

Mathematical Means to Assess Consequences of Chemical Accidents with Heavy Gas Emissions



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Abstract This article presents mathematical models classification of heavy gas dispersion according to various criteria. Empirical, engineering and computational hydrodynamic (research) models are described in detail, and their advantages and disadvantages are shown. Engineering models are also analyzed. It includes box models for instantaneous emissions, uniform or Gaussian plume models, generalized plume models, integral-jet models, and shallow-layer models. Examples of research models are given and their practical implementation is demonstrated.

Keywords Atmospheric air pollution · Heavy gas · Mathematical models · Modeling

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