

CAS (Chemical Abstracts Service) Registration Criteria-Overview

- CAS will register in the [CAS Chemical Registry System](#) unique chemical substances which can be represented by:
 - Completely defined molecular structures (i.e., all atoms and the chemical bonds joining them are known). Different positional isomers, stereochemical isomers, and salt forms are taken into consideration. While registration recognizes different configurational or stereochemical forms of a particular substance, it does not recognize different **conformational** forms, e.g., the chair and boat forms of cyclohexane.
 - Names which clearly imply the chemical compositions of the substances although the structural details may not be sufficiently defined to establish molecular formulas, e.g. cellulose acetate [RN 9004-35-7].
- CAS will assign separate [CAS RNs \(Chemical Abstracts Service Registry Numbers\)](#) to specific ratios for salts or condensation products. For example, monobutyl phosphate, dibutyl phosphate, tributyl phosphate, as well as the indefinite ratio butyl phosphate have separate CAS RNs.
- CAS will assign a single CAS RN to a substance regardless of varying physical forms, except for naturally occurring minerals. For example, water, ice, and water vapor are all represented by CAS RN 7732-18-5.
- CAS will register specific alloys, ions, isotopes, and elementary particles.
- CAS will register synthetic and naturally occurring polymers. Specific synthetic polymers are registered on the basis of the monomeric starting materials. Naturally occurring polymeric substances are registered on the basis of their names supported by characterizing information which clearly identifies the polymer as being unique, or on the basis of their structural repeating units if known. Polymers with the same general structure which differ only by molecular weight, chain length, monomer ratio, or percentage composition are not differentiated.

Examples: 2-propenoic acid, polymer with ethene [RN 9010-77-9]
 starch [RN 9005-25-8]

- CAS will register certain complex substances, such as chemically-modified biological materials, complex reaction products, or industrial process streams, through CAS Client Services or in support of government regulatory agencies. These substances are flagged in the CAS Registry File with an asterisk to indicate they are not included in routine CAS abstracting and indexing services.

Examples: Benzene, ethenyl-, sulfurized [RN 61790-04-3 *]
 Oils, pecan [RN 129893-27-2 *]
 Hydrocarbon waxes (petroleum), oxidized [RN 64743-00-6 *]

- Although a single CAS RN is not normally assigned to an intentional mixture, CAS RNs are provided for the individual components of the mixture.
- Items excluded from routine CAS registration are substance classes, articles, biological organisms, botanical entities, and tradenames.

Examples: arylamine shampoo pineapple
 glass bottle silver compounds