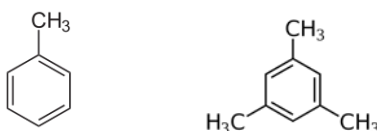


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Memo CP-D/545

Date: 18 February 2009
To: Distribution
From: N. Otsuka, S. Dunaeva
Subject: Update of dictionary 209 (Compounds) – 1-H-ARM

L. A. Rodríguez Palomino *et al.* [1] reports the total cross section of toluene (= phenyl methane, methyl benzene), mesitylene (=1, 3, 5 tri-methyl benzene) and their mixture at thermal neutron energies.



Toluene (left) and mesitylene (right)

There are two codes of aromatic compounds in dictionary 209.

1 - H - BNZ: Benzene, benzyl compounds

1 - H - PHL: Phenol, phenyl compounds

Assuming “benzyl compounds” and “phenyl compounds” in EXFOR mean chemical compounds which have benzyl and phenyl groups, these codes correspond to the following chemical structures:



Benzen (left) and benzyl compound (right)



Phenol (left) and phenyl compound (right)

For compilation of the article [1], toluene can be coded with 1 - H - BNZ, but we do not have a good code for mesitylene. “Organic compound” 1 - H - CXX might be too generic for aromatic compounds. We would propose a more generic code for aromatic compounds.

Dictionary 209 (Compounds)

1 - H - ARM Aromatic compounds except benzene, benzyl compounds,
phenol and phenyl compounds

Remark:

The simplest benzyl and phenyl compounds are toluene and benzene, respectively. So I do not understand why we did not define two codes as

1 - H - BNZ: *Toluene*, benzyl compounds

1 - H - PHL: *Benzene*, phenyl compounds

Reference

[1] L. A. Rodríguez Palomino *et al.* Nucl. Instrum. Meth. B **267** (2009) 175 (EXFOR 31662)

Images of chemical formulae in this memo are taken from Wikipedia.

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