Oxybenzone (benzophenone-3) is an ultraviolet radiation filter commonly used in personal care products including sunscreens, textiles and inks, and food and beverage containers, among others. Due to its widespread use, human exposures to oxybenzone are widespread. Oxybenzone is considered an endocrine disrupting chemical due to its antiestrogenic and antiandrogenic properties. We evaluated the effects of oral exposures to oxybenzone on the growth and morphology of the mammary gland, body weight and anogenital distance in BALB/c mice exposed to 30, 212 or 3000 μg/kg/day in utero and during lactation. Developmental exposures to oxybenzone reduced the size and growth of mammary gland in males prior to and during puberty. In exposed females, oxybenzone reduced mammary cell proliferation, decreased the number of cells expressing estrogen receptor α, and altered mammary gland morphology in adulthood. These results suggest that even low doses of oxybenzone can disrupt hormone sensitive organs during critical windows of development.
just after birth (infancy). We found that oxybenzone exposures during development
reduced the size and growth of the mammary gland (breast) in males prior to and during
puberty. In exposed females, oxybenzone reduced breast cell proliferation, and altered
structures in the breast in adulthood. These results suggest that even low doses of
oxybenzone can disrupt breast development to affect both males and females, and that
early life is a critical time period of susceptibility to endocrine disruptors like
oxybenzone.