Drug Nomenclature

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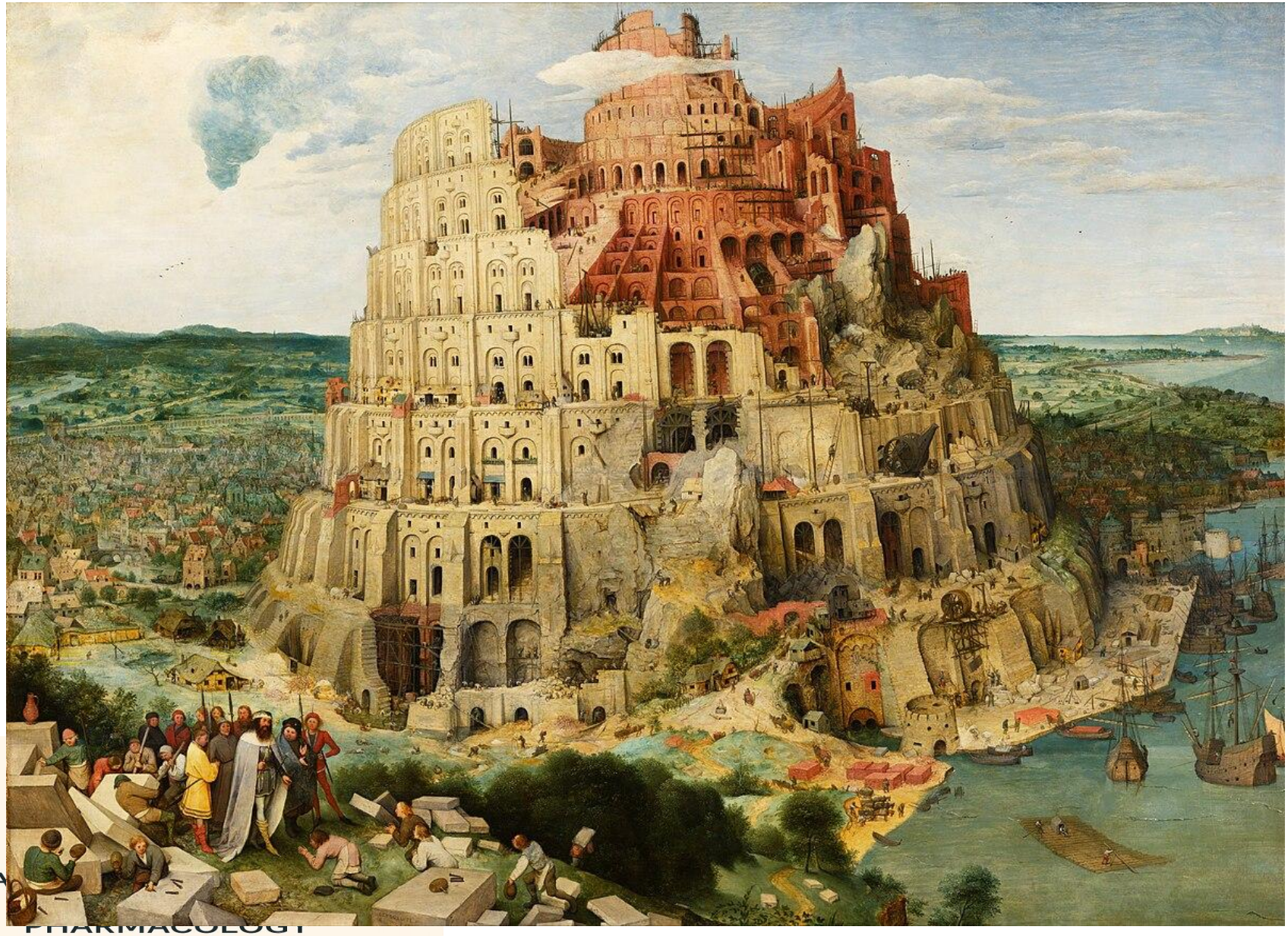

