

Michael Snee, Chief
Radiation Protection
Ohio Department of Health
246 N. High Street
Columbus, OH 43215

June 2, 2020

Dear Chief Snee,

Via electronic media

I am writing about the Ohio Department of Health (ODH) RESRAD model for AquaSalina 3/19/18 that was used to determine that the health effects from the use of this material would be negligible. We adamantly do not agree with this determination because the model assumptions that ODH used are incorrect and do not conform with AquaSalina use. AquaSalina is spread mostly on hard surfaces such as roads, sidewalks and driveways and steps. In addition, not all radiation pathways were included.

Your agency only considered the application of AquaSalina on dirt. The model did not account for the potential consequences of using AquaSalina on hard surfaces. Again, AquaSalina is spread mostly on hard surfaces, surfaces such as roads, sidewalks, driveways, and steps going into a home, schools, churches, etc. The model did not consider these common uses. The model also failed to consider the health implications of tracking this material into a household on shoes or boots, or by household animals. In addition, once this material dries on a hard surface, it will become airborne and quickly become PM 2.5 and PM 10, which would readily be taken up by the lungs of adults, children and animals. This exposure scenario was also not considered by the ODH model. The model used a one-time application and then ran the model using this single application. However, AquaSalina can be applied more than one time in a year.

The health impact on children when applying AquaSalina should be an integral part of the ODH's health assessment. Children are especially vulnerable to exposure to toxic substances and radioactive materials such as AquaSalina.

Because children's systems are still developing, they are more susceptible to environmental threats including radiation exposure. Children move through several stages of rapid growth and development, from infancy through adolescence. Exposure to toxic and radioactive substances can affect fetal, infant, and childhood growth, impairing development of their nervous systems, and causing abnormal development because of hormonal or immunologic effects. For example, infant immune systems are less well developed, so they may be less able than healthy adults to handle unnecessary exposure to radioactive isotopes.

Because children eat proportionately more food, drink more fluids, and breathe more air in proportion to their body weight they are more exposed to environmental threats than an adult. Children body tissues can more readily absorb many harmful substances including radioactive isotopes. A growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health and safety risks. These arise because: children's neurological, immunological, digestive, and other bodily systems are still developing.

Because children behave like children, they are more exposed to environmental threats. They spend more time outdoors. Children's natural curiosity, tendency to explore, and tendency to place their hands in their mouths often leaves them open to health risks. When young children crawl on the ground or the floor or play outside, they are more exposed to potentially contaminated dust and soil, and other potentially hazardous/radioactive substances associated with the oil and gas industry.

Citizens of Ohio are understandably concerned that your agency failed to consider the health implications of this material being tracked into homes where children crawl, play and sleep. Children are continually crawling about and putting their hands on surfaces that may be covered with this radioactive material, and then putting their little hands on their face and in their mouth. The same would hold true for family pets.

Your agency also failed to consider that the dried material of AquaSalina has the potential to be blown into farm fields through airborne particles, potentially making the fields radioactive. The agency's model did not consider the air concentrations of PM10 and PM2.5 particles to determine the radiation dose to residents living near where this material had been used on hard surfaces. Without this technical information, your agency cannot determine the radiation dose occurring from the RESRAD model and the resulting health risks. Furthermore, there is nothing on the label that identifies the fact that radioactive isotopes are present in this product.

For the reasons stated above, the Stop Brine Spreading Task Force asks two questions: 1) Explain how your agency concluded that the use of AquaSalina would cause negligible health effects when the agency model did not even include the very basic use of the material; and 2) Explain how your agency can guarantee the safe use of AquaSalina anywhere that the general public may come into contact with this material?

Finally, children are politically powerless; they are defenseless. With no political standing of their own, they must rely on adults to protect them from toxic/radioactive environmental agents.

Sincerely,

On behalf of the Stop Brine Spreading Task Force

Teresa B. Mills
Executive Director
Buckeye Environmental Network