

Buitenlandbeurs: Trainingen “Managing Chemical Risks in South – Africa” – geduld loont

Henri Heussen, senior consultant

henri.heussen@arbounie.nl

Expertise Centrum Toxische Stoffen
www.ects.nl

NVvA symposium, 14 april 2011



Facts about Occupational Health in South Africa (1)

- Population: ~ 50 million
- Working population: ~12 million
- High risk – e.g. mining, construction, fishing, agriculture and healthcare
- 1000 health professionals work in Occupational Health directly, eg.
 - Bulk: Occupational nurses
 - Occupational Hygiene: 148 registered, 95 technologists, 313 assistants
- Increasing demand for OHS qualified people
- Occupational health based on three pillars working in synergy – occupational medicine, industrial hygiene, and occupational safety

Facts about Occupational Health in South Africa (2)

- **Biggest concern/s in OHS at present:**
 - **difficult for workplaces to successfully establish and implement OHS programmes for various reasons (financial constraints, lack of will or buy-in from stakeholders, poor infrastructure).**
- **There is specific legislation which governs OHS in South Africa**
- **Mining own legislation**
- **Important to include a component of workplace health services dedicated to HIV/AIDS and TB in the workplace as part of a comprehensive OHS programme.**

More facts: uitgebreid verslag in NVvA nieuwsbrief 22(1) 2011

■ Geen Zuid-Afrika zonder dieren



En voetbal



Beurs 2009

Wat?

- Meerdere trainingen “Managing Chemical Risks” in South-Africa / Southern African Development Community (SADC) / India
- WHO CC programma: Education, training and technical materials

Met wie?

- National Institute for Occupational Health (NIOH, Johannesburg, Zuid-Afrika, penvoerder)
- Sri Ramachandran University (India)
- Health & Safety Laboratory (UK)

Wanneer?

- Eind 2009, voorjaar 2010

Aanleiding / historie

- **2008:** twee maal 2-daagse training biologische monitoring
 - Zuid-Afrika
 - 140 deelnemers
 - Consortium (state of the art & praktijk)

- **Voorjaar 2009:** tweemaal 1-daagse training Stoffenmanager
 - www.stoffenmanager.nl
 - Zuid-Afrika
 - 30 deelnemers
 - NIOH – Arbo Unie ECTS

- **Voorjaar 2010:** India haakt af
 - Lokale partner: NIOH Zuid-Afrika leidend
 - **NIOH - Arbo Unie ECTS verder**



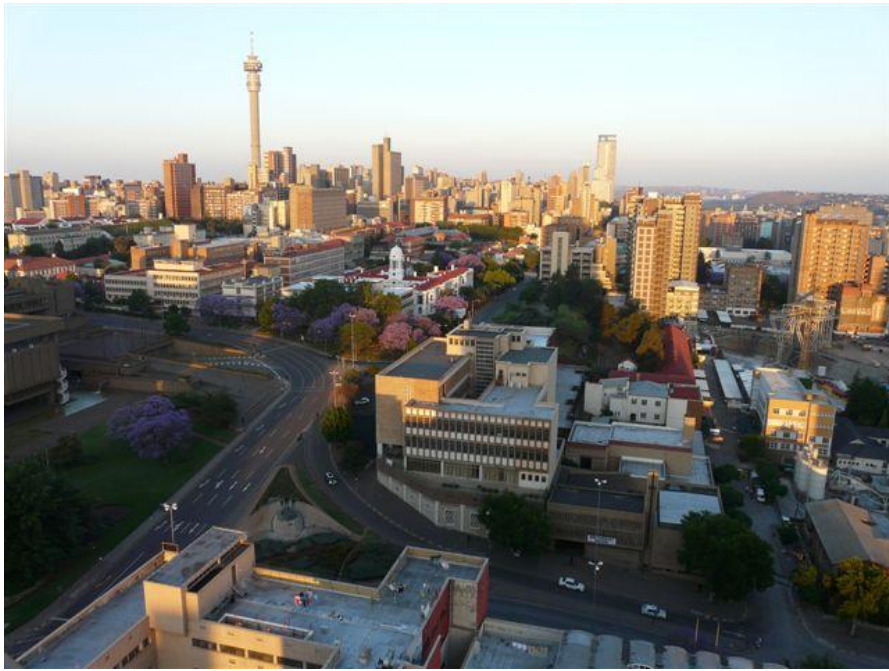
National Institute for Occupational Health
25 Hospital Street, Constitution Hill, Johannesburg 2001
PO Box 4788, Johannesburg 2000
Tel: (011) 712 6400
www.nioh.ac.za

- South Africa's major centre for occupational health development, training, service support and research
- Integral unit of the National Health Laboratory Services (NHLS).
- The NHLS is a state owned enterprise
- National and regional reference centre
- Providing leadership and support for the development of effective occupational health services by maintaining and developing specialist reference laboratory, advisory and information services.
- WHO Collaborating Centre
- **Analytical Services**, **Immunology and Microbiology**, **Epidemiology and Surveillance**, **Occupational Medicine**, **Ergonomics Unit**, **Pathology Division**, **AJ Orenstein Library**, **Toxicology**, **Occupational Hygiene**

Wat is er concreet gedaan?

