Is it possible to package different hazardous materials in the same packaging?

The answer is yes if relevant criteria are met. This is what it says in § 173.24a(c) *Mixed contents:*

(1) An outer non-bulk packaging may contain more than one hazardous material only when—

(i) The inner and outer packagings used for each hazardous material conform to the relevant packaging sections of this part applicable to that hazardous material;

(ii) The package as prepared for shipment meets the performance tests prescribed in part 178 of this subchapter for the packing group indicating the highest order of hazard for the hazardous materials contained in the package;

(iii) Corrosive materials in bottles are further packed in securely closed inner receptacles before packing in outer packagings; and

(iv) For transportation by aircraft, the total net quantity does not exceed the lowest permitted maximum net quantity per package as shown in Column (9a) or (9b), as appropriate, of the § 172.101 Table of this subchapter. The permitted maximum net quantity must be calculated in kilograms if a package contains both a liquid and a solid. These requirements do not apply to limited quantity hazardous materials packaged in accordance with § 173.27(f)(2).

(2) A packaging containing inner packagings of Division 6.2 materials may not contain other hazardous materials except—

(i) Refrigerants, such as dry ice or liquid nitrogen, as authorized under the HMR;

(ii) Anticoagulants used to stabilize blood or plasma; or

(iii) Small quantities of Class 3, Class 8, Class 9, or other materials in Packing Groups II or III used to stabilize or prevent degradation of the sample, provided the quantity of such materials does not exceed 30 mL (1 ounce) or 30 g (1 ounce) in each inner packaging. The maximum quantity in an outer package, including a hazardous material used to preserve or stabilize a sample, may not exceed 4 L (1 gallon) or 4 kg (8.8 pounds). Such preservatives are not subject to the requirements of this subchapter.

(d) Liquids must not completely fill a receptacle at a temperature of 55 °C (131 °F) or less.

Additionally, the materials must be compatible and commingling of the materials in transportation would not result in a dangerous evolution of heat, flammable or poisonous gases or vapors or corrosive materials (§ 173.21(e).

Also, if you package inner containers of different compatible hazard classes in the same outer packaging, the requirements of §§ 172.301 and 173.404 apply. The outer package must display the Proper Shipping Name, identification number and hazard label, as appropriate, for each hazardous material present in the package. Furthermore, all descriptions must be described in the same manner on a shipping paper, if one is required.

The US Department of Transportation has provided an interpretive letter (Ref. No. 09-0307) on this subject.