

CURRICULUM VITAE Scheffers, Th.M.L.

Name Scheffers, Theo
Title Ir.
Year of birth 1953
Nationality Dutch
Profession Senior Consultant Industrial Hygiene & Chemicals Management



Present Position Self-employed consultant www.TSAC.nl
Partner at www.DOHSBase.nl

Employment Record

2005 – 2012 Senior Consultant,
Royal Haskoning Nederland BV
1994 – 2005 CEO consultant,
Scheffers IHPC
1981 – 2005 Industrial hygiene, health surveillance and occupational toxicology
DSM Limburg BV
1979 – 1981 Scientific Occupational Health Hazard researcher,
TNO Health, Medical Biological Institute

Certifications

1997-2015 Occupational Hygiene manager (SKO #121718)
2004-2014 VCA Basic elements of Safety SCC
1980- Epidemiologist B

Projects

1992- Develop ideas on hierarchy and read-across for limit values, measurement methods, physicochemical properties and health-hazard classifications of chemicals at the workplace, which are operationalized in DOHSBase an easily accessible database application for health and safety experts, distributed by the micro-enterprise DOHSBase B.V.

2021- Validation of special techniques in exposure assessment: the EN689 preliminary test, priors in Bayesian exposure modelling, ANOVA and other methods to distinguish subgroups

2021 NVvA symposium presentation on retrospective exposure assessment using different models and international databases

2020 Training 300 appraisers on EN689 exposure assessment strategy and compliance testing in the Netherlands and Belgium

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- 2019 Quantitative analysis and validation of a nationwide safe working procedure for the asbestos containing (<15%) windowsill renovation in residential homes
- 2018 Estimating the SEG GM and GSD's of Silica PAS workplace air measurements with 95% below the level of detection using HYGINIST and NDEXPO
- 2017 – 2018 Retrospective exposure assessment and CTE dose-response in a liability claim of spray painting
- 2014 – 2016
Maastricht, the Netherlands/ Lyon France Consultancy for Solvay (France/Belgium): validation of the Solvay OEB system in the public domain and development of a methodology to compare and align HB-engines. See publication: <http://www.tsac.nl/publicaties/annhyg.mew050.full.pdf>
- 2013-2017 Constructing a chemical substance database health hazard database for a hospital
- 2013-2017 European project: Update EN 689
- 2013 Contributing to BW_Stat development. See http://www.tsac.nl/websites.html#Noncompliance_testing
- 2013 Consultancy for Trespa BV (Weert, the Netherlands): Substance identification, Analysis of exposure measurements
- 2012-2013 Consultancy for Aluchemie (Rotterdam, the Netherlands), Alcan (France), RioTinto (world-wide):
- Compliance based engineering & innovation
 - Risk potential based substance substitution
 - feasibility studies OELV adjustment
 - Retrospective cancer cohort study
 - Company Biological Monitoring limit value for Coal tar Pitch
- 2012 – to date
Maastricht The Netherlands Chemical agents consultancy:
- exposure assessment: priority setting, strategy, quantification (modelling & sampling), compliance testing, factor analysis.
 - workplace air limit setting (OELV, DN/MEL, kick-off),
 - regulatory compliance and feasibility studies,
 - risk measurement measures,
 - compliance based engineering & innovation,
- See further: <http://www.tsac.nl/info.html>
- 2012 – to date Specific for the Netherlands:

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*Maastricht The
Netherlands*

Ondersteuning van diverse bedrijven bij:

- De zelfinspectie gezond en veilig werken met gevaarlijke stoffen,
- het vaststellen van (bedrijfs)grenswaarden binnen het nieuwe stelsel,
- SER haalbaarheidstoets voor grenswaarden kankerverwekkende stoffen zonder drempeldosis,
- (Kick-off) grenswaarden voor BRZO en andere chemie bedrijven

Zie <http://www.tsac.nl/info.html#specific>

*2005 – to date
The Netherlands*

Workshops on Exposure assessment and Occupational Exposure Limit setting

See <http://www.dohsbase.nl/en/products/workshops/>

*1989 – To date
Maastricht/Eersel, The
Netherlands*

Developing and distributing Industrial Hygiene software:
HYGINIST
DOHSBase
BW_Stat

Professional Education

1977

Vrije Universiteit , Certified Teacher in Chemistry.