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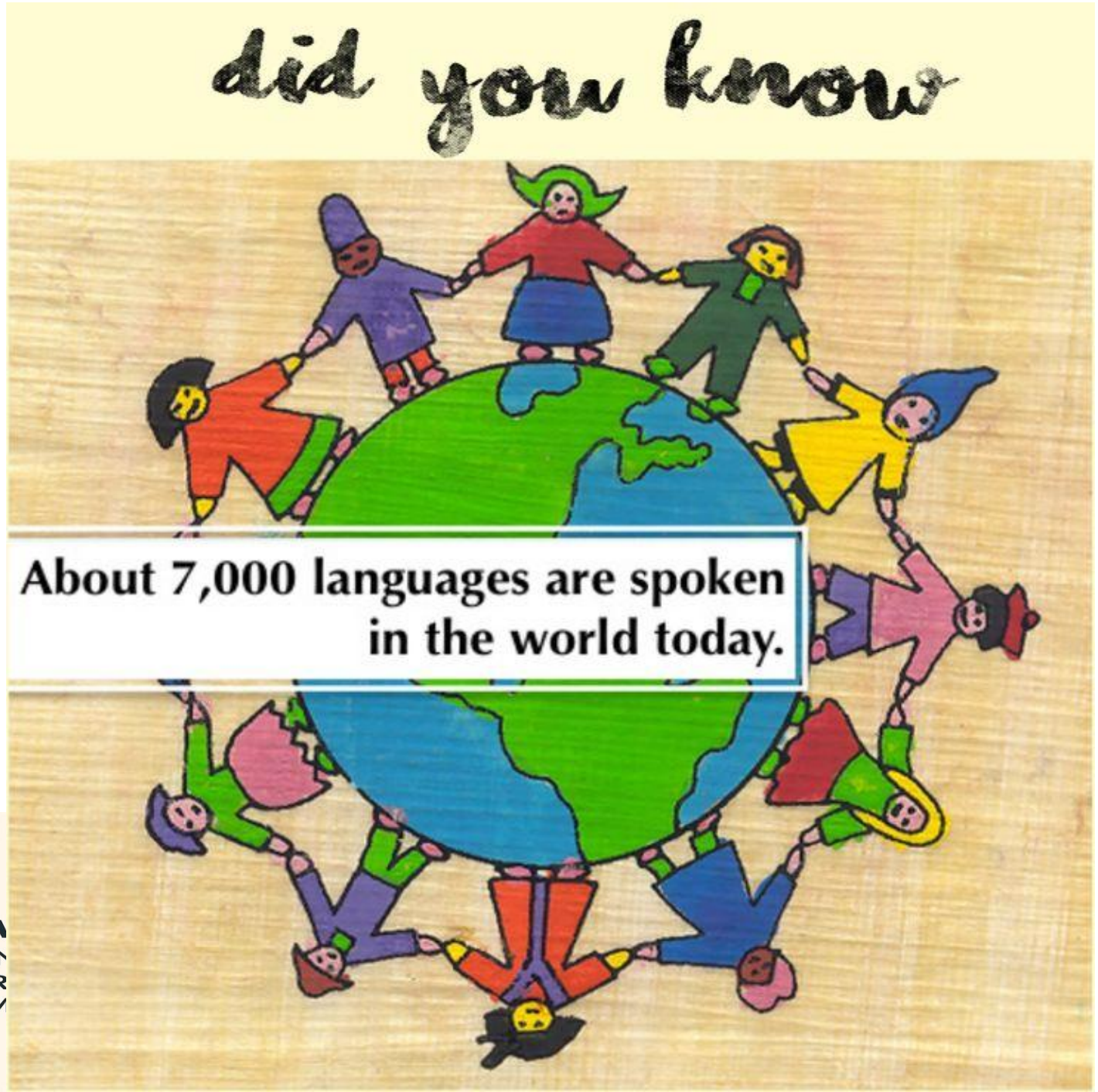

