Auckland Regional Public Health Service
Rātonga Hauora ā Iwi o Tamaki Makaurau

Standards New Zealand
Private Bag 2439
WELLINGTON

20 February 2017

Email: SNZPublicComments@mbie.govt.nz

Submission on Public Comment Draft NZS 8510
Testing and decontamination of methamphetamine contaminated properties

Thank you for the opportunity for Auckland Regional Public Health Service (ARPHS) to provide a submission on Public Comment Draft NZS 8510 – Testing and decontamination of methamphetamine contaminated properties

The following submission represents the views of ARPHS and does not necessarily reflect the views of the three District Health Boards it serves. Please refer to Appendix 1 for more information on ARPHS.

The primary contact point for this submission is:

Tracey Ellis
Policy Analyst
Auckland Regional Public Health Service
09 623 4600 (ext.26 482)
traceye@adhb.govt.nz

Yours sincerely,

Jane McEntee
General Manager
Auckland Regional Public Health Service

Denise Barnfather
Medical Officer of Health
Auckland Regional Public Health Service

Summary

We recommend that 0.5 µg/100cm^2 is adopted as the single clean-up level; that Mercury (Hg) and Lead (Pb) are tested for in addition to methamphetamine (MA); and that all carpet and soft furnishings are disposed of to landfill.

Critical in applying this Standard is the determination of whether or not MA has been manufactured on the premises. Adequate protection of public health requires that a precautionary approach is taken where it has not been determined if manufacture has taken place. We recommend use of 0.5 µg/100cm^2 as the Standard to be applied in these instances.

Critical to determining whether MA has been manufactured, is that the Standard contains appropriate criteria for making this determination. Without such criteria, it seems likely that the 0.5 µg/100cm^2 Standard would need to be applied in most instances. We would not consider it appropriate that the least restrictive MA level was applied in instances where it had not been determined whether manufacture has occurred.

We note this Standard does not address the issue of contaminated buildings which may be removed to another location and subsequently re-occupied.

New Zealand Legislation

Contaminated premises are also subject to the Health Act 1956. The New Zealand legislation section in the Standard (pg. 6) could usefully include the Health Act provisions for nuisance (sections 29-35), along with the appropriate mitigation by Territorial Local Authorities for contaminated buildings (section 41 cleansing order; section 42 closing order).

Foreword

Foreword section (pg. 8) could usefully include a penultimate paragraph as follows: *'Territorial Local Authorities are encouraged to incorporate this Standard into their Bylaws to enable enforcement and a nationally consistent approach to dealing with issues of methamphetamine contamination.'*

Clause, Para, Figure, Table, No	Page No		Recommended Changes and Reason
1 General **1.2 Objectives:**	9		From a public health perspective, it is important that the standard aims to achieve the objective of preventing harm from ongoing MA exposure in a previously contaminated home. If the objective is to allow some ongoing risk to occupants following reoccupation, then an attempt to justify and quantify this risk is required. Therefore, we recommend the following wording: *'The objectives of this standard are to...and the decontamination of contaminated properties is effective,* ***prevents further harm*** *...'*
1.4 Definitions	10		**Field composite sample** suggested rewording: A sample comprised of multiple ***discrete sample*** wipes ***of 100 cm^2*** collected from separate locations. A field composite sample result represents a sum accumulation of each of the ***discrete sample*** wipes. **Laboratory composite** suggested rewording: Discrete sample wipes ***of 100 cm^2*** sampled according to the procedures outlined in the NIOSH methods or validated equivalent methods, and sent to the laboratory. The lab extracts individual wipes but combines equal portions of the extracts together to form a new sample called a laboratory composite. A laboratory composite sample result represents an average of each of the ***discrete sample*** wipes
2 Overview **2.1.1 Background – ESR review and recommendations**	13		It is important to acknowledge that the Ministry's 2010 guideline clean-up level of 0.5 µg/100cm^2 has been applied throughout the Auckland region, at least, for all premises found to be contaminated with methamphetamine. This was because there was no available guidance on testing to distinguish whether methamphetamine had been manufactured or smoked, and no evidence-based guideline that could be applied where manufacture had not occurred. The interim approach taken by the standards committee i.e. for TLAs to use the lower level of 0.5 µg/100cm^2 only when there is existing evidence of MA production in the form of Police records or visible signs of manufacture will leave an unknown number of former clandestine MA laboratories contaminated to a higher level than is considered acceptable by either the Ministry of Health or the ESR health risk assessments. In addition, there would

