These guidelines are to be applied in addition to those presented in the most recent edition of *Guidance for Transcription Using the Nemeth Code within UEB Contexts*.

**Background**

The *Braille Code for Chemical Notation* is based on *The Nemeth Braille Code for Mathematics and Scientific Notation*. Specific provisions for using braille symbols for the construction of chemical notation such as bonds, electron dots, ring structures, and arrows, are outlined in the *Braille Code for Chemical Notation*. If tactile illustrations are used, *Guidelines and Standards for Tactile Graphics* must be followed in preparing the tactile graphics. When transcribing chemistry, biology, and physics texts, to assure proper formation of chemical symbols and structures, refer to the most recent edition of the codes and guidelines as well as any BANA “Guidance” documentation regarding their use in conjunction with UEB.

**Front Matter**

When the rules of the Chemistry Code are used, the sourcebook must be cited on the Transcriber’s Notes page. Chemistry Code symbols used in the volume must appear on the Special Symbols page. Place the symbols under the subheading “Chemistry Code Symbols” and list them in braille order according to the rules of UEB. A description of Chemistry Code formats is not required.
Use of the Nemeth Code Switch Indicators
Narrative text should be transcribed in UEB. When it is determined that technical notation should be presented in either Nemeth Code or the Nemeth-based Chemistry Code, a switch is required. Nemeth Code switch indicators are used. See Guidance for Transcription Using the Nemeth Code within UEB Contexts for guidance on when to switch and for usage and spacing of the indicators.

- Opening Nemeth Code Indicator (followed by a space)
- Nemeth Code Terminator (preceded by a space)
- Single-word Switch Indicator

Illustrative Examples

Example 1  *When Nemeth Code is to be used for science, SYMBOLS for chemical elements as defined in Section 3.5 of the Chemistry Code require a code switch.*

The symbol for carbon is C; for silver, Ag; and for bromine, Br.

\[\text{opening Nemeth Code Indicator} \quad \text{C} \quad \text{opening Nemeth Code Indicator} \quad \text{Ag} \quad \text{opening Nemeth Code Indicator} \quad \text{Br} \quad \text{Nemeth Code Terminator}\]

Example 2  *Chemical formulae require a code switch.*

\[\text{S} \text{O}_3(\text{g}) + \text{H}_2\text{O}(\text{l}) \rightarrow \text{H}_2\text{S} \text{O}_4(\text{aq})\]

\[\text{opening Nemeth Code Indicator} \quad \text{SO}_3(\text{g}) + \text{H}_2\text{O}(\text{l}) \rightarrow \text{H}_2\text{SO}_4(\text{aq}) \quad \text{Nemeth Code Terminator}\]
Example 3  *In narrative context, chemical words may be transcribed in UEB.*

**PROBLEM:** Calculate the mass percent of Cl in Freon 112 \( (C_2Cl_4F_2) \).

You are given the molecular formula of Freon 112 and asked to find the mass percent of Cl.

\[
\% \text{ Cl} = \frac{\text{mass of Cl}}{\text{mass of Freon 112}} \times 100
\]

Example 4  *Symbols of the Chemistry Code such as the chemistry bond symbol in this example must be listed on the Special Symbols page.*

The structural formula for hydrogen peroxide is \( H\_2O\_2 \).

Example 5  *Chemistry Code format is followed regarding use of linear fractions when like terms are cancelled, and regarding the special margin requirements for linked expressions. The Chemistry Code is cited on the Transcriber’s Notes page. A description of the format is not required.*

Finally, we solve the problem.

\[
0.58 \text{ g C} \times \frac{1 \text{ mol C}}{12.01 \text{ g C}} = 4.8 \times 10^{-2} \text{ mol C}
\]
Chemical Abbreviations, Acronyms, Typeforms, and Nomenclature

- Retain typeform for chemical abbreviations, acronyms, chemical groups, and concentration of solutions as explained in Section 9 of the Chemistry Code.

- When chemical abbreviations and acronyms appear in narrative context, code switching is unnecessary. Retain typeform as necessary, using UEB capitalization, typeform indicators, punctuation, and spacing.

- When chemical abbreviations and acronyms appear in technical context, follow Nemeth Code rules regarding capitalization, typeform indicators, punctuation, and spacing. Contractions are not allowed in technical context.

Example 6  DNA and SNP – No code switching needed.

Variations in DNA, called single-nucleotide polymorphisms or SNPs, are of particular interest.

Example 7  Retain distinctive typeform for chemical abbreviations in UEB context.

Table 18.1 summarizes the $n$-alkanes through decane, which contains 10 carbon atoms.

Example 8  Chemical words in technical context (molality, moles solute, kg solvent). Do not contract. Retain distinctive typeform for chemical abbreviations ($m$).

... where molality ($m$) = \[
\frac{\text{moles solute}}{\text{kg solvent}}\.
\]
Spatial Diagrams of Molecular Structures
In spatial diagrams of molecular structures, tactile (raised line) representation of the bonds and the chemical arrows is preferred over the use of braille dots. Exception: Use braille symbols for electron dot bonds as outlined in Section 4.3 of the Chemistry Code.