



Hidrojen Peroksit

SANAYİ VE TİCARET A.Ş.

Doc.No.: KAL-SPEC-009
Date Approved:10/22/2008
Revision No.:2

MATERIAL SAFETY DATA SHEET

Hydrogen Peroxide (20 to 40 %)

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Hydrogen peroxide solution (20 to 40%)
COMPANY NAME : Hidrojen Peroksit A.Ş.
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2. INFORMATION ON INGREDIENTS

Chemical Name :Aqueous solution
Chemical Formula :H₂O₂
Synonyms :Perhydrol , Hyperox,Peroxide
Hazