

Report from Chemical Exposures and Chemical Mixtures Working Groups

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Chemical Exposures W. G.

- Derivation of TEELs for new chemicals
- QA of data input
- Revision of macros
- “Source of TEELs” column
- Incorporation of new TEELs in PAC list
- Update of AEGs and ERPGs
- Publication of TEELs Rev 22

QA of data input

- Independent review
 - Input data for all new chemicals
 - Strict data selection rules
 - Updated from earlier guidelines
 - RTECS now primary toxicity data source
 - SAX data previously used first
 - Revision of concentration (Y) or dose only (N) dependence of toxicity
 - Mild irritant effects no longer classified “Y”

Revision of macros

- All calculations on Input data performed using Visual Basic macros
 - Data output in worksheets “Rec TEELs” and “Rec mTEELs” carefully reviewed
 - For consistency
 - For compliance with stated data priorities
 - Macros corrected as and when necessary

“Source of TEELs” column

- Data actually used to derive PACs for particular chemical
- Inserted in Input worksheet but copied to last column of Table 4 (PACs in mg/m^3)
 - Routinely completed for all new chemicals added
 - Has to be completed one chemical at a time for chemicals already on PAC list
 - Significant effort
 - Requires data review
 - Updating data following new guidelines
 - Completed for about 1000 chemicals

Incorporation of new TEELs in PAC list

- Chemicals requiring TEELs entered in a separate workbook
 - Uses same format and macros
 - Facilitates QA review process
 - Calculation of TEELs much quicker
- After QA issues resolved, new chemicals are added to main PAC Input worksheet
 - All changes from previous revision identified

Update of AEGLs and ERPGs

- AEGLs
 - Newly approved “final” and “interim” values obtained
 - Values entered in Input worksheet
 - 60-minute AEGLs automatically selected
- ERPGs
 - Newly approved and revised values is obtained
 - Values entered in Input worksheet
- Chemicals not previously on PAC list added

Publication of TEELs Rev 22

- Macros recalculated after new chemicals, new or revised AEGLs and ERPGs added
- All intermediate worksheets and most input data deleted retaining
- Table 1: Alphabetical list and pchem data
- Table 2: PACs in original units
- Table 3: PACs arranged by CASRNs
- Table 4: PACs all in mg/m^3

Action Items

- Documentation of TEEL software changes
- TEEL derivation and last date reviewed
 - two columns to be added
- Source data reference
 - RTECS
 - HSDB
 - MSDS

Chemical Mixtures WG

- HCN derivation
- New HCNs
- Automated CMM workbook revision
- Revised workbook testing
- Automated CMM user's guide
- Web posting of files

HCN derivation

- Current CMM workbook lookup table
 - PACs for “TEELs Rev 21”
 - 2946 chemicals
 - HCNs for “TEELs Rev 19” only
 - 2234 chemicals
 - 712 “TEELs Rev 21” chemicals have no HCNs
 - HCNs developed for ~160 of these
 - New chemicals in “TEELs Rev 22” not added

New HCNs

- 45 HCNs in original CMM
 - 12 target organ HCNs for chronic effects
 - 2 target organ HCNs for acute effects
- 60 HCNs in revised list
 - 11 target organs added for acute effects
 - 4 HCNs added to distinguish between acute and chronic effects
 - Reproductive toxins
 - Nervous system and CNS toxins
 - HCN added for acute respiratory irritants

Automated CMM workbook revision

- Workbook functions and macros rewritten
- Lookup table not changed.

Revised workbook testing

- Automated CMM workbook tested
 - 10 component mixture
 - 5 component mixture
 - An actual release from a factory accident
 - Concentrations adjusted for illustrative purposes
- Additional testing to be conducted by TAG members

Automated CMM User's Guide

- User's Guide revised

Web posting of files

Status

Action Items

- SQA configuration control
 - Document changes to macros
- TEEL comparison to issued AEGs and ERPGs
 - Conservative or non-conservative?
- Accelerate production of HCNs to work off backlog