8 – 12 November 2010: NIOH/ University of the Witwatersrand, Johannesburg

Activiteit	Aantal deelnemers
Workshop “Chemical risk management in the workplace - business wise solutions	45
Lezing “Occupational Risk Management Applied to Engineered Nanoparticles” (Webster Memorial Seminar: Nanotechnology, Nanoparticles and Nanotechnology)	125
Twee gastcolleges: “Exposure assessment workers – an introduction” en “Control Banding approach of engineered nanoparticles – hazard (Health Risk Assessment Course)	15
Twee 1-daagse trainingen Stoffenmanager Nano	30



**Het NIOH in down town
Johannesburg**





Training Stoffenmanager Nano:

- occupational hygienists
- technicians
- department of Labour inspectors
- managers
- health and Safety Reps amongst others.

Workshop business wise solutions:

- occupational hygienists
- occupational nurses
- doctors
- scientists health
- safety personnel
- private and public sectors.



WORKSHOP

Chemical risk management in the workplace: business wise solutions

09 November 2010

Time: 09:30-12:30

Tony Davies Lecture Theatre
National Institute for Occupational Health
25 Hospital Street, Constitution Hill,
Braamfontein, Johannesburg

About the Workshop

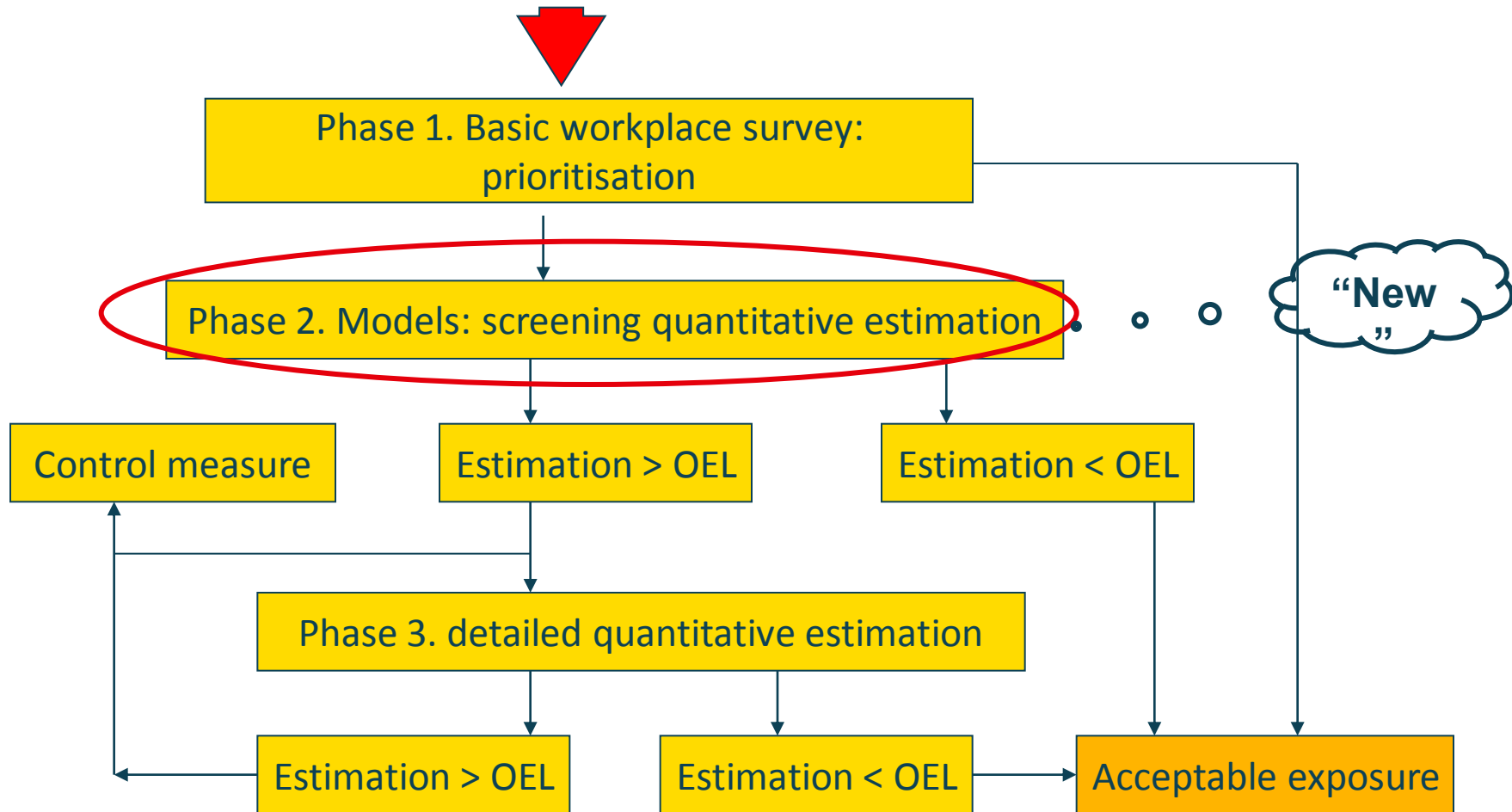
The National Institute for Occupational Health in Johannesburg (NIOH), a WHO Collaborating Centre in Occupational Health, in collaboration with Arbo-Unie, Netherlands is proud to host the International workshop on **Chemical risk management in the workplace: business wise solutions**. The workshop aims to:

