



# Hydrogen Peroxide 70%

## Material Safety Data Sheet

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Identification of the substance or mixture

<b>Product Name</b>	: Hydrogen Peroxide 70%
<b>Chemical Name</b>	: Hydrogen Peroxide Aqueous Solution
<b>Synonyms</b>	: Hydrogen dioxide, hydroperoxide, peroxide
<b>Chemical Formula</b>	: H <sub>2</sub> O <sub>2</sub>
<b>Molecular Weight</b>	: 34 g
<b>CAS No</b>	: 7722-84-1
<b>EINECS No</b>	: 231-765-0

#### 1.2. Use of the Substance/Mixture

<b>Recommended use</b>	: - Bleaching agent - Chemical industry - Metal treatment - Oxidising Agents - Pulp and pape
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#### 1.3. Company/Undertaking Identification

<b>Company Name</b>	: Hidrojen Peroksit Sanayi ve Tic. A.Ş.
<b>Address</b>	: 600 Evler Mah. Atatürk cad. No:70 Bandırma/Balıkesir TÜRKİYE
<b>Telephone</b>	: +90 266 721 03 12
<b>Fax</b>	: +90 266 721 03 11

### 2. HAZARDS IDENTIFICATION

<b>Appearance</b>	: liquid
<b>Colour</b>	: colourless
<b>Odour</b>	: pungent

- Classified as hazardous according to criteria of NOHSC.
- Classified as dangerous goods according to the ADG Code
- Oxidizing
- Corrosive
- Contact with combustible material may cause fire.
- Harmful by inhalation and if swallowed.
- Causes burns.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS



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Material	CAS No	%Concentration	EC No.	EC Class
Hydrogen Peroxide	7722-84-1	70	231-765-0	O, C, Xn; R5- R8-R20/22-R35
Water	7732-18-5	30	231-791-2	Not classified

## 4. FIRST AID MEASURES

### 4.1. Inhalation

- In case of accident by inhalation: remove casualty to fresh air and keep at rest.
- Oxygen or artificial respiration if needed.
- Keep warm and in a quiet place.
- Victim to lie down in the recovery position, cover and keep him warm.
- Call a physician immediately.

### 4.2. Eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Consult with an ophthalmologist immediately in all cases.
- Take victim immediately to hospital.

### 4.3. Skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- Keep warm and in a quiet place.
- Wash contaminated clothing before re-use.
- Call a physician immediately.

### 4.4. Ingestion

- Call a physician immediately.
- Take victim immediately to hospital.

#### ***If victim is conscious:***

- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.

#### ***If victim is unconscious but breathing:***

- Artificial respiration and/or oxygen may be necessary.

## 5. FIRE-FIGHTING MEASURES



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### 5.1. Suitable extinguishing media

- Water
- Water spray

### 5.2. Extinguishing media which shall not be used for safety reasons

- None.

### 5.3. Special exposure hazards in a fire

- Oxidising
- Oxygen released in thermal decomposition may support combustion
- Contact with combustible material may cause fire.
- Contact with flammables may cause fire or explosions.
- Risk of explosion if heated under confinement.

### 5.4. Special protective equipment for fire-fighters

- Evacuate personnel to safe areas.
- In the event of fire, wear self-contained breathing apparatus.
- When intervention in close proximity wear acid resistant over suit.
- Clean contaminated surface thoroughly.

### 5.5. Other information

- Keep product and empty container away from heat and sources of ignition.
- Keep containers and surroundings cool with water spray.
- Approach from upwind.
- HAZCHEM Code: 2P

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions

- Refer to protective measures listed in sections 7 and 8.
- Isolate the area.
- Keep away from Incompatible products.
- Prevent further leakage or spillage if safe to do so.
- In case of contact with combustible material, keep material wet with plenty of water.

### 6.2. Environmental precautions

- Limited quantity
- Flush into sewer with plenty of water.
- Large quantities:
- If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3. Methods for cleaning up

- Dam up.
- Soak up with inert absorbent material.
- Dilute with plenty of water.
- Do not add chemical products.
- Treat recovered material as described in the section "Disposal considerations".
- Never return spills in original containers for re-use.

## 7. HANDLING AND STORAGE

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### 7.1. Handling

- Use only in well-ventilated areas.
- Keep away from heat.
- Keep away from Incompatible products.
- May not get in touch with:
  - Organic materials
- Use only equipment and materials which are compatible with the product.
- Before all operations, passivate the piping circuits and vessels according to the procedure recommended by the producer.
- Never return unused material to storage receptacle.
- Use only in an area with adequate water supply
- Containers and equipment used to handle the product should be used exclusively for that product.- Keep at temperature not exceeding 60 °C.