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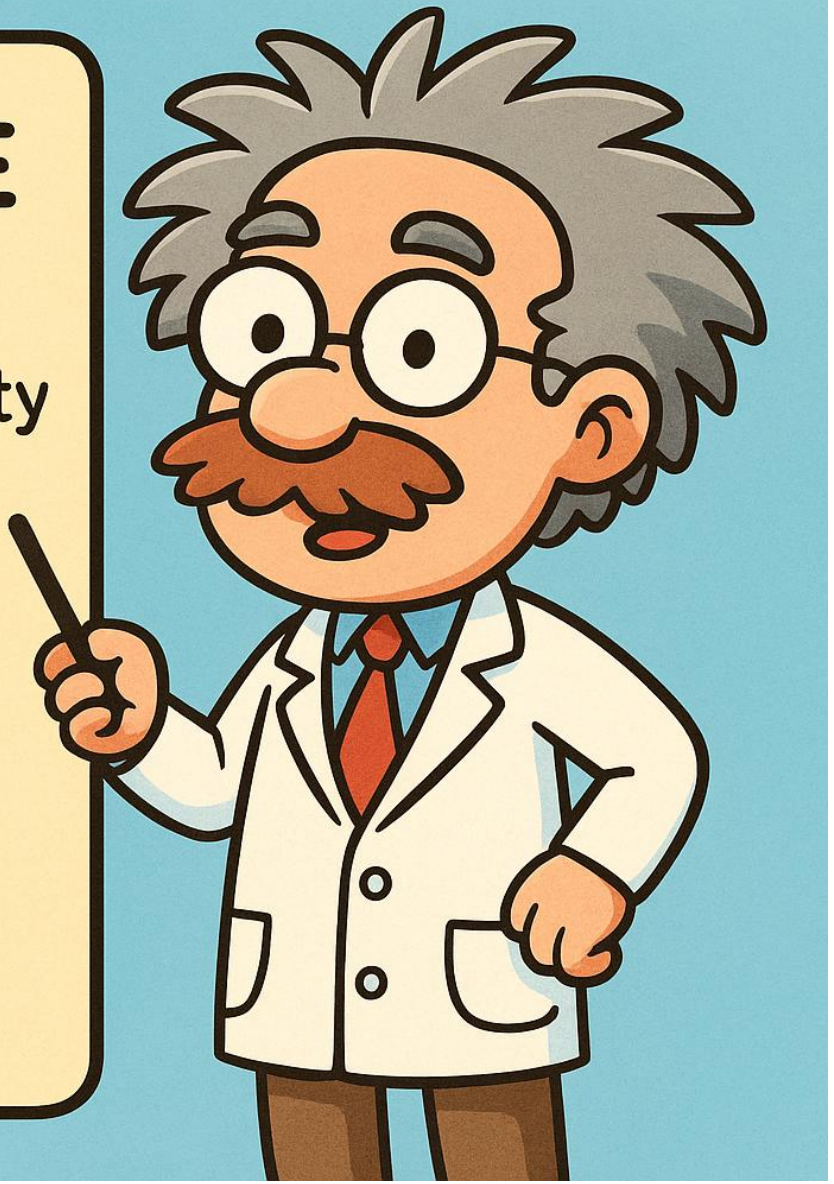
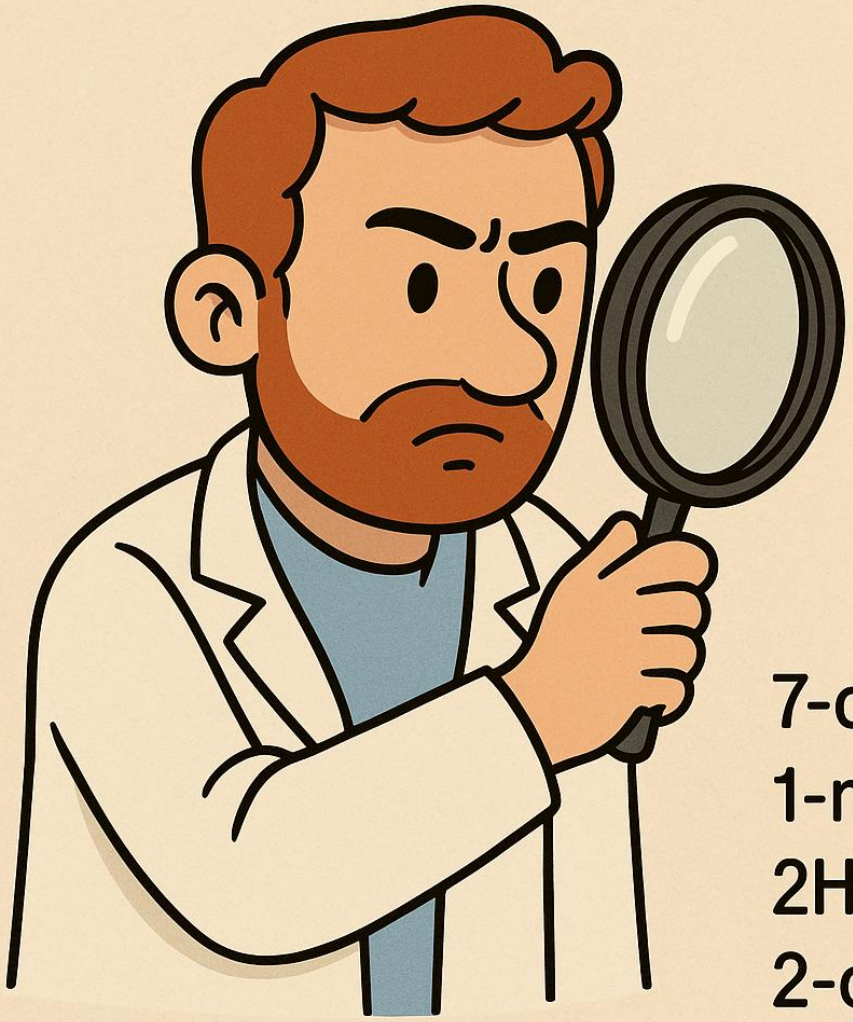
CHEMICAL NAME

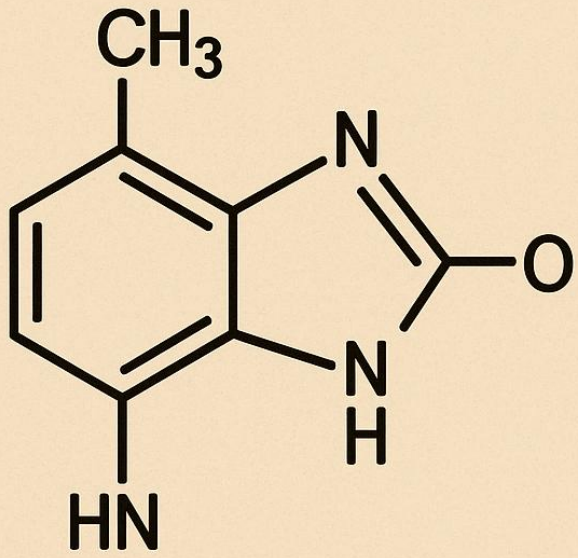
A chemical name is given when a new chemical entity (NCE) is developed and it describes the substance chemically, e.g.