- Provide comprehensive and value driven service in occupational health and safety in the workplace.
- Meet internationally recognised health and safety requirements in global economy.
- Provide "tailor made" consultancy service by using businesswise approach



CPD approval pending
from HPCSA

General: business wise tiered approach



Cost saving: first models, then measurements!

Business case 1 NL: exposure to Trichloroethylene (small company)

Limit values (EU): 5 mg/m³ (TWA- 8 hr) and 16 mg/m³ (TWA-15 min)

■ Results measurements

- Task: 350 -1800 mg/r
- Day: 390 mg/m³



■ Results Stoffenmanager (STM) estimation

- Task: 1017 mg/m³
- Day: 1017 mg/m³

■ Costs 8 measurements

- 2,5 days Occup. Hygienist (PAS + report)
- Lab analyses
- EU: € 3600,-



■ Costs 8 STM estimations

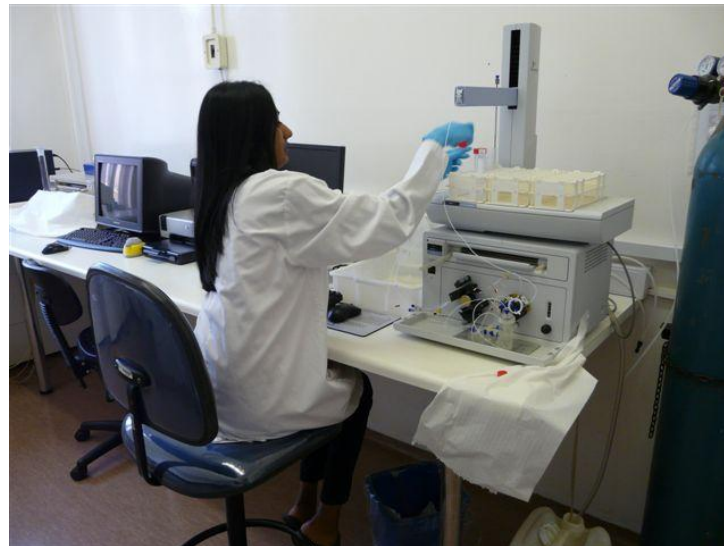
- 0,75 day Occup. Hygienist (visit + running tool)
- No lab analyses
- EU: € 900,-

Savings: € 2700,-

Two case studies deelnemers:

- NIOH
- pathologie labs in Johannesburg

- Discussie: hoe pak je het aan en waarom?
- Technisch: alle stappen in flow schema aan bod gekomen, ook biologische monitoring
- Aanvullend: proceskant (advisering, business)



Feedback from NIOH: workshop business wise solutions

- Two case studies presented by NIOH and populated on Stoffenmanager
- “The impressive demonstration of the case studies convinced the audience of its simplicity, power of quantitative assessments, recommendation of control measures to reduce the exposures and cost saving mechanism in using the tool for a risk assessment before conducting any other expensive hygiene measurements or biological monitoring.”
- “Further demonstration Stoffenmanager by NIOH:
 - two mini seminars to a group of doctors
 - canvassing the use in the small and medium business by talking at the meetings held for the union members, Department of labour, and nurses from the Gauteng Department of Health.
 - planning to conduct formal half to full day training to health and safety professionals charged to conduct risk assessments in their workplace.”

Stoffenmanager Nano – Worked Example 4

Source domain 3:

► Spraying of ready-to-use nano product

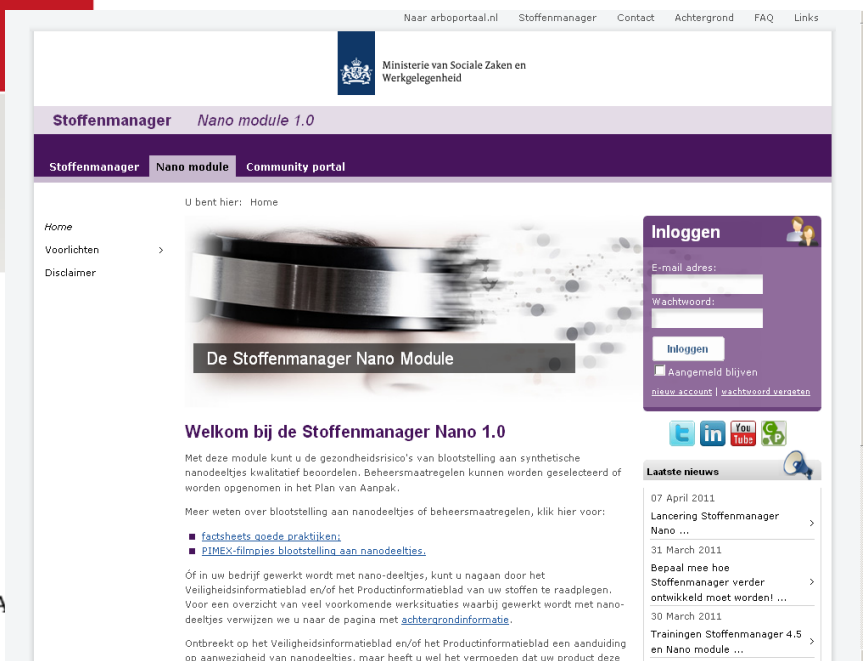
1. CHEMICAL PRODUCT:

MKN-TiO₂-R050P

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material or Component	CAS No.	% by Weight
Titanium Dioxide	13464-67-7	1%
Amorphous Silica	763 1-86-9	Up to 10 max.
Aluminum Hydroxides	21645-51-2	Up to 6 max. (as A

(See section 8 for exposure guidelines)



Stoffenmanager Nano – Worked Example 4

► Spraying of MKN-TiO₂-R050P

Question	Answer
What is the dilution of the product with water?	100% (undiluted)
What is the viscosity of the product?	Liquids with low viscosity (like water) Liquids with medium viscosity (like oil) Liquids with high viscosity (like paste, syrup)

nano.stoffenmanager.nl

Feedback from NIOH: training Stoffenmanager Nano

“In 3rd world countries such as SA technologies are often used in small enterprises with out proper consideration of the associated risks.

The NIOH has been involved in efforts to bring the understanding of these health risks to the small business environment.

It is therefore fitting that we continue to promote tools to help reduce risks in the small business environment.

The use of Control Banding to address nano particle risks in the workplace follows on logically from previous approaches to deal with health risks on a more fundamental level with less emphasis on the traditional “first measure then control” approach.

The hands on work shop on a nano control banding tool was just what the doctor ordered, to help promote practical risk assessment skills in the South African industrial environment.”

Samenvattend resultaat:

- kennisoverdracht aan in totaal 215 deelnemers
- ook interactief
- evaluatie NIOH en deelnemers: goed en vervolg!

& energie en plezier



Bij de deelnemers

Bij...?



NIOH: A shortlist of future wishes/vision on our cooperation

- We would like to have more of the same in the future and possibly include more case studies involving the risks associated with ultra fine particles and practical solutions to mitigate risk.
- The help which the Dutch Occupational Hygiene Society has provided to SA by spreading the “good news” of control banding tools, gives us hope that we can soon address many of our uncontrolled work place health risks.
- The NIOH Executive Director, Dr Barry Kistnasamy will engage Arbo Unie/DOHS about this matter.
- **NVvA bedankt!!!: mede namens het NIOH en de deelnemers.**
- **EN > 50% beurs nog over om SA wensen te vervullen!**

Vol energie weer naar huis gegaan!

