



Reactie Gezondheidsraad op commentaar conceptadvies Houtstof

Response Health Council to comments
draft report Wood dust

Inhoud

1	Reactie op commentaar Koninklijke Metaalunie en Vereniging FME	3
	Response to comments Koninklijke Metaalunie and FME	3
2	Reactie op commentaar Vereniging Afvalbedrijven	5
	Response to comments Dutch Waste Management Association	5
3	Reactie op commentaar Nederlandse Emballage- en Palletindustrie Vereniging (EPV)	6
	Response to comments Dutch Packaging & Pallet Industry Association	6

1 Reactie op commentaar Koninklijke Metaalunie en Vereniging FME

Response to comments Koninklijke Metaalunie and FME

Op 26 mei 2026 heeft de Gezondheidsraad per brief gereageerd op het commentaar van Koninklijke Metaalunie en Vereniging FME op het concept van het advies Houtstof. De reactie staat hieronder, in dezelfde taal als het oorspronkelijke commentaar (Engels).

On May 26th 2026 the Health Council sent a letter to Koninklijke Metaalunie and FME in response to the comments on the draft report on Wood dust. The response is cited below.

Dear Mr Halm,

Thank you for accepting the invitation to comment on the draft report *Wood dust*, which was drafted by the Nordic Expert Group (NEG) and the Dutch Expert Committee on Occupational Safety (DECOS), and published for public review in November 2025 by the Health Council of the Netherlands. The committees highly appreciate the comments made by Caesar Consult on behalf of Koninklijke Metaalunie and Vereniging FME, which enabled the committees to modify and improve its advisory report. On behalf of the President of the Health Council, I send you this reply.

Main findings of Caesar consult

Estimation of three risk levels. Caesar consult states that the reporting of an extra risk level (4×10^4) leads to unnecessary confusion.

The DECOS notes that the advisory report on wood dust is a collaboration between the Nordic Expert Group and the Health Council of the Netherlands, and that a specification of this risk level is informative on the European level.

No more distinction between soft wood and hard wood dust. Caesar urges DECOS to make a clear distinction between hard wood and soft wood in its evaluation of possible health effects from wood dust and to derive a limit value for both hard wood and soft wood dust. It states that the magnitude of the excess risk for soft wood is substantially smaller compared to hard wood, and the association is primarily to squamous cell carcinoma. For this statement, Caesar refers to the IARC evaluation of wood dust.

The committees note that the available data indicate that soft wood is carcinogenic, however the data on potency are limited. As the DECOS already noted in its 2000 evaluation, several factors could explain the observed differences, including differences in study design (including differences in follow up, and the use of self-reporting of disease) cumulative exposure, and particle size. In contrast with few studies that suggest potency differences, several observations support the assumption that hard wood dust and soft wood dust are equally carcinogenic. Hence, the subcommittee on the classification of carcinogenic substances concluded that no clear differences between the genotoxic potency of hard woods and soft woods were observed (Appendix 2). Given the clear carcinogenic hazard of soft wood dust, the committees are of the opinion that general cancer risk values for wood dust are appropriate. This is supported by the fact that in practice, often exposure to both soft wood dust and hard wood dust occurs and both wood types cannot be distinguished.

The committees have clarified its reasoning for not distinguishing hard wood from soft wood for its recommendation.

No distinction between untreated and treated wood. Caesar consult also urges to make a clear distinction between untreated and treated wood in its evaluation of possible health effects from wood dust and to consider the derivation of a separate limit value for treated wood (and maybe an exclusion of impregnated wood). The DECOS is of the opinion that the available data on treated wood (such as MDF) do not allow conclusions on potency of treated wood specifically. Furthermore, there are no reliable data available that

indicate that treated wood has a different carcinogenic potency than untreated wood. Therefore, the DECOS is of the opinion that despite a potential difference in potency, it is appropriate to apply the same cancer risk values for treated and untreated wood.

No explanation of the uncertainties. Caesar consult states that the committees do not address the uncertainties that arise from proposing an OEL based on specific data, and notes that an indication of the margin of uncertainty of the proposed risk levels is missing. The committees acknowledge that especially for heterogenous exposures to wood dust, the derivation of cancer risk values is associated with uncertainties related to the data used, the methodology used and choices made. The committees note that uncertainties related to the heterogeneity of wood dust exposure is noted in the report, however, are of the opinion that the overall uncertainty cannot be quantified and exhaustive evaluation of uncertainties is beyond the scope of the committees' task (e.g. to recommend advisory values based on the state of science, to be used for the protection of workers health).