7-chloro-1,3-dihydro-1-methyl-5-phenyl-2H-1,4-benzodiazepin-2-one

for diazepam







7-chloro-1,3-dihydro-
1-methyl-5-phenyl-
2H,1,4-benzodiazepin-
2-one

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IUPAC

- International union of pure and applied chemistry

- World authority on chemical nomenclature

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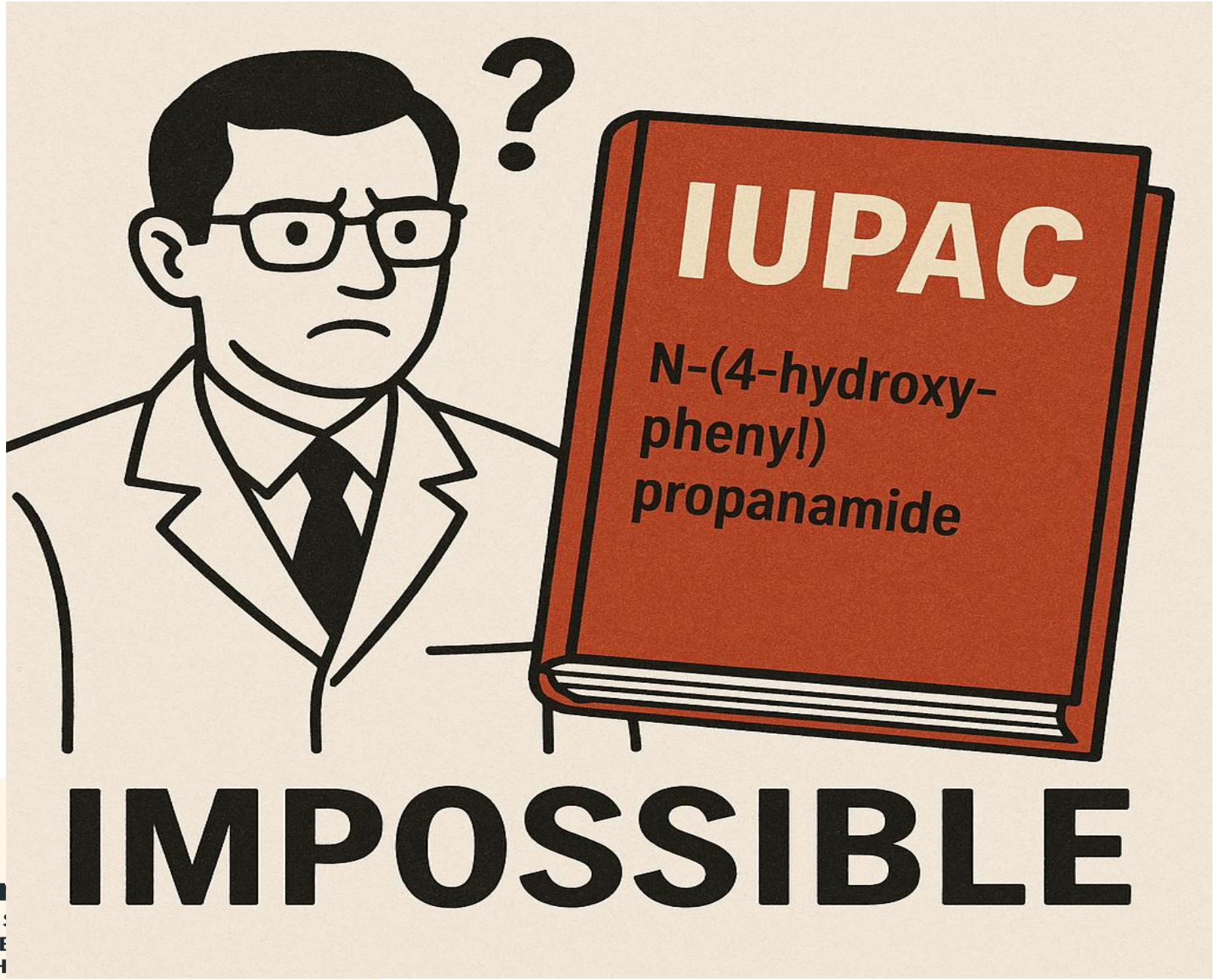
?
IUPAC
N-(4-hydroxy-
phenyl)
propanamide
IMPOSSIBLE

- If each **pharmacological active principle** were to be called differently in each country and language, it would be **disastrous** for health as well as for scientific progress