Clause, Para, Figure, Table, No	Page No		Recommended Changes and Reason
			be some economic incentive for a landlord or occupier to remove observable signs of manufacture, and remediate to a level of 1.5-2.0 µg/100cm^2 if required, rather than to incur the expense of remediating a property to 0.5 µg/100cm^2. Therefore, ARPHS has not supported adopting the interim approach, and would like to see some guidance on appropriate testing/criteria to determine MA manufacture, such that in the absence of visible signs or Police records, human health continues to be adequately protected. ARPHS notes that the Committee representation (pg. 3) does not appear to include any clinical expertise, and we are not aware that any clinical experts reviewed the toxicological risk assessment completed by ESR. While acknowledging our lack of toxicological expertise, we offer the following summary of some potentially significant clinical risk issues with regard to the reference dose (RfD), and the exposure assessment. We hope this will be factored into the risk assessment if this has not already occurred. **Reference dose** The adopted RfD, which is the dose unlikely to induce any physiological effect, is 0.3ug/kg/bw/day. In setting the background for this risk assessment, more than one mention was made of the fact that MA is an approved medicine for therapeutic purposes, with the implicit message being that it is safe to be exposed to at these levels, and furthermore, does some people some good. In the practice of medicine, therapeutic information must be presented with full disclosure. For example, it is also true that MA is not prescribed for children less than six years of age, and has a host of known contraindications, cautions and adverse effects at therapeutic doses. Furthermore, it is accepted clinical dogma that exposing anyone to a medicine that they do not require, and that has known adverse effects, is unethical and unacceptable medical practice.

Clause, Para, Figure, Table, No	Page No		Recommended Changes and Reason
			It is unclear if all the potential contraindications, cautions and adverse effects for MA were accounted for in the California risk assessment, which applied a 10x factor for variation in susceptibility among members of the human population, and arrived at the RfD of 0.3ug/kg/day. In addition, the base study used for this calculation was aimed to control weight gain during pregnancy and looked at appetite and weight outcomes. Sleep disturbance outcomes in another study showed that even higher doses were tolerated by children. Nevertheless, from a clinical perspective, the measured outcomes are extremely gross physiological outcomes on which to base a RfD, particularly when one considers the known adverse physiological effects of MA and the insidious long-term potential effects on development. However, it is unclear whether these more important and subtle physiological and developmental outcomes were adequately accounted for in the uncertainty calculation. Finally, it is unclear if this RfD was also suitable for very young children with their notorious hand-mouth behaviours, and increased environmental contact at a time when the brain is developing intensively. No studies were presented for this age group. In addition, only animal studies were available for the effects of MA on the developing foetus. It is unclear if the 10x uncertainty factor used in applying animal studies to the human foetus is adequately precautionary for this period of in utero development when irreversible and long-term outcomes can occur. Please excuse our toxicological ignorance, but given that a 5mg/kg dose MA in mice is considered equivalent to 300-350mg in humans, and that this difference is a factor of 60x, we did wonder if an additional known 'sensitivity factor' should be included in the calculation of the RfD. In summary, the RfD should be adequately precautionary to fully protect the developing foetus, young child, pregnant woman, and those with contraindications to

Clause, Para, Figure, Table, No	Page No		Recommended Changes and Reason
			taking MA. **Exposure assessment** The assessment was based on fertile adult women, and children aged 1-2 years. However, it was not stated whether account was taken of exposures faced by the foetus and the breastfeeding child. For example, does MA become more concentrated in the unborn child or in breast milk? If this is unknown, a precautionary approach should assume greater exposure in the unborn and/or breastfeeding child. It was also unclear whether this exposure assessment was adequately protective of adults and children with behavioural issues like pica, or developmental disorders, which lead to on-going increased hand to mouth behaviour and often longer periods of time spent in the home. The exposure assessment did not take into account the inhalation route but does include exposure via the dermis and hand to mouth behaviour. However, the inhalational route is an important potential exposure pathway given that a lot of time is spent in rooms such as the kitchen, bathroom and lounge. The latter is heated in winter, while there is a lot of heat generated in kitchens and bathrooms generally, which could volatilise MA. Adult women and children are likely to face greater exposure via the inhalational route as they often spend more time in the home and women generally spend more time cooking. In addition, the exposure assessment did not take into account exposure to non-carpet porous surfaces that have not been removed such as cushions, sofas, soft toys, rugs and other chattels. These may retain residues of MA to which exposure may be via any route – dermal, oral, ingestion and inhalational, and are most likely to be sources of exposure for babies, children, women and the elderly and infirm. With the level of exposure assumed in the risk assessment, surface concentrations corresponding to a RfD 0.3ug/kg/bw/day were 2ug/100cm^2 for 1-2 year-olds and 3.8ug/100cm^2 for adult women. This assumes exposures remain constant after remediation rather than