Threshold for carcinogenic effects? Caesar consult is of the opinion that the committees wrongfully consider wood dust to be a carcinogenic substance without a safe threshold, as the production of Reactive Oxygen Species (ROS) and the resulting DNA damage is an indirect, secondary genotoxic process. The committees agree with Caesar consult regarding ROS production via inflammation being a secondary genotoxic process. In addition to such an indirect mechanism, wood dust particles itself are capable of generating ROS at the particle surface as observed from the studies described in table A2.1. Additionally, other direct mechanisms of action have been suggested, including DNA-damage by physical interaction and mutagenicity by chemicals isolated from wood extracts. Therefore, the committees note that there are indications for both a direct and an indirect genotoxic modes of action. The committees further conclude that the relative contribution of direct and indirect mechanisms of action to the carcinogenic effects of wood dust cannot be determined. Therefore, the committees are of the opinion that a non-threshold approach is appropriate.

Critical effect of exposure to wood dust: cancer or irritation of respiratory tract? Caesar consult states that the ACGIH uses the development of upper and lower respiratory tract irritation and respiratory function decreases, as critical effect for its TLV of 0.5 mg/m³. The committees acknowledge that effects of the respiratory tract are relevant, in addition to the carcinogenic effects. However, the committees note that the ACGIH recommendation is based on data on occupational asthma caused by Western red cedar and are of the opinion that no reliable threshold can be derived based on these data. Notably, the ACGIH does not clarify how the TLV is derived and to what extent it protects against adverse effects of wood dust. Furthermore, other data on respiratory effects do not allow the derivation of a reliable effect level, as is outlined in section 13.3.2. Overall, the committees maintain the conclusion that carcinogenicity is the critical effect for setting an OEL.

Kind regards,

2 Reactie op commentaar Vereniging Afvalbedrijven

Response to comments Dutch Waste Management Association

Op 26 mei 2026 heeft de Gezondheidsraad per brief gereageerd op het commentaar van Vereniging Afvalbedrijven op het concept van het advies Houtstof. De reactie staat hieronder, in dezelfde taal als het oorspronkelijke commentaar (Engels).

On May 26th 2026 the Health Council sent a letter to Dutch Waste Management Association in response to the comments on the draft report on Wood dust. The response is cited below.

Dear Dutch Waste Management Association,

Thank you for accepting the invitation to comment on the draft report *Wood dust*, which was drafted by the Nordic Expert Group (NEG) and the Dutch Expert Committee on Occupational Safety (DECOS), and published for public review in November 2025 by the Health Council of the Netherlands. The committees highly appreciate the comments made by The Dutch Waste Management Association (DWMA), which enabled the committees to modify and improve its advisory report. On behalf of the President of the Health Council, I send you this reply.

Epidemiological evidence and wood type, and measurement methodology and practical differentiation.

DWMA requests the committees to clarify to what extent the underlying epidemiological data allow differentiation by wood type, and how mixed wood dust exposure is scientifically weighed in risk assessment. Additionally, DWMA requests the committees to clarify how to interpret the epidemiological data distinguishing between wood types and the routine occupational measurements not being able to distinguish between wood types.

Most of the epidemiological literature does not make a distinction between hard wood and soft wood dust. When differentiations were made between wood species, the epidemiological data on carcinogenic potency were inconsistent. Therefore, the committees do not make a distinction between wood types and have clarified its reasoning for not distinguishing hard wood dust from soft wood dust for its recommendation. The committees are aware that in practice, often exposure to both soft wood and hard wood occurs and both wood types cannot be distinguished.

Recent exposure levels and risk characterisation. The DWMA requests to clarify to what extent current exposure levels have been taken into account in risk modelling and what uncertainties exist in extrapolation to lower exposure concentrations.

The committees acknowledge that especially for heterogenous exposures to wood dust, the derivation of cancer risk values for wood dust is associated with uncertainties related to the data used, the methodology used and choices made. However, the committees are of the opinion that evaluation of current exposure levels is beyond the task of the committees as advisory bodies making recommendations on health-based cancer risk values based on the state of science. Technical feasibility will in The Netherlands be evaluated by the OEL Subcommittee of the Social and Economic Council (SER-GSW).

Available data and measurement methodology. The DWMA requests a clear explanation on how the proposed target risk level relates to analytical methods and detection limits and the variability in currently measured exposure levels.

The committees indicate this aligns with the previous and is outside the scope of deriving health-based cancer risk values. The assessment of technical feasibility, in relation to measurement methodologies i.e. detection limits, will be evaluated by SER-GSW.

