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ENVIRONMENTAL STRATEGY OF PUBLIC JOINT STOCK COMPANY (PJSC) "GRINDEX"

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ABSTRACT

The PJSC "Grindex" is the largest drug manufacturer in the Baltic countries. The enterprise has two business structures applying diverse technology.

At drug dosage form facilities hazardous chemicals (active pharmaceutical) are applied in ingredients small amounts and in the state of multiply dilution either with water (e.g., for injectable preparations) or inert fixings (e.g., for tablet and capsule manufacture).

At the facilities of pharmaceutical actives, multistage syntheses are performed with the application of different hazardous chemicals including solvents.

The demands towards not only the quality of the pharmaceuticals, but also the technology of production of pharmaceutical products in Europe and the USA are growing rapidly. In their entrepreneurship, PJSC "Grindex" strive for producing efficient, safe and qualitative medicines. Attention is regularly paid to measures of enhancing employees' safety and health and environmental protection.

In a big enterprise it is difficult to be in compromise with the following:

- ✓ Qualitative and good production;
- ✓ Good margin;
- ✓ Safety and healthy working condition;
- ✓ Safety and healthy environment.

But, for all that, PJSC "Grindex" is the leader in the field of environmental protection in chemical manufacturing among the Baltic countries. Over the last 6 years PJSC "Grindex":

1) Joined the International Programme of Chemical Industry, *viz.* Responsible Care;
2) Got "ISO 14001" certificate;
3) Got "Good Practice" certificate (for the first time in Latvia).

These all activities are closely related with above-mentioned things – safety and healthy working condition and environment. In environmental area most controlled things are air and wastewater.

Air pollution is controlled by filters which collect manufacturing emission following timetable.

At the given moment the most fundamental problem is how to decontaminate manufacturing waste water and render them less hazardous to environment. Company has 30 years old purification plant. This plant is old-fashioned for instant manufacturing amount, that's why this waste water is given to other company for purification, but these costs are high, because lot of parameters exceed definite rules (e. g. COD, BOD, pH). The corresponding departments in company already started to develop this problem. First step is to know from which manufacturing processes comes the biggest waste water pollution, than to establish what kind and how many chemical substances are in corresponding places. This research is realized by gas chromatography (GC).

Current results show that the biggest pollutant is *isopropyl alcohol* (70,8%) from first stage of Mildronate production. It gives the highest amount of chemical oxygen demand (COD). Next less active pollutants are *ethyl alcohol* from Oxytocin (30,0%) and Ftorafur (58,2%) production, *acetic acid* (15,7%) and *methylacrylate* (3,7%) from Oxytocin production, the rest unidentified chemical substances (30,0-60,0%). In future company wants to identify all chemical substances, which give the water pollution, start to control critical manufacturing points, from where is going the biggest pollution, and to find companions with experience, for starting to develop own waste water purification plant.