



Pharmaceuticals in the Environment

GPP 101.V1.0.EN

Novartis' mission is to discover new ways to improve and extend people's lives. Using science-based innovation, Novartis delivers better outcomes for patients and addresses the evolving healthcare needs of society.

One of the consequences of patients benefiting from medical therapies is that pharmaceutical substances can enter sewer systems and potentially reach the aqueous environment, as confirmed by recent research. According to current knowledge the levels of active pharmaceutical ingredients found in drinking water are unlikely to present a risk for human health¹. Implications for aquatic wildlife are continuously being analyzed and evaluated.

Novartis Position

- Novartis shares society's desire to protect the environment and we are taking steps to minimize the environmental impact of our activities and products over their lifecycle².
- Novartis promotes the societal and environmental values of the United Nations Global Compact to its suppliers and third parties and uses its influence to encourage their adoption where possible.
- Novartis welcomes the use of state-of-the-art technologies, wherever feasible, with processes and systems in place to ensure proper and legal disposal of waste containing active pharmaceutical ingredients.

Novartis approach and recommendations

In order to better understand and minimize the potential impact of pharmaceuticals on the environment, Novartis uses a four-fold approach that applies to all of our operations involved in research and development (R&D), production, marketing and disposal of pharmaceutical products:

¹ WHO Pharmaceuticals in drinking water 2011
(http://www.who.int/water_sanitation_health/publications/2011/pharmaceuticals_20110601.pdf)

² Novartis vision for the environment
(<https://www.novartis.com/our-company/corporate-responsibility/environmental-sustainability>)

³United Nations Global Compact (<https://www.unglobalcompact.org>)

1. Environmental risk assessment
Novartis evaluates the potential impacts of new medicines on human and environmental health during the R&D process before the products reach the marketplace.
2. Manufacturing
Novartis minimizes discharges of active pharmaceutical ingredients from operations into the aqueous environment. We monitor potential emissions on an ongoing basis and take appropriate corrective action if necessary. We work with our suppliers to ensure they are guided by our principles³.
3. Safe disposal
Novartis does not dispose waste containing active pharmaceutical ingredients into landfills. We recommend that patients and consumers of pharmaceuticals dispose of any unused or expired products or waste materials in accordance with applicable legal and regulatory requirements and any disposal instructions in the patient information materials provided with the product.
4. Increase knowledge
To advance society's understanding of the environmental fate and effects of pharmaceuticals, we support research initiatives of academia and regulators to close data gaps and find new solutions.

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⁴ Novartis Third Party Code (<https://www.novartis.com/sites/www.novartis.com/files/novartis-third-party-code.pdf>)