### 7.2. Storage

- Keep in a cool, well-ventilated place.
- Keep away from heat.
- Keep away from incompatible products
- Keep away from combustible material.
- Store in a receptacle equipped with a vent.
- Store in original container.
- Keep container closed.
- Keep in a banded area.
- Regularly check the condition and temperature of the containers.
- Information about special precautions needed for bulk handling is available on request

### 7.3. Specific use(s)

- For further information, please contact: Supplier

### 7.4. Packaging material

- Aluminium 99,5 %
- Stainless steel 304L / 316L
- Approved grades of HDPE.

### 7.5. Other information

- Refer to protective measures listed in sections 7 and 8.
- Do not confine the product in a circuit, between closed valves, or in a container without a vent.
- In industrial installations, apply the rules for the prevention of major accidents (consult an expert).

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1. Exposure Limit Values

#### Hydrogen peroxide

- US. ACGIH Threshold Limit Values 2009  
time weighted average = 1 ppm
- Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment) 08 2005  
time weighted average = 1 ppm  
time weighted average = 1.4 mg/m<sup>3</sup>
- Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment) 08 2005  
Remarks: Listed

### 8.2. Exposure controls

- Provide appropriate exhaust ventilation at machinery.
- Apply technical measures to comply with the occupational exposure limits.
- Refer to protective measures listed in sections 7 and 8.

#### 8.2.1. Occupational exposure controls

##### 8.2.1.1. Respiratory protection

- In case of emissions, face mask with type NO-P3 cartridge.
- Self-contained breathing apparatus in medium confinement/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.
- Use only respiratory protection that conforms to international/ national standards.

##### 8.2.1.2. Hand protection

- Protective gloves - impervious chemical resistant:
  - PVC
  - Rubber gloves
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

##### 8.2.1.3. Eye protection

- Chemical resistant goggles must be worn.
- If splashes are likely to occur, wear:
  - Tightly fitting safety goggles
  - Face-shield

##### 8.2.1.4. Skin and body protection

- Protective suit
  - If splashes are likely to occur, wear:
    - Apron
    - Boots
    - Suitable material
    - PVC
    - Rubber products

##### 8.2.1.5. Hygiene measures

- Use only in an area equipped with a safety shower.
- Eye wash bottle with pure water



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- When using do not eat, drink or smoke.
- Handle in accordance with good industrial hygiene and safety practice.

### 8.2.2. Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General Information (appearance, odour)

<b>Appearance</b>	: liquid
<b>Colour</b>	: colourless
<b>Odour</b>	: pungent

### 9.2. Important health safety and environmental information

<b>pH</b>	: <3
	<i>Remarks:</i> Apparent pH

**Boiling point/boiling range** : 125 °C (H<sub>2</sub>O<sub>2</sub> 70 %)

<b>Flash point</b>	: <i>Remarks:</i> The product is not flammable.
<b>Flammability</b>	: <i>Remarks:</i> The product is not flammable.
<b>Explosive properties</b>	: <i>Explosion danger:</i> <i>Remarks:</i> With certain materials (see section 10). <i>Remarks:</i> In case of heating:
<b>Oxidizing properties</b>	: <i>Remarks:</i> Oxidizing
<b>Vapour pressure</b>	: 8-9 mbar (H <sub>2</sub> O <sub>2</sub> 70 %) <i>Remarks:</i> Total pressure (H <sub>2</sub> O <sub>2</sub> + H <sub>2</sub> O) <i>Temperature:</i> 20 °C : 45 mbar (H <sub>2</sub> O <sub>2</sub> 70 %) <i>Remarks:</i> Total pressure (H <sub>2</sub> O <sub>2</sub> + H <sub>2</sub> O) <i>Temperature:</i> 50 °C : 2 mbar (H <sub>2</sub> O <sub>2</sub> 70 %) <i>Remarks:</i> Total pressure (H <sub>2</sub> O) <i>Temperature:</i> 30 °C
<b>Relative density / Density</b>	: 1.29 (H <sub>2</sub> O <sub>2</sub> 70 %)
<b>Solubility</b>	: Soluble in: : Water : Polar organic solvents
<b>Partition coefficient: n-octanol/water</b>	: <i>Remarks:</i> no data available
<b>Viscosity</b>	: 1.24 mPa.s (H <sub>2</sub> O <sub>2</sub> 70 %) <i>Temperature:</i> 20 °C
<b>Vapour density</b>	: 1.02 (H <sub>2</sub> O <sub>2</sub> 70 %)
<b>9.3. Other data</b>	
<b>Freezing point:</b>	: -40.3 °C (H <sub>2</sub> O <sub>2</sub> 70 % )
<b>Auto-flammability</b>	: <i>Remarks:</i> The product is not flammable.
<b>Surface tension</b>	: 77.2 mN/m (H <sub>2</sub> O <sub>2</sub> 70 %)



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*Temperature:* 20 °C

**Decomposition temperature:**  $\geq 60$  °C

*Remarks:* Self-Accelerating decomposition temperature (SADT)

:  $< 60$  °C

*Remarks:* Slow decomposition

## 10. STABILITY AND REACTIVITY

### 10.1. Stability

- Potential for exothermic hazard
- Stable under recommended storage conditions.

### 10.2. Conditions to avoid

- Contamination
- To avoid thermal decomposition, do not overheat.

### 10.3. Materials to avoid

Acids, Bases, Metals, Salts of metals, Reducing agents, Organic materials, Flammable materials

### 10.4. Hazardous decomposition products

- Oxygen
- The release of other hazardous decomposition products is possible

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Toxicological data

#### **Acute oral toxicity**

- LD50, rat, 841 mg/kg (H<sub>2</sub>O<sub>2</sub> 60 %)

#### **Acute inhalation toxicity**

- LC50, 4 h, rat, 2,000 mg/m<sup>3</sup> (Hydrogen peroxide)

#### **Acute dermal toxicity**

- LD50, rabbit,  $> 2,000$  mg/kg (H<sub>2</sub>O<sub>2</sub> 70 %)

#### **Skin irritation**

- rabbit, corrosive effects, 1 h (H<sub>2</sub>O<sub>2</sub>  $\geq 50$  %)

#### **Eye irritation**

- Risk of serious damage to eyes. (H<sub>2</sub>O<sub>2</sub> 70 %)

#### **Irritation (other route)**

- Inhalation, mouse, Irritating to respiratory system., RD 50 = 665 mg/m<sup>3</sup>, (Hydrogen peroxide)

#### **Sensitisation**

- guinea pig, Did not cause sensitization on laboratory animals.

#### **Chronic toxicity**

- Oral, Prolonged exposure, Various species Target Organs: gastro-intestinal system, observed effect
- Inhalation, Repeated exposure, rat, Lowest observable effect level: 14.6 mg/m<sup>3</sup>, irritant effects

#### **Carcinogenicity**

- Oral, Prolonged exposure, mouse, Target Organs: duodenum, carcinogenic effect
- Dermal, Prolonged exposure, mouse, Animal testing did not show any carcinogenic effects.

#### **Genetic toxicity in vitro**



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- In vitro, without metabolic activation, mutagenic effects

### ***Genetic toxicity in vivo***

- Animal testing did not show any mutagenic effects.

### ***Possible hazards (summary)***

- Corrosive effects
- Carcinogenic effect not applicable to human

## **11.2. Health effects**

### ***Main effects***

- The product causes burns of eyes, skin and mucous membranes.

### ***Inhalation***

- Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.
- Breathing difficulties
- Inhaled corrosive substances can lead to a toxic oedema of the lungs.
- Nausea
- Vomiting
- Repeated or prolonged exposure: Risk of sore throat, nose bleeds, chronic bronchitis.

### ***Eye contact***

- Severe eye irritation
- Redness
- Lachrymation
- Swelling of tissue
- Risk of serious damage to eyes.
- May cause permanent eye injury.
- May cause blindness.

### ***Skin contact***

- Severe skin irritation
- Redness
- Swelling of tissue
- Causes burns.

### ***Ingestion***

- Paleness and cyanosis of the face.
- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
- Risk of shock.
- Excessive fluid in the mouth and nose, with risk of suffocation.
- Risk of throat (o)edema and suffocation.
- Bloating of stomach, belching.
- Nausea
- Bloody vomiting
- Cough
- Breathing difficulties
- Risk of chemical pneumonitis and pulmonary (o)edema.

## **12. ECOLOGICAL INFORMATION**

### **12.1. Ecotoxicity effects**





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#### **Acute toxicity**

- Fishes, Pimephales promelas, LC50, 96 h, 16.4 mg/l
- Fishes, Pimephales promelas, NOEC, 96 h, 5 mg/l
- Crustaceans, EC50, 48 h, 2.4 mg/l
- Crustaceans, NOEC, 48 h, 1 mg/l

#### **Chronic toxicity**

- Molluscs, NOEC, 56 Days, 2 mg/l
- Algae, Chlorella vulgaris, EC50, growth rate, 72 h, 4.3 mg/l
- Algae, Chlorella vulgaris, NOEC, 72 h, 0.1 mg/l

#### **12.2. Mobility**

- Air, Volatility, Henry's law constant (H) = 1 Pa.m<sup>3</sup>/mol  
Conditions: 20 °C  
Remarks: not significant
- Air, condensation on contact with water droplets  
Remarks: rain washout
- Water Remarks: The product evaporates slowly.
- Soil/sediments  
Remarks: non-significant evaporation and adsorption

#### **12.3. Persistence and degradability**

##### **Abiotic degradation**

- Air, indirect photo-oxidation, t 1/2 from 16 - 20 h  
Conditions: sensitizer: OH radicals
- Water, redox reaction, t 1/2 from 25 - 100 h  
Conditions: mineral and enzymatic catalysis, fresh water
- Water, redox reaction, t 1/2 from 50 - 70 h  
Conditions: mineral and enzymatic catalysis, salt water
- Soil, redox reaction, t 1/2 from 0.05 - 15 h  
Conditions: mineral catalysis

##### **Biodegradation**

- aerobic, t 1/2 < 2 min  
Conditions: biological treatment sludge Remarks: Readily biodegradable.
- aerobic, t 1/2 from 0.3 - 5 d  
Conditions: fresh water  
Remarks: Readily biodegradable.
- anaerobic  
Remarks: not applicable
- Effects on waste water treatment plants, Inhibitor > 30 mg/l  
Remarks: inhibitory action

#### **12.4. Bioaccumulative potential**

- Bioaccumulative potential  
Result: Does not bioaccumulate.



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### 12.5. Other adverse effects

- no data available

### 12.6. Possible hazards (summary)

- Toxic to aquatic organisms.
- Nevertheless, hazard for the environment is limited due to product properties:
- . no toxicity of degradation products (H<sub>2</sub>O and O<sub>2</sub>).
- Inherently biodegradable.
- Does not bioaccumulate

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste from residues / unused products

- In accordance with local and national regulations.
- Limited quantity
- Dilute with plenty of water.
- Flush into sewer with plenty of water.
- Large quantities:
- Contact manufacturer.

### 13.2. Packaging treatment

Empty containers.  
Clean container with water.  
Dispose of rinse water in accordance with local and national regulations.  
Do not rinse the dedicated containers.  
The empty and clean containers are to be reused in conformity with regulations.

## 14. TRANSPORT INFORMATION

<b>UN-Number</b>	<b>2014</b>
<b>IATA-DGR</b>	
Class	FORBIDDEN
Proper shipping name: HYDROGEN PEROXIDE, STABILIZED	
<b>IMDG</b>	
Class	5.1
Sub-risks	Corrosive
Packing group	II
IMDG-Labels	OXIDIZING AGENT + CORROSIVE
HI/UN No.	2015
EmS:	F-H, S-Q
Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED	
<b>ADG</b>	
Class	5.1
Sub-risks	8
Packing group	I



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ADG-Labels	5.1 + 8
HI/UN No.	559/2015
Special Provision 640A:	6400

Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION

### Remarks:

- HAZCHEM Code: 2P

## 15. REGULATORY INFORMATION

### 15.1. Labels

- Hazardous components which must be listed on the label: Hydrogen peroxide
- Classified as hazardous according to criteria of NOHSC

Symbol(s)	O C	Oxidising Corrosive
R-phrases(s)	R 5 R 8 R20/22 R35	Heating may cause an explosion Contact with combustible material may cause fire. Harmful by inhalation and if swallowed Causes severe burns.
S-phrases(s)	S 1/2 S17 S26 S28 S36/37/39 S45	Keep locked up and out of the reach of children. Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## 16. OTHER INFORMATION

### 16.1 Text of R phrases mentioned in Section 3

- R 5: Heating may cause an explosion.
- R 8: Contact with combustible material may cause fire.
- R35: Causes severe burns.
- R20/22: Harmful by inhalation and if swallowed.

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal



**Hidrojen Peroksit**  
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hygiene, and protection of human welfare and the environment

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