

TLVs[®] for Chemical Substances
Committee
Recent Recommendations and
Innovations

Lisa M. Brosseau, ScD, CIH

University of Minnesota

Past Chair, ACGIH[®] TLVs[®] for Chemical
Substances Committee

Statistics

- 677 TLV[®]-CS substances with TWA or Ceiling
- 2005 Actions:
 - 115 Under Study
 - 37 NIC (3 for new substances, 28 to update TLVs[®])
 - New Appendix Proposed: “Substances Whose *Documentation* and Adopted TLVs[®] Have Been Withdrawn”
 - 15 Adoptions

Acrylamide

Borate compounds

1-Bromopropane

n-Butyl glycidyl ether

Dichloroacetic acid

Ethylene

Fensulfothion

Gallium arsenide

Hydrogen fluoride

Phorate

Sulfotepp

Temephos

Tetrahydrofuran

Wood dusts

Tetrakis phosphonium salts

Committee Activities

- TLV[®] Basis
- *Documentation* Last Major Revision Date
- Chemical Substance Selection
 - As part of TLV[®] Basis activity, reviewed all *Documentation* for input to chemical selection process
- Joint Cooperative Activities
 - Nordic Group, German MAK, AIHA
WEEL

D&I Activities

- Educational forum (with WEEL)
 - Pros and cons of PNOS
- Updating PNOS documentations

PNOS – The Issues

Toxicity

- No generic set of tests for toxicity of dusts
 - No clear definition of “soluble”
 - No clear definition of “clearance”
- Shape, size, and durability all play a role in toxicity
 - Ex (shape): Silicon carbide non-fibrous vs. fibrous
 - Ex (size): Titanium dioxide (ultrafine)
 - Ex (size): Asbestos vs. other fibers

What is a “Particulate”?

- Dusts come in a wide variety of forms, chemical composition, and source
 - Mineral dusts
 - Synthetic dusts
 - By-products of industrial processes
- Nothing generic about dusts in any of these categories
 - Example: Process can make a big difference (diatomaceous earth—uncalcined and calcined)

Informal Survey

- 30 industrial hygienists
 - 7 consultants, 12 industry, 5 academia, 6 government
- 6 countries
 - 16 USA, 3 UK, 6 Germany, 3 Netherlands, 1 Brazil, 1 Malaysia
- Range of business size

Responses

- Who determines the applicable OEL?
 - MSDS (5)
 - EH&S professional (16)
 - Non-EH&S professional (9)
- What criteria used to assign PNOS OEL to a substance?
 - Particle size (13)
 - All 3 criteria (8); 2 criteria (4); 1 criterion (11)
 - None of the appropriate criteria (7)

Discontinue PNOS?

- “Some substances will never have enough data for an OEL – we need a default level.”
- “All particles are likely to have adverse effects. We need a maximum limit to protect workers from high concentrations that could cause lung overload and reduce lung function.”

Discontinue PNOS?

- “There should be a maximum for all dusts, even if it doesn’t provide enough protection for small particles.”
- “Can’t abandon this guideline because people would still use it, even if it’s inappropriate.”

HOC Activities

- Group Guidance Values
- Reciprocal Mixture Formula

MISCO Activities

- Finishing large list of organophosphates
- Reviewing trichloroethylene carcinogenicity
- Reviewing isocyanates for new data on sensitization
- Finishing series of sulfides and mercaptans
 - Reviewing health vs. nuisance properties

How To Keep Up With New TLVs[®]?

- Review TLV[®]/BEI[®] Book every year:
 - Notice of Intended Changes
 - Substances and Issues Under Study
 - Introduction and Appendices
- Request *Documentation* for new and proposed TLVs[®]
- Send comments to ACGIH[®]
(science@acgih.org)

Become a Member

- Application on-line with resume/CV
- Commitment to attend 3 meetings/year, prepare at least 2 *Documentations*/year
- Must be a member of ACGIH®
- Should have good writing skills and previous experience on committees