



Joint Statement of the IPA and the European Precious Metals Federation (EPMF) on the DECOS recommendation (2008) for a revised health-based occupational exposure limit applicable to chloroplatinates

1. The Health Council of the Netherlands Expert Committee on Occupational Standards (DECOS) recently updated a previous evaluation made in cooperation with the Nordic Expert Group for Criteria Documentation of Health Risks from Chemicals (NEG) on platinum and its compounds viz.: *Health Council of the Netherlands. Platinum and platinum compounds. Health-based recommended occupational exposure limit. The Hague: Health Council of the Netherlands, 2008; publication no. 2008/12OSH.*

2. Based on the endpoint of the respiratory sensitisation effects of chloroplatinates, the DECOS evaluation includes a recommendation for an occupational exposure limit (OEL) for chloroplatinates of 5 nanograms/m³ (measured as platinum), as an 8-hour time-weighted average concentration. No firm proposal for a health-based limit for other soluble platinum compounds was presented (i.e. in relation to compounds which lack a halide ligand directly coordinated to platinum).

3. The DECOS OEL proposal for chloroplatinates represents a radically reduced value when compared to legally applicable (or recommended norms) for workplace air which have been established by other limit-setting bodies. For example, it is 400-fold lower than the OEL of 2 micrograms/m³ developed by the UK Health and Safety Executive (HSE) and the American Conference of Governmental Industrial Hygienists (ACGIH).

4. The PGM industry takes note of the latest DECOS evaluation, and is currently engaged in a wide-ranging review of the total scientific literature and other non-published data relevant to this matter.

5. The industry acknowledges the point previously expressed by the WHO ^{Ref.(i)} that the OEL of 2 micrograms/m³, which has been routinely applied across many territories, may not provide a sufficient basis in all cases to prevent the induction of chloroplatinate sensitisation, particularly in respect of its application to the control of peak exposures. We also recognise the inherent difficulties in setting robust exposure limits for certain respiratory sensitizers, and that consensus on best practice in relation to OEL-setting for this particular health effect is not yet agreed across expert bodies. Furthermore, **the PGM industry is committed to participating in the process of OEL-setting by facilitating the collection of valid exposure assessment data, and also continues to determine the feasibility of utilising improved process containment technologies to control workplace exposures as far as practicable below the current OEL.**

6. The OEL recommendation in the DECOS evaluation is largely dependant on the interpretation of a single epidemiology study on exposure-effect relationships of platinum salt sensitisation in a catalyst production plant ^{Ref.(ii)}. Whilst this study represents a valuable addition to the available literature, it is noted that its occupational hygiene sampling strategy was not specifically designed with the intent of defining an exposure-response curve for respiratory sensitisation, e.g.: identifying a lowest observed adverse effect level [LOAEL] with some certainty. Neither was it optimised to discriminate and measure short duration peak exposures and evaluate their influence on the induction of sensitisation. Given the biological relevance of peak exposures to potent respiratory sensitizers, this point is considered by industry to be particularly important. Differentiating the effect of peak



exposures within more lengthy workshift-averaged measurements of chloroplatinate levels is currently considered to be a major uncertainty in trying to define a LOAEL, and from that a reliable estimate of a no effect level.

7. The PGM industry is engaged in a research program to better define the key data gaps and related research needs with the objective of achieving an improved basis for exposure limit setting. In the near-term, this includes the provision of a more detailed analysis of the DECOS report and its recommendations. Further information about the evaluation of existing data and any proposals for new work to improve understanding of this important occupational health issue will be communicated to relevant stakeholders in due course.

References and notes

- (i) WHO IPCS (1991) Environmental Health Criteria 125: Platinum. World Health Organisation, International Programme on Chemical Safety, Geneva, 167 pp.
- (ii) Merget R, Kulzer R, Dierkes Globisch A, Breitstadt R, Gebler A, Kniffka A, Artelt S, Koenig H-P, Alt F, Vormberg R, Baur X, and Schultze-Werninghaus G (2000) Exposureeffect relationship of platinum salt allergy in a catalyst production plant: conclusions from a 5-year prospective cohort study. *J Allergy Clin Immunol*; 105 (2 Pt 1): 364-370.