

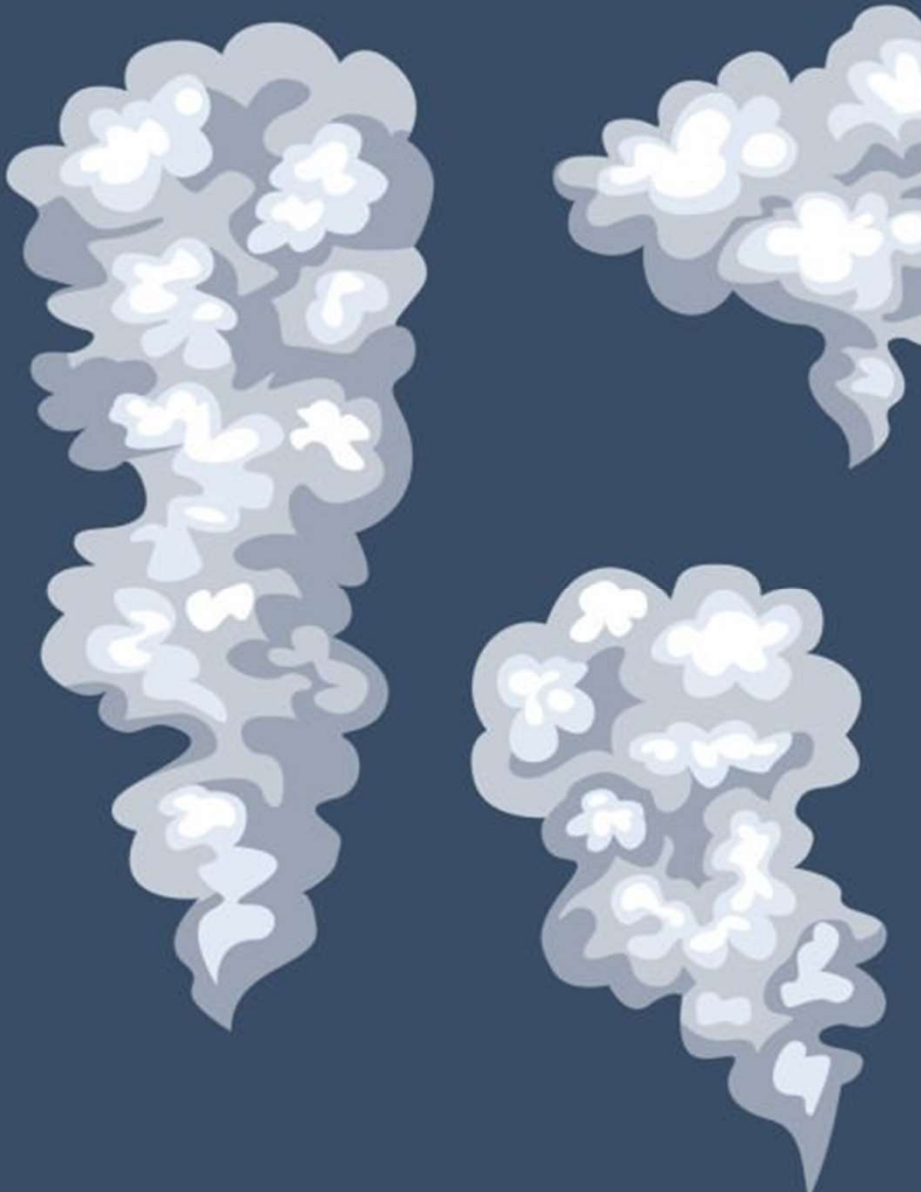


National Institute for Public Health  
and the Environment  
*Ministry of Health, Welfare and Sport*

# Ventilation emissions

Diffuse PM emissions from cracks, holes or  
open doors in factories

Erik Honig  
RIVM





# Dutch emission inventory – industrial emissions

- Emissions reported by individual companies via Annual Environmental Reports (85-90% of total)
- Supplemental emissions - several calculation methods, mainly using Emep Guidebook
- Ventilation emissions: diffuse PM emissions from cracks, holes or open doors in factories (not in the guidebook)



# Ventilation emissions

PM-emission calculated from:

- A. number of companies** per size class, for 13 industrial sectors  
» *number of companies per employee size class from Statistics Netherlands*
- B. building volumes** (depending on the company employee size)
- C. ventilation rate**  
» *company interviews, sometimes recirculation with or without dust filtering*
- D. concentration** of particulate matter in the workers environment  
» *company interviews, most of the companies implement dust exposure control measures (new Occupational Health Law)*
- E. Business hours**

$$\text{Emission}_{\text{sector}} = \sum_{\text{size classes}} A*B*C*D*E$$



# Ventilation PM10 emissions

TOTAL EMISSION PER SECTOR		2000	2010	
SBI2008	Sector	<i>ton/year</i>	<i>ton/year</i>	<i>% Change</i>
10	Food Industry	84	29	-66%
12	Tabacco Industry	7	2	-66%
13	Textile Industry	121	65	-46%
16, 31	Wood and Furniture Industry	406	164	-60%
17	Paper Industry	383	302	-21%
22	Rubber and Plastics Industry	66	29	-56%
23	Construction Materials Industry	1035	1054	2%
24	Metal Basics Industry	352	578	64%
25	Metal Products Industry	147	119	-19%
28	Machine Industry	110	65	-41%
41, 42, 43	Construcion Sector	1062	980	-8%
<b>TOTAL</b>		<b>3773</b>	<b>3387</b>	<b>-10%</b>

» *2010 emissions are scaled by sector volume to obtain yearly emissions*



# Ventilation emissions not negligible

2024 PM10 emissions

- Total Netherlands: 28.5 kton
- Industry: 5.6 kton
  - of which 1,6 kton is ventilation emission (29%)



*data / suggestions from other countries ??*