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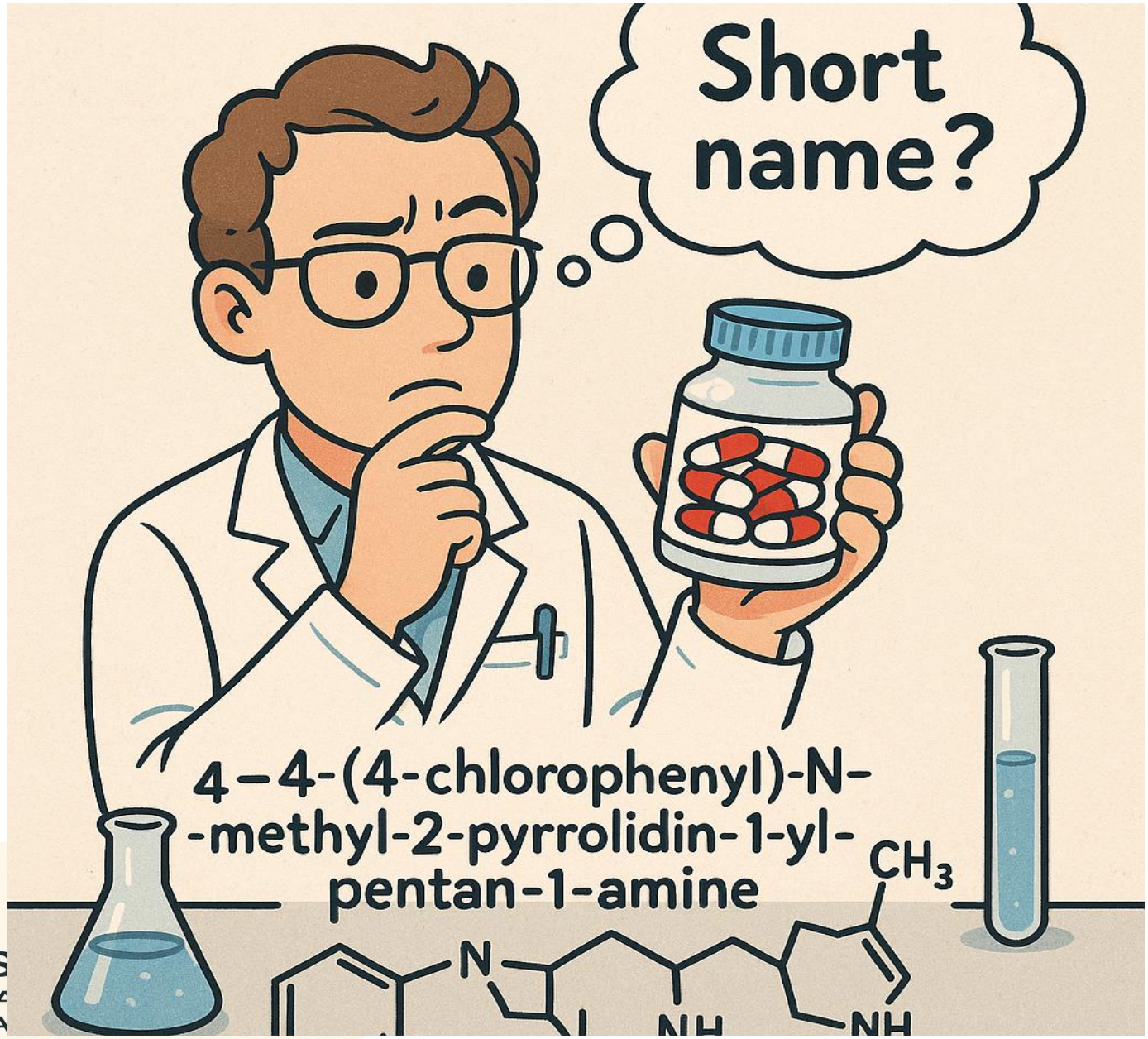

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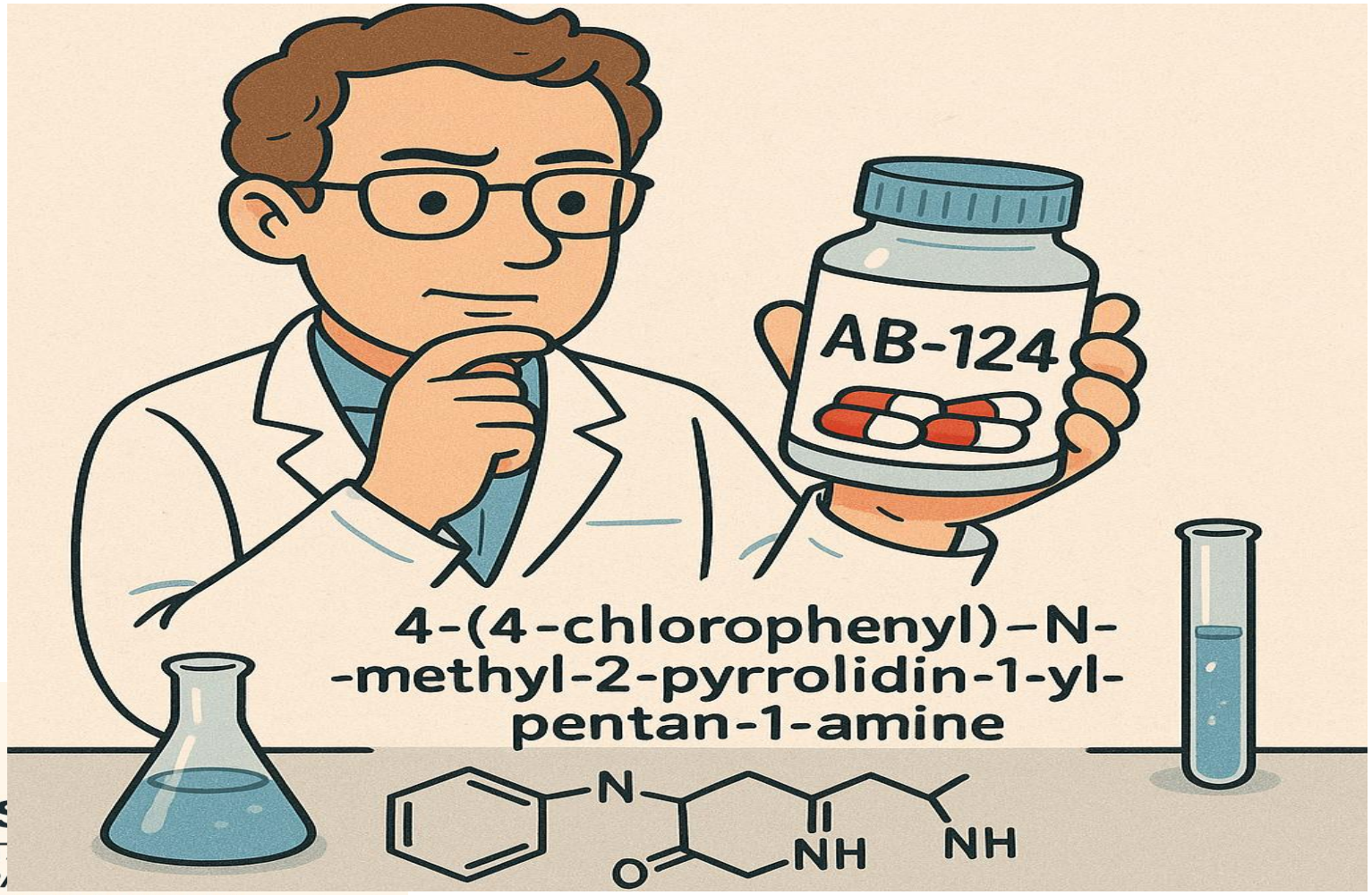
Code Name