Clause, Para, Figure, Table, No	Page No		Recommended Changes and Reason
			decreasing with time. This seems appropriate given that a home contaminated with MA to a maximum level of 1.5ug/100cm^2 would not need to be remediated, if carpets were also removed, and therefore the MA would be far more transferable and pose a greater risk to health. **MA as sentinel marker** Finally, we note that an overall assumption made by this risk assessment was that MA is an appropriate sentinel marker for unknown chemicals and heavy metals (including Pb and Hg) used in MA manufacture. While we acknowledge that the risk assessment recommends that 'mercury and lead be separately determined and remediated in former clandestine labs, as necessary, independent of this proposed standard', from the draft standard it appears that these metals will not be tested for unless there is pre-existing evidence of MA manufacture. Therefore, in the absence of any visible signs or Police records, the premises will be assumed NOT to be a former clandestine MA lab, and testing will not be done for these metals. In these instances, MA would become the de facto sentinel marker for these heavy metals, which would pose an unacceptable degree of potential risk according to the ESR risk assessment. Therefore, we recommend that heavy metal testing is done for all premises where MA contamination has been found. If present, we suggest that not only would premises require remediation as required to address heavy metal contamination, but that the premises be considered a former clandestine MA lab and be remediated as such to a level of 0. 5ug/100cm^2. In addition, MA is being used as a sentinel marker for unknown chemicals present as a result of MA manufacture. Nevertheless, there do not appear to be any studies correlating MA level to levels of any other contaminants produced in MA manufacture. This makes it impossible to determine whether the safety margin built into the MA standard clean up level of 0.5ug/100cm^2 is adequate for the risk posed to health of any chemicals other than MA. In the face of such uncertainty a very conservative approach should be

Clause, Para, Figure, Table, No	Page No		Recommended Changes and Reason
			mandated.
2.2 Options for methamphetamine residue clean-up levels	14		We recommend that 0. 5ug/100cm^2 is adopted as the single clean-up level; that Hg and Pb are tested for in addition to MA; and that all carpet and soft furnishings are disposed of to landfill. This recommendation is based on the reasons given above which suggests that not only is a precautionary approach required, but that there is never likely to be any credible evidence that a premises has not been a former clandestine MA laboratory. With regard to the specific option B for limited access areas of 3.8 (which was not covered in the ESR risk assessment), we obviously agree with the authors that limited access areas may become reservoirs of contamination. In addition, limited access areas may be altered over time to allow greater access and unexpected access may occur, for example, crawl spaces may be attractive and accessible to children and household pets. For these, and the reasons already given in section 2.1.1, we do not support a level of 3.8 for limited access areas.

Appendix 1 - Auckland Regional Public Health Service

Auckland Regional Public Health Service (ARPHS) provides public health services for the three district health boards (DHBs) in the Auckland region (Counties Manukau Health and Auckland and Waitemata District Health Boards).

ARPHS has a statutory obligation under the New Zealand Public Health and Disability Act 2000 to improve, promote and protect the health of people and communities in the Auckland region. The Medical Officer of Health has an enforcement and regulatory role under the Health Act 1956 and other legislative designations to protect the health of the community.

ARPHS' primary role is to improve population health. It actively seeks to influence any initiatives or proposals that may affect population health in the Auckland region to maximise their positive impact and minimise possible negative effects on population health.

The Auckland region faces a number of public health challenges through changing demographics, increasingly diverse communities, increasing incidence of lifestyle-related health conditions such as obesity and type 2 diabetes, infrastructure requirements, the balancing of transport needs, and the reconciliation of urban design and urban intensification issues.