

Definition of Terms

1. Alloy

- *are mixtures composed of two or more elements, usually metals or metalloids, for example, brass or stainless steel. Note that intermetallic alloys with well-defined stoichiometry are considered to be chemicals.*
(NICNAS/AICS)
- *a metallic material, homogeneous on a macroscopic scale, consisting of two or more elements so combined that they cannot be readily separated by mechanical means; alloys are considered to be mixtures.*
(ECHA)

2. Chemical By-product/Byproduct means:

- *A chemical substance produced without a separate commercial intent, purpose, or use during the manufacture, processing, use, or disposal of other chemical substances or mixtures.*
(U.S. EPA, Office of Pollution Prevention and Toxics)

3. Impurity means:

- *A chemical substance that is unintentionally present with another chemical substance. (40 CFR 704.3)*

A substance that was introduced as an impurity as part of one of the raw materials used as an input to the process. If such an impurity reacts during the process, the result is a manufactured substance that does not meet the impurity definition when it is in the byproduct.

Impurities are not manufactured for distribution in commerce as chemical substances per se and have no commercial purpose separate from the substance, mixture, or article of which they are a part.

(U.S. EPA, Office of Pollution Prevention and Toxics)

- *all the unintentional constituents coming from the manufacturing process or from the starting material(s). These could be the result of secondary or incomplete reactions occurring during the production and are present in the final substance even if not sought by the manufacturer.”*

(Global document template (europa.eu) - NSI)

- *are substances that are normally found in minimal concentration in the starting materials or are the result of secondary reactions that occur during the manufacturing process. These substances and partially unreacted starting materials that are present in the final product are the direct result of the preparation; are not necessary to the end use of the product; have not been intentionally added to the substance; and do not enhance the value of the substance; No registration needs if the substance is impurity in product.*

(Canada) - NSI

The chemical substance should not exceed the 5% concentration to be considered as an Impurities.

4. Isolated Intermediate/Intermediate

- *Generally chemical substances that are held in tanks primarily for the purpose of storage. They are intentionally moved from the equipment in which these are manufactured (including removal from the reaction vessel or from the equipment which is ancillary to reaction vessel, or from an equipment through which the chemical passes during continuous flow process).*

(Orientation manual)

- *Any chemical substance that is consumed, in whole or in part, in chemical reactions used for the intentional manufacture of other chemical substances or mixtures, or that is intentionally present for the purpose of altering the rates of such chemical reactions.*

(40 CFR 704.3, referenced by 40 CFR 711.3)

- *Any intermediate that is not intentionally removed from the equipment in which it is manufactured, including the reaction vessel in which it is manufactured, equipment that is ancillary to the reaction vessel, and any equipment through which the substance passes during a continuous flow process, but not including tanks or other vessels in which the substance is stored after its manufacture. Mechanical or gravity transfer through a closed system is not considered to be intentional removal, but storage or transfer to shipping containers “isolates” the substance by removing it from the process equipment in which it is manufactured. (40 CFR 704.3)*

(U.S. EPA, Office of Pollution Prevention and Toxics)

5. Non-Isolated Intermediate

- *any intermediate that is not intentionally removed from the equipment in which it is manufactured, including the reaction vessel in which it is manufactured, equipment which is ancillary to the reaction vessel, and any equipment through which the substance passes during a continuous flow process, but not including tanks or other vessels in which the substance is stored after its manufacture. Mechanical or gravity transfer through a closed system is not considered to be intentional removal, but storage or transfer to shipping containers isolates the substance by removing it from process equipment in which it is manufactured.*

(U.S. EPA)

- *an intermediate that during synthesis is not intentionally removed (except for sampling) from the equipment in which the synthesis takes place. Such equipment includes the reaction vessel, its ancillary equipment, and any equipment through which the substance(s) pass(es) during a continuous flow or batch process as well as the pipework for transfer from one vessel to another for the purpose of the next reaction step, but it excludes tanks or other vessels in which the substance(s) are stored after the manufacture.*

(ECHA)

6. Statutory Mixtures

- *waiting for industries recommendation*
- *Certain alloys, inorganic glasses, ceramics, frits and cements, including Portland cement are considered statutory mixtures. (Cement, Portland and, Chemicals [65997-15-1]; Cement, Alumina, Chemicals [65997-16-2]; Glass, Oxide, Chemicals [65997-17-3]; Frits, Chemicals [65997-18-4]; Steel Manufacture, Chemicals [65997-19-5]; Ceramic Materials and Wares, Chemicals [66402-68-4])*

(U.S. EPA)