

## Hydrogen Peroxide Substance Profile

### Identification:

Substance name:	Hydrogen peroxide
Chemical Formula:	H <sub>2</sub> O <sub>2</sub>
Molecular Mass:	34 g/mol
CAS no.:	7722-84-1
EINECS no.:	231-765-0

### Classification & Labelling:

According to Regulation (EC) 1272/2008, Annex VI.

The C&L for hydrogen peroxide is currently under revision by the hydrogen peroxide consortium members and will be reported later.

### Substance definition:

The substance to be registered is hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) as a mono-constituent substance of min 80 % (w/w) H<sub>2</sub>O<sub>2</sub> excluding water (= solvent)

### Other Information:

H<sub>2</sub>O<sub>2</sub> is produced via the AO process from H<sub>2</sub> and O<sub>2</sub> and is normally handled as an aqueous solution in concentrations ranging from dilute (< 5%) to >90% by weight. Commercial grade solutions up to 70% H<sub>2</sub>O<sub>2</sub> are generally available. Solutions over 70% are produced for special applications.

#### - Purity

For registration purposes, the composition is declared without water or solvent. The purity depends on the source and is typically > 98 % (w/w).

#### - Stabilizers and Impurities

For registration purposes also the amounts of stabilizers and impurities in H<sub>2</sub>O<sub>2</sub> need to be declared without water but based on the H<sub>2</sub>O<sub>2</sub> content.

Common stabilizers are phosphoric or other mineral acids, sodium pyrophosphate (a complexing agent to inhibit metal-catalyzed decomposition), nitrate salts, sodium stannate and organic stabilizers such as 8-hydroxyquinoline, pyridine carboxylic acids, tartaric acid and benzoic acids.

Commercial H<sub>2</sub>O<sub>2</sub> solutions contain 0.005 –1.5% organic impurities as total organic carbon. These impurities are aromatic hydrocarbons and other organic compounds used during purification of the crude product. The amounts of inorganic impurities are low; the total concentration does normally not exceed 10 ppm (total) with total heavy metals usually < 2 ppm.

The reference material for the registration dossier (IUCLID & CSR) will comply with:

- no substance that occurs in amounts > 1% is classified to the extent that the amount present requires a change in classification relative to the existing EU classification for hydrogen peroxide;
- substances which are classified by the EU as CMR Cat. 1 or 2, PBT or vPvP are not present in amounts > 0.1%. Substances for which specific concentration limits, lower than 0.1 or 1 % (w/w) have been set in Annex I of Regulation (EC) 1272/2008 (succeeding Directive 67/548/EEC) are not present in amounts that would require additional classification and labelling.
- substances for which Specific Concentration Limits, lower than above 1% or 0.1% have been set in Annex VI to CLP are not present in amounts that would require additional classification and labelling;
- substances for which concentration limits are given in any other EU Directive or Regulation (such as the former Marketing and Use Directive 76/769/EEC), are not present in amounts exceeding those limits.
- substances of very high concern (SHVC) are not present in quantities > 0.1 % (w/w).

**Individual companies are advised to check their own impurities for specific concentration limits and to inform the Consortium about the identity of the impurities and the identified limits.**