



SUMMARY

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The advisory report *Nanoparticles in the Workplace: Health and Safety Precautions* is the response of the Working Conditions Committee of the Social and Economic Council of the Netherlands (SER) to the request for advice sent to the Council by the Minister of Social Affairs and Employment (SZW) on 5 September 2008. That request for advice concerns how to deal with the uncertainties related to the risks associated with nanotechnology, in particular with persistent synthetic nanoparticles, in an occupational environment.¹

The Committee's central concern is with the health and safety of employees who are required to work with nanoparticles in the workplace. It is the employer that bears primary responsibility for this in the light of its duty of care as set forth in the Working Conditions Act. The basic principle is that substances attended by uncertain or unknown risks – which includes nanoparticles – should be treated as hazardous (or extremely hazardous) substances. This means that the policy and implementation measures in such cases should focus on preventing or minimising exposure of employees to those substances.

The current Working Conditions Act and the associated regulations form the basis for taking protective measures. The new EU regulation on chemicals – REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals – is also highly relevant in this respect. Consultations are currently taking place at European level regarding how nanoparticles should be assessed in the context of REACH. Because those consultations have not yet been completed, and given the unknown and uncertain risks associated with working with nanoparticles, the Committee considers it necessary to apply the precautionary principle to policy and to implementation measures.

The Committee has therefore considered what the precautionary principle, in a general sense, actually involves and what common elements have been identified in the various national and international descriptions of that principle. In order to apply the precautionary principle as part of an effective occupational health and safety policy so as to guarantee that nanoparticles are dealt with safely, that principle must be implemented in working conditions policy. This means that the precautionary principle will then form part of the RI&Es and the associated action plans which companies are required to draw up. This implies that the employer's efforts should be devoted to preventing exposure to nanoparticles or – in cases in which exposure is unavoidable – to minimising the amount and duration of exposure, i.e. to minimising exposure. The Committee considers application of the precautionary principle to be temporary,

1 The prefix “nano” relates to the nanometre (nm). To get an impression of the scale involved, one should note that a nanometre is 0.000,001 millimetres.

namely until the point of implementation of the provisions regarding nanoparticles in REACH or the point when we have sufficient knowledge and information regarding the risks associated with such particles.

For more specific implementation of the precautionary principle, the Committee considers it important for good practices to be developed as an aid for companies. In order to identify measures to prevent exposure, we have assumed the classic occupational hygiene strategy, but applied to dealing with nanoparticles.

The social partners, together with the authorities at both national and European level, should take initiatives to expand and exchange relevant knowledge; information will also need to be provided with a view to increasing awareness of the risks on the part of those involved. The social partners, amongst other things, will develop general guidelines and inform those involved about those guidelines, with the emphasis being on the need for further specific elaboration within the sectors, for example in the form of health and safety catalogues, and at individual companies. The Committee recommends that the Minister should support the Dutch social partners in this regard.

The committee requests that, amongst other things, the *employers* should apply and implement the precautionary principle in their RI&Es and associated action plans, develop good practices, pass on information on nanoparticles within the chain, contribute to the exchange of information and the provision of general information, and collaborate with employees and the authorities in drawing up a set of national guidelines. The Committee also requests that the effectiveness of the measures taken should be monitored, and that there should be co-operation with effective generation and development of knowledge and expertise regarding nanoparticles on the part of the Labour Inspectorate.

From *employees*, the Committee expects, amongst other things, that they contribute to implementing the precautionary principle in RI&Es and the associated action plans and to the provision of sound general information regarding nanoparticles. The Committee also requests them to collaborate in developing good practices and a set of national guidelines.

The Committee expects that the *authorities*, amongst other things, will encourage the embedding of assessment of the risks of nanoparticles into the European REACH regulations and that it will contribute to promoting international research to determine exposure limits for nanoparticles, as well as encouraging the exchange of information and the provision of sound general information.

The Committee also advises the authorities to request the Health Council of the Netherlands to establish health-based occupational exposure limits and – should that not be possible – to order an investigation into the possibility of applying reference values. The Committee also requests the authorities to investigate whether it is useful to

work out the details of a notification requirement within the chain for companies that work with nanoparticles. There should be a standard requirement for the particle size of the substance concerned to be specified in MSDSs, together with the possible hazards and the necessary control measures for nanoparticles.

The Committee also requests the authorities to undertake action as regards the introduction of a system of exposure registration for nanoparticles and the possibility and application of a health monitoring system. The Committee also requests the authorities to work with the social partners to draw up a set of national guidelines and to contribute actively to the expansion and pooling of knowledge regarding the potential risks of nanoparticles and how to control those risks.

Finally, the Committee requests the authorities – in addition to promoting and subsidising research into the relationship between exposure to nanoparticles and effects on health – to ensure communication *vis-à-vis* the public regarding nanoparticles and adequate, alert, and efficient enforcement.