Kind regards,

3 Reactie op commentaar Nederlandse Emballage- en Palletindustrie Vereniging (EPV)

Response to comments Dutch Packaging & Pallet Industry Association

Op 26 mei 2026 heeft de Gezondheidsraad per brief gereageerd op het commentaar van de Nederlandse Emballage- en Palletindustrie Vereniging (EPV) op het concept van het advies Houtstof. De reactie staat hieronder.

On May 26th 2026 the Health Council sent a letter to the Dutch Packaging & Pallet Industry Association in response to the comments on the draft report on Wood dust. The response is cited below, in the same language as the original comments (Dutch).

Geachte drs. H.T. Bollen,

Graag dank ik u voor uw commentaar op het conceptrapport *Houtstof*, opgesteld door de Nordic Expert Group (NEG) en de commissie Gezondheid Beroepsmatige Blootstelling aan Stoffen (GBBS) en gepubliceerd voor openbare consultatie in November 2025 door de Gezondheidsraad. De commissies waarderen uw commentaar namens de Nederlandse Emballage- en Palletindustrie Vereniging (EPV), wat ervoor zorgt dat de commissies het adviesrapport kunnen verbeteren. Namens de voorzitter van de Gezondheidsraad geef ik u een reactie op uw commentaar middels deze brief.

Reflectie op het gezondheidskundig kader. De EPV plaatst kanttekeningen bij de extrapolatie naar lage blootstelling en bij de uniforme benadering van hardhout- en zachthoutstof. Hierbij geeft de EPV aan dat een lineaire extrapolatie naar lage concentraties onzekerheden met zich meebrengt en hecht de EPV waarde aan het benoemen en meewegen van die onzekerheden. Daarnaast ervaart de EPV het als een gemis om geen onderscheid te maken in houtsoorten (hardhout- versus zachthoutstof) waarbij zij refereert naar nuances beschreven op dit punt in eerdere publicaties van het Internationaal Agentschap voor Kankeronderzoek (IARC). De EPV geeft aan dat een uniforme benadering nadere onderbouwing verdient. De commissies erkennen dat er onzekerheden meespelen bij het afleiden van risicogetallen voor blootstellingen aan houtstof. Die onzekerheden zijn gerelateerd aan de beschikbare gegevens, de methode voor het afleiden van risicogetallen (waaronder extrapolatie naar lage blootstellingen) en de keuzes die daarvoor gemaakt worden. Deze onzekerheden zijn in het algemeen niet goed te kwantificeren. De commissies merken daarbij op dat de beschikbare gegevens aanwijzingen geven dat zowel hard- als zachthoutstof carcinogeen zijn, maar dat gegevens over de mate van potentie beperkt zijn. IARC refereert naar enkele case-control studies die een kleiner extra risico voor zachthoutstof suggereren. In tegenstelling tot de enkele studies die verschillen in potentie suggereren, zijn er ook verschillende aanwijzingen die ondersteunen dat hardhout- en zachthoutstof even carcinogeen zijn. Vandaar heeft de subcommissie classificatie carcinogene stoffen geconcludeerd dat er geen duidelijke verschillen zijn in genotoxische potentie tussen hardhout en zachthoutstof (Appendix 2). Gegeven de duidelijke gevaarsindicatie met betrekking tot carcinogeniteit voor zowel hard- als zachthoutstof zijn de commissies van mening dat een uniforme benadering voor risicogetallen aangewezen is. De redenering voor een uniforme benadering voor hard- en zachthoutstof voor het afleiden van de risicogetallen is in het advies verduidelijkt.

Praktijkgegevens uit de sector en realisme in normstelling. De EPV stelt voor om actuele sectorale meetgegevens te betrekken bij de rapportage of te adviseren bij verdere normstelling. Hierbij stelt de EPV voor om technische en economische consequenties mee te wegen in het afleiden van risicogetallen. De commissies zijn het ermee eens dat de praktische uitvoerbaarheid een belangrijk onderdeel vormt en geëvalueerd dient te worden alvorens een wettelijke grenswaarde vast te stellen. Echter, de commissies geven aan dat de evaluatie van technische en economische consequenties onderdeel is van de haalbaarheidstoetsing die volgens de Nederlandse gang van zaken wordt geëvalueerd door de

Subcommissie Grenswaarden Stoffen op de Werkplek van de Sociaal Economische Raad (SER-GSW). Dit soort evaluaties voeren buiten het domein van de commissies die zich bezighouden met het afleiden van risicogetallen als gezondheidskundige advieswaarden op basis van de stand van de wetenschap.

Vriendelijke groet,