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- Code name assigned for convenience and simplicity

- Before approved name coined

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- A drug generally has three different categories of names:

➢ chemical name,

➢ non-proprietary name and

➢ proprietary name

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- A chemical name - new chemical entity (NCE) is developed

- Describes the substance chemically,

  e.g. 7-chloro-1,3-dihydro-1-methyl-5-phenyl-2H-1,4-benzodiazepin- 2-one for diazepam

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- It is useful for chemists or technical personals as it provides the precise arrangement of atoms and atomic groups in the molecule

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- A code name, e,g. RO15-1788 (later named flumazenil) is the name given by the manufacturer for convenience and simplicity before an approved name.

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Non proprietary name

- Name accepted by a competent scientific body/authority
- Eg. USAN,BAN

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- A non-proprietary name of a drug, after its regulatory approval, is the accepted name by a competent scientific body/authority
- e.g. British Approved Name (BAN), Japanese Accepted Name (JAN) and United States Adopted Name (USAN) etc.

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- After World War II, in 1953 the World Health Assembly, the governing body of the (WHO), passed resolution WHA3.11, which stated that an expert Committee of the WHO "should undertake the selection and approval of **non-proprietary names for drugs**" together with the recommendation that national pharmacopoeias should adopt such names.

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- Such a resolution was the birth of **the international nonproprietary names (INN)** system for drug identification that we still use today for the effective and safe identification of medicines, for safe prescribing, and for teaching.

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- Until the drug is included in pharmacopoiea,the non proprietary name may also be called as **approved name**
- After its appearance in the official publication it become the official name

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- The non-proprietary names of newer drugs are kept uniform by an agreement to use the Recommended International Nonproprietary Name (rINN) in all member countries of World Health Organization (WHO)

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A pharmacopoeia - official book or standard reference that lists:

- Medicines and their formulations
- Standards for purity, strength, and quality
- Methods of preparation and storage
- Tests for identity and safety of drugs

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- It is like a **rulebook for medicines**, published by an authorized body (e.g., government or medical authority), to ensure that all medicines available in a country are safe, effective, and of uniform quality .

- Examples:

- Indian Pharmacopoeia (IP)** – India
- British Pharmacopoeia (BP)** – UK
- United States Pharmacopoeia (USP)** – USA
- European Pharmacopoeia (EP)** – Europe

- 👉 These books are legally binding for pharmaceutical companies, pharmacists, and doctors.