1979

Agricultural University Wageningen, Master of Science in Environmental Health & Hygiene

Professional Memberships

Dutch Occupational Hygiene Society (Chair in 2002)
American Industrial Hygiene Association, former member of Exposure Assessment Strategies Committee and the WEEL Committee
American Conference of Governmental Industrial Hygienists
British Occupational Hygiene Society
Belgian Society of Occupational Hygiene
Dutch Society for Epidemiology (until 2017)

Special Skills

Chemistry, Toxicology, Epidemiology, Industrial Hygiene, Risk management measures, Exposure assessment.
Control regime and process intervention
Communicator & world wide networker.
IT applications (Office, web design) and programming in dBase, Excel & Visual Basic

Key Qualifications

More than 35 years practical experience in controlling en managing chemical exposure risks in (bio)chemical industry, with both manufacturers and downstream users.

Main working areas: exposure assessment, dose-response of

health and workplace exposure surveillance data, exposure limit value setting, decontamination projects (asbestos, legionella), Occupational Epidemiology, Chemicals Management, company interest (product stewardship), chemical policy and regulatory compliance.

Since 2005 involved in the EU REACH registration with a focus on exposure scenarios and risk management measures.

Practical, risk control experience with organic volatiles, polymers, fuels, lubricants, pharmaceuticals, fragrance materials, tobacco, catalysts, metals and their oxides and salts, minerals, fibres and nano materials

After the MSc Environmental Health at the University of Wageningen in 1979 the professional career as an occupational health researcher within TNO, performing a health hazard survey on painters' solvent exposure. A possible relation between solvent exposure and preliminary dementia was first established in the Netherlands. The awareness of employers, employees and government to reduce exposure was initiated. The professional tools to assess, manage and control solvent exposure and an effective regulation and a control regime on solvent exposure in general were developed.

Joined in 1981 DSM Chemical Company in Geleen (the Netherlands) with the task to establish a cost-effective workers protection regime on chemical exposure, noise and other occupational loads.

The skills obtained on toxicology, industrial hygiene and epidemiology in industry are since 2005 used within Royal Haskoning to help, as a senior consultant, enterprises worldwide with (1) occupational health and hygiene programs and policies (2) compliance with REACH and other regulatory programs (3) general and in-house occupational exposure limits (OEL; product and workplace, large & limited databases) and assessment methods including hazard and risk ranking system for complex mixtures (4) database systems to record work history, exposure assessments, workplace air measurements and medical surveillance data, (5) statistical analysis of collected series hygiene and health data (6) worker protection control regimes and good work practices, based on the state of the art scientific risk control including the technical and socio-economic feasibility (7) community outrage risk perception tools and controls (8) information and training.

In 30 years a worldwide network is acquired in industry, academia and governmental organisations through participation in international trading associations and working groups, by performing projects, giving presentations and professional development courses at conferences, publishing (scientific) articles, IH freeware (HYGINIST) and the DOHSBase OEL & Compare software, and being an active member of several international Industrial Hygiene societies (BOHS, AIHA, ACGIH). Involved in developing the Dutch Occupational Hygiene Society (NVvA), chair in 2002.

Languages

	<u>Speaking</u>	<u>Reading</u>	<u>Writing</u>
<i>Dutch</i>	Native	Native	Native
<i>English</i>	Excellent	Excellent	Excellent
<i>French</i>	Good	Good	Fair
<i>German</i>	Basic	Fair	Basic

Finished projects

2005 – 2013 <i>'s-Hertogenbosch, Maastricht The Netherlands</i>	See also http://www.tsac.nl/websites.html#Publication Feasibility studies for the revision of Dutch legal OELs (wood dust, BaP in coal tar Pitch)
2005 – 2012 <i>'s-Hertogenbosch, Maastricht The Netherlands</i>	Substitution of high hazard/SVHC substances in the manufacturing of articles
2008 – 2010 <i>Nijmegen, The Netherlands</i>	REACH registration CRM and >1000 t/a substances Project leader/expert Substance registration, TPR support, OR support, CSR exposure assessment, DNEL derivation.
2008 – 2009 <i>'s-Hertogenbosch, The Netherlands</i>	Knowledge sharing project financed by Dutch Government Project leader and author Development of a web based expert dossier on the industrial Hygiene aspects of Volatile Organic Substances.
2008-2009 <i>The Netherlands</i>	REACH exposure assessment workshops Project leader/coach Development and performing in house and public EA workshops

