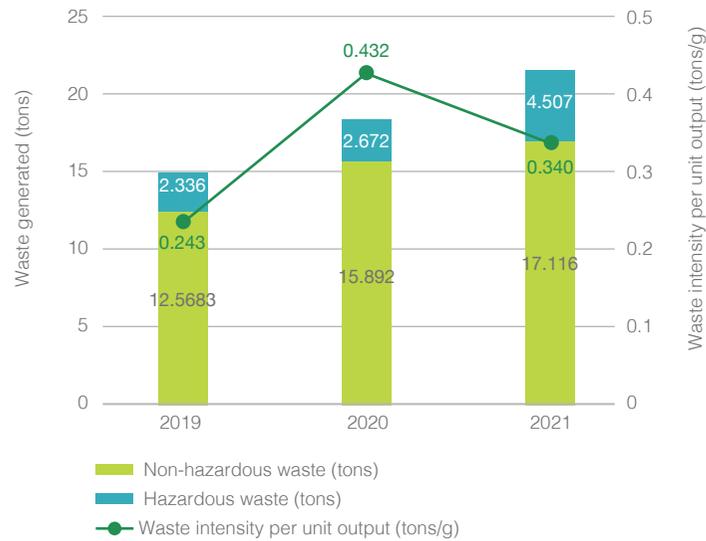


Statistics of waste generated and waste intensity per unit output in the past three years



Note 1: The data for 2019 do not include Panco Healthcare.

Note 2: Emissions intensity is measured using total annual production. Since we mostly adjusted total production output based on clinical trial requirements from 2019 to 2020, and since we have not yet entered into mass production and stable productivity, there still remains some fluctuations in our waste emission intensity per unit output production.

5-3 Hazardous Substance Management

★ Materiality Topic

Hazardous Substance Management Approach

PEC production processes use certain toxic and concern chemical substances regulated by the EPA. Therefore, in terms of chemical toxicant management, PEC is focused on source management and its proper storage and usage. At the same time, we also stipulate written records of usage status to manage the flow of chemical toxicants and prevents toxicant pollution on the environment and human health.

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Policies

Internal Policy
Adhere to the "Environmental Safety and Health Policy" and "Chemical Hazard Management Procedure."

External Guidelines
Toxic and Concerned Chemical Substances Control Act

Commitments

Comply with environmental laws and regulations, implement toxic chemical management to avoid disasters that cause environmental pollution or harm to human health.

Responsibilities

The actual use, maintenance, management and operation of toxic chemicals are the responsibility of the research and development or use unit, while the rest are the joint responsibility of environmental safety, use and storage units for the management of toxic chemicals.

Resources

- The cost of disposal of hazardous waste in 2021 amounted to approximately NT\$385,000 and the dedicated personnel was set up to handle all issues related to waste management. The annual chemical toxicant hazard drill was postponed to January 11, 2022 due to the pandemic.
- The QC department has designated 2 persons to participate in the professional chemical and toxicant response - operator training organized by the Management Center of the Central Taiwan Science Park, and they passed the training and obtained professional licenses (fees were paid by the CTSP project plan).
- ESH department designated 1 person to participate in the professional chemical and toxicant response - general training, and passed the training and obtained professional license (the person will serve as a point of contact for the chemical and toxicant disaster response organization at the plant).



Goals & Targets

Short-term Goals for 2022

- Implement the concepts of toxic chemical hazards and emergency response for toxic chemical operators (and departments), assign personnel to participate in external training to obtain qualifications, and implement daily toxic chemical disaster response and drills.

Mid-term Goals for 2023~2025

- Strengthen the awareness of chemical hazards (including toxic chemicals), risk assessment, and disaster emergency response management in the plant to reduce the risk of chemical operation to personnel.

Long-term Goals for 2026

- Extend the use period of chemicals and reduce chemical waste by reducing 2~3% per year to achieve chemical waste reduction measures.



Evaluation of Management Approach

Mechanism of Evaluation

Taichung Environmental Protection Bureau visits the plant to check the implementation of toxic chemical operations.

2021 Assessment Result

No major violations

Classification and Control of Toxic and Chemical Substances

PharmaEssentia classifies toxic chemicals according to the definition of the Toxic and Concerned Chemical Substances Control Act, and stores the listed toxic chemicals in explosion-proof fume hood in the laboratory according to different categories. The Company's classification and control measures are as follows.

Category

Type 1 chemicals

Difficult to decompose material, meaning that it is not easy to decompose in the environment or due to bioaccumulation, bioconcentration, biotransformation and other effects, resulting in pollution of the environment or harmful to human health.

Type 2 chemicals

Chronic toxic substances, which have the effect of causing tumors, impaired fertility, malformations, mutations of genetic factors or other chronic diseases.

Type 3 chemicals

Acute toxic substance, the chemical substance will immediately endanger human health or biological life after exposure.

Type 4 chemicals

Endocrine disruptors or those who pollute the environment and endanger human health.



Fume hood for toxic chemical operations.



Explosion-proof fume hood for storage of toxic substances in tubes.

Management procedures



Toxic Chemical Disaster Response

To protect the safety of employees, we have formulated emergency response procedures for toxicant leakage and subsequent containment, and we can quickly and effectively complete response procedures by following the four major steps: report, special dressing, leakage treatment, and decontamination. Emergency response equipment are also prepared in the laboratories and are available for employees to use in emergencies. The status of the equipment and their safety inventory levels are also checked on a monthly basis. In addition, we also conduct toxic and chemical spill management disaster drills and biosafety drills from time to time in each year to ensure that employees can respond immediately and quickly to reduce the impact of disasters and maintain workplace safety in the event of an emergency.

Future, in accordance with the Toxic and Concerned Chemical Substances Control Act, we will also set up professional response personnel for toxic and chemical substances in plants to take necessary protective, response and cleanup measures in the event of an accident, and to implement toxic and chemical disaster response operations and education and training for toxic and chemical substance operators in plants.

