on the playground top layer.
- Based on recent literature, the reduction of migration rates of PAHs from applying a PUR layer on the rubber granulate is assessed to be in the order of 2-3.
- It is known that PUR coat reduces the migration of heavy metals from the granulate, e.g. zinc.

Based on the open literature, knowledge of the chemistry behind the PUR coated GENAN 2-4 mm coarse rubber granulate, and DTI's own expertise in migration and health impact studies, the conclusion is that the PUR-coated rubber granulates fulfill the criteria set within the current European legislation for protection of the environment and children's health.