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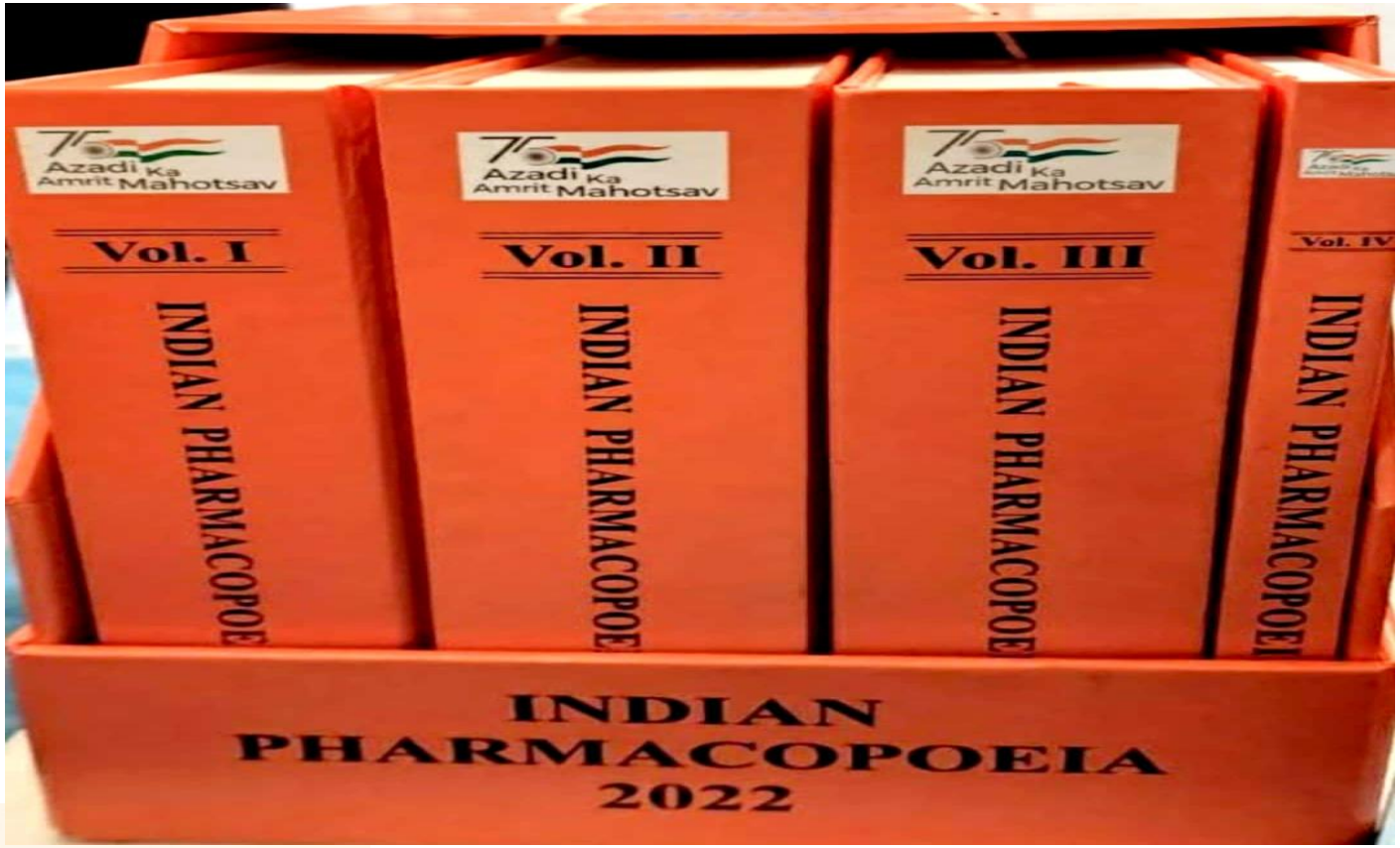

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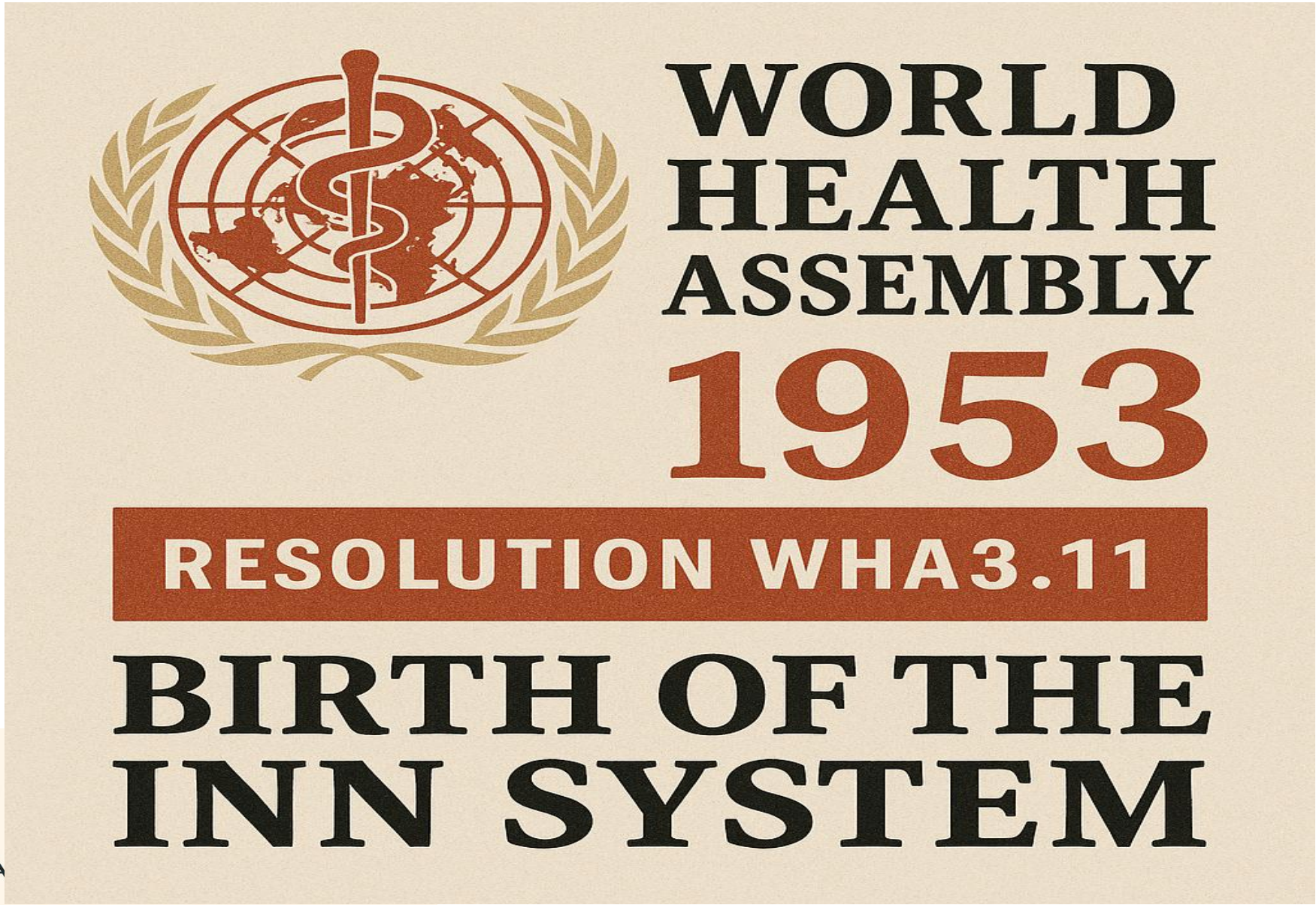

