



# SECOND INTERNATIONAL CONFERENCE «INTEGRATION NETWORK OF THE PHARMACEUTICAL ECOLOGY - 2024»



## EFFICIENCY OF THE PHENOL REMOVAL FROM THE AIR SYSTEM AT RETINOIDS JSC

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**Purpose:** to evaluate the effectiveness of the air purification system for phenols at the production facility of JSC “Retinoids”

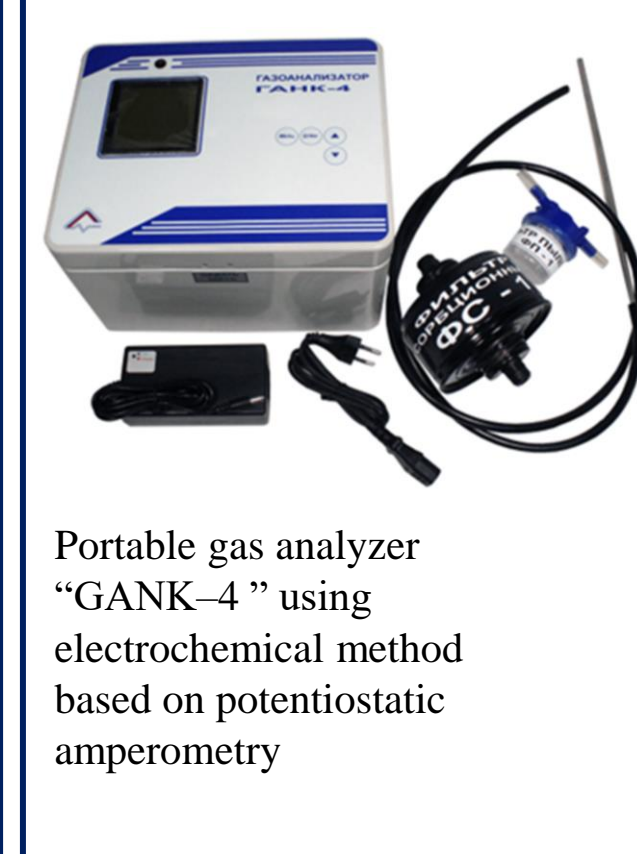
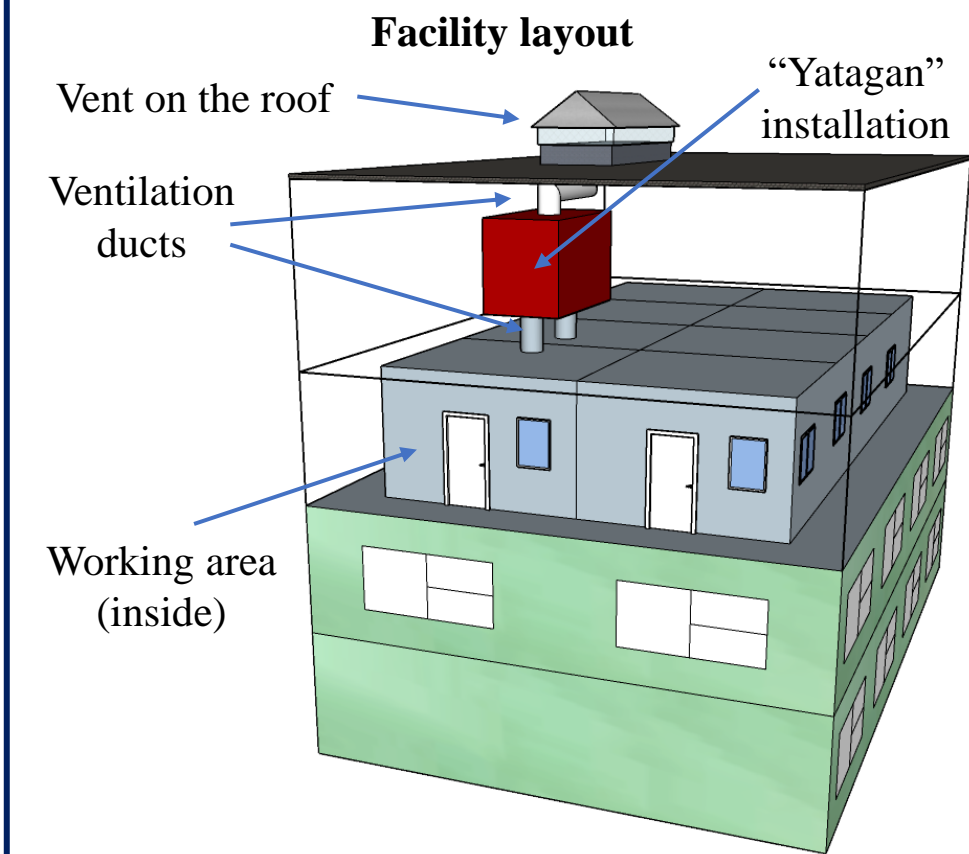
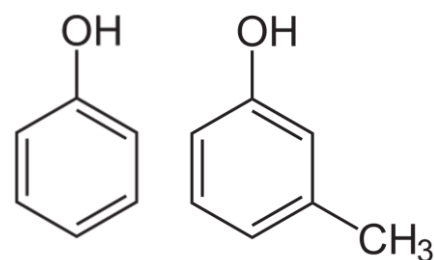
**Objectives:**

- Determine the relevance of the research
- Describe the operating principle of the gas converter “Yatagan”
- Select a method for the quantitative determination of phenol
- Measure the concentration of phenol at various production sites

**Methods:**

Electrochemical method

Verrukacid® contains:  
Phenol 588mg  
meta-Cresol 392mg



Portable gas analyzer “GANK-4” using electrochemical method based on potentiostatic amperometry

**Results**  
Efficiency of phenol removal from the air system = 100% + 2,95% - 7,05% = 95,9%

Values are arithmetic average of 10 measurements  
unit of measurement: ng/m<sup>3</sup>

MAC = Maximum Allowable Concentration

		Working area		Atmosphere (background concentration)		Vent on the roof	
Filling process	MAC	7800	300000	230	10000	550	10000
	% of MAC	2,6%		2,3%		5,5%	
Residual content in %		100%		2,95%		7,05%	

**Conclusion and perspectives**  
The concentration of phenol is much lower than the maximum allowable concentration (MAC), and the established standards are being met. However, it is necessary to anticipate potential emergency situations in which the concentration may briefly exceed the MAC. In the further study, the spill of the substance will be simulated, and the effectiveness of the purification system for phenols will be measured.