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- 2007 – 2009
The Netherlands
Cancer screening within a working population with PAH exposure
Project leader/epidemiologist
Performing an epidemiology study and to establish cancer standardized Incidence Ratio's (SIR)
- 2007
Nijmegen/s-Hertogenbosch, The Netherlands
REACH Annex IV registration
Project leader
Check if chemicals fulfil requirements for registration as substances causing minimal risk.
- 2006 – 2008
The Netherlands
Exposure assessments in chemicals manufacturing
Project leader/expert
Baseline chemical exposure assessment and the inventory of the most effective control measurements necessary to come in compliance with the occupational exposure limits.
Occupational health program (medical examination) and group analysis of medical
- 2007
Utrecht, The Netherlands
Exposure risk assessment of small scale use of chemicals
Senior Consultant
A detailed, semi-quantitative modelling of chemical exposure risk within a laboratory of a University Medical Centre involving a large number of chemicals used, low frequency and duration of contact, small volumes handled, no measurement results and lacking occupational exposure limits
- 2007
Netherlands, The Netherlands
An inventory on the use and control of nano materials
Project leader/expert
A project plan was proposed to make an inventory of the use, to share knowledge on current control measures and to stimulate thinking on how to permit and monitor working with new materials if health risks are suspected but unknown both in nature and magnitude.
- 2006 – 2007
Den Haag, The Netherlands
SER Guidance for Exposure Limits and Good Practices for small and medium Enterprises
Project leader/Expert
Project to develop an internet guideline and tool to find and/or develop the most applicable Occupational Exposure Limit(s) and/or Good Practices for Small and medium Enterprises handling chemicals at the workplace
www.veiligwerkenmetchemischestoffen.nl
- 1995 – 2006
Rotterdam, Nijmegen The Netherlands
Industrial Hygiene statistics courses
Expert/Senior Consultant
Providing a course on Industrial Hygiene Statistics for groups of

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	industrial hygienists within a chemical company. Compliance testing, lognormal goodness-of-fit, sample size estimation. (HYGINIST software)
2006 – 2006 <i>different sites in Europe,</i>	industrial hygiene program within paper chemicals company Coach/expert Coaching and auditing the European industrial hygiene program
2005 – 2007 <i>Roermond, The Netherlands</i>	Industrial Hygiene support of a thermo insulation production plant Project leader/Senior Consultant/Expert Construction and analysis of an occupational exposure database Epidemiological analysis of audiometric data collected in the health surveillance noise hearing program. Dose response analysis of lung function and irritating agents
2005 -2012	Coaching junior consultants.
2002 France	Industrial Hygiene/Occupational Health audit/exposure assessment in several aluminium propeller producing plants
1981 – 2005 <i>Geleen, The Netherlands</i>	Product safety and working condition control Industrial Hygiene Uniform company and multi company policy for industrial health and hygiene including assessment methods, occupational limit setting, health surveillance, control regimes and registration for physical and (bio)chemicals occupational loads. Exposure assessments (chemical & noise) in plants, maintenance workshops and laboratories Feasibility study of a prospective cohort study on the reprotoxic properties of Acrylnitril in China on behalf of the world wide manufacturers organisations. CEFIC lower olefins project on validated measurement methods for Ethylene. Defending companies interest in national and international development of regulation chemicals on the workplace through VNCI (NI), CEFIC (EU) and CMA (USA). Cancer morbidity and mortality analysis of current and retired employees. Asbestos policy and removal.

Longitudinal analysis of variance of hearing loss within and between plants and workshops.

Special projects on new occupational loads like Legionella and Nanomaterials

Analysis of lung function data collected by the health department of a fertilizer plant (UK)

Pilot projects "Self assessment health performance" in plants in the Netherlands and Sweden

Assessment of safe working with potent sensitizers (Austria)

Epidemiological evaluation of health surveillance data collected every six months among workers exposed to Vinylchloride monomer

Analysis of hearing loss data among production, maintenance and non-exposed workers

CEFIC/ECETOC project on Polypropylene and colon cancer.

*1979 – 1981
Rijswijk, The Netherlands*

Health Hazard Survey among maintenance painter in the Netherlands.

Scientific researcher

Solvent exposure assessment, health surveillance analysis.

Does solvent exposure increase aging in mental performance?

Public contributions

In English see http://www.tsac.nl/public_en.html

In Dutch see http://www.tsac.nl/public_nl.html

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

Maastricht
Theo Scheffers

A handwritten signature in black ink, appearing to read 'T. Scheffers', written over a horizontal line.