

# HYDROGEN PEROXIDE (>60% SOLUTION IN WATER)

**0164**  
April 2000

**CAS No: 7722-84-1**  
RTECS No: See Notes  
UN No: 2015  
EC No: 008-003-00-9

Hydroperoxide  
Hydrogen dioxide  
Dihydrogen dioxide  
H<sub>2</sub>O<sub>2</sub>  
Molecular mass: 34.0

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Not combustible. The substance may ignite combustible materials. Many reactions may cause fire or explosion.	NO contact with combustibles or reducing agents. NO contact with hot surfaces.	In case of fire in the surroundings: water in large amounts, water spray.
<b>EXPLOSION</b>	Risk of fire and explosion on contact with heat or metal catalysts.		In case of fire: keep drums, etc., cool by spraying with water.

EXPOSURE		PREVENT GENERATION OF MISTS! AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
<b>Inhalation</b>	Sore throat. Cough. Dizziness. Headache. Nausea. Shortness of breath.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half-upright position. Refer for medical attention.
<b>Skin</b>	Corrosive. White spots. Redness. Skin burns. Pain.	Protective gloves. Protective clothing.	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention.
<b>Eyes</b>	Corrosive. Redness. Pain. Blurred vision. Severe deep burns.	Safety goggles, or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	Sore throat. Abdominal pain. Abdominal distension. Nausea. Vomiting.	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Ventilation. Wash away spilled liquid with plenty of water. Do NOT absorb in saw-dust or other combustible absorbents. Do NOT let this chemical enter the environment. Personal protection: chemical protection suit including self-contained breathing apparatus.	O Symbol C Symbol R: 5-8-20/22-35 S: (1/2-)17-26-28-36/37/39-45 Note: B UN Hazard Class: 5.1 UN Subsidiary Risks: 8 UN Pack Group: I Special material.

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-51S2015 NFPA Code: H 2; F 0; R 3; OX	Separated from combustible and reducing substances, food and feedstuffs, strong bases, metals. Cool. Keep in the dark. Store in vented containers. Store only if stabilized.

## IMPORTANT DATA

**Physical State; Appearance**

COLOURLESS LIQUID.

**Chemical dangers**

The substance decomposes on warming or under influence of light producing oxygen, which increases fire hazard. The substance is a strong oxidant and reacts violently with combustible and reducing materials causing fire and explosion hazard particularly in the presence of metals. Attacks many organic substances, e.g., textile and paper.

**Occupational exposure limits**

TLV: 1 ppm as TWA; A3 (confirmed animal carcinogen with unknown relevance to humans); (ACGIH 2004).  
MAK: 0.5 ppm, 7.1 mg/m<sup>3</sup>; Peak limitation category: I(1);  
Carcinogen category: 4; Pregnancy risk group: C; (DFG 2005).

**Routes of exposure**

The substance can be absorbed into the body by inhalation of its vapour and by ingestion.

**Inhalation risk**

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20/C.

**Effects of short-term exposure**

The substance is corrosive to the eyes and the skin. The vapour is irritating to the respiratory tract. Ingestion of this substance may produce oxygen bubbles (embolism) in the blood, resulting in shock.

**Effects of long-term or repeated exposure**

Lungs may be affected by inhalation of high concentrations. The substance may have effects on the hair, resulting in bleaching.

## PHYSICAL PROPERTIES

Boiling point: 141/C (90%), 125/C (70%)  
Melting point: -11/C (90%), -39/C (70%)  
Relative density (water = 1): 1.4 (90%), 1.3 (70%)  
Solubility in water: miscible

Vapour pressure, kPa at 20/C: 0.2 (90%), 0.1 (70%)  
Relative vapour density (air = 1): 1  
Relative density of the vapour/air-mixture at 20/C (air = 1): 1.0  
Octanol/water partition coefficient as log Pow: -1.36

## ENVIRONMENTAL DATA

The substance is toxic to aquatic organisms.

## NOTES

Rinse contaminated clothes (fire hazard) with plenty of water.  
RTECS MX900000 refers to >90% solution; MX0887000 refers to >30% solution.  
Other UN numbers: 2014 (hydrogen peroxide, aqueous solution 20-60%): hazard class 5.1, subsidiary hazard 8, pack group II; 2984 (hydrogen peroxide, aqueous solution 8-20%): hazard class 5.1, pack group III.  
Card has been partly updated in October 2004 and 2005. See sections Occupational Exposure Limits, EU classification, Emergency Response.

## ADDITIONAL INFORMATION

## LEGAL NOTICE

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