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- A proprietary name or brand name is the name assigned by the manufacturer(s) and is the property or trade mark of the concerned pharmaceutical farm

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Benefits

- Uniformity
- Convenience
- Economy and better comprehension
- Cheaper
- Chemist are free to dispense the generic product from any manufacturer

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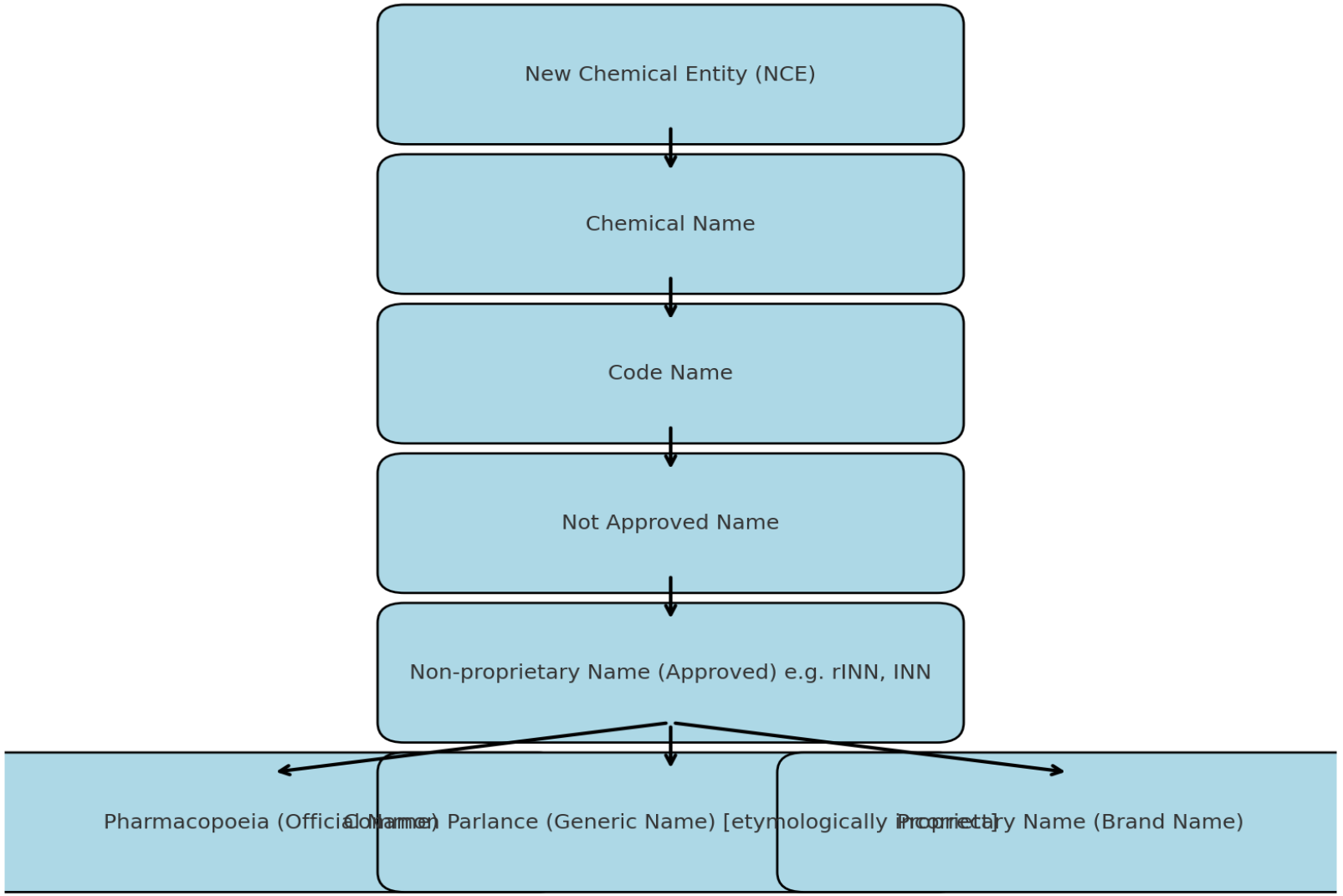
Drug Nomenclature Flow Chart



EXAMPLE

Paracetamol

CHEMICAL NAME:

N-(4-hydroxyphenyl)acetamide.

NON-PROPRIETARIY NAME:

Approved Name: Britich Approved Name (BAN): *paracetàmol*

United States Adopted Name (USAN): *Acetaminophen*

PROPRIETARY NAME:

Panadol, Calpol, Adol.

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Thank you

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