

# Hydrogen Peroxide Substance Identity Profile (SIP)

## Identification:

Substance name: Hydrogen peroxide  
Chemical Formula:  $H_2O_2$   
Molecular Mass: 34 g/mol  
CAS no.: 7722-84-1  
EINECS no.: 231-765-0

## Classification & Labelling in accordance with Regulation (EC) No. 1272/2008

Hydrogen peroxide is classified in Table 3.1 of Annex VI of the Regulation (EC) No. 1272/2008

Hazard Classes:	Oxidising Liquid Category 1:	Ox. Liq. 1	H271
	Acute oral toxicity Category 4:	Acute Tox. 4	H302
	Acute inhalation toxicity Category 4:	Acute Tox. 4	H332
	Skin Corrosion Category 1A:	Skin Corr. 1A	H314

Pictogram Code: GHS03, GHS05, GHS07  
Signal Word Code: Danger



Hazard statements:	H271	May cause fire or explosion; strong oxidiser
	H302	Harmful if swallowed
	H332	Harmful if inhaled
	H314	Causes severe skin burns and eye damage

## Substance definition:

The substance to be registered is hydrogen peroxide ( $H_2O_2$ ) as a mono-constituent substance of min 80 % (w/w)  $H_2O_2$  excluding water (= solvent)

## Other Information:

$H_2O_2$  is produced via the AO process from  $H_2$  and  $O_2$  and is normally handled as an aqueous solution in concentrations ranging from dilute (< 5%) to >90% by weight. Commercial grade solutions up to 70%  $H_2O_2$  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  $H_2O_2$  need to be declared without water but based on the  $H_2O_2$  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 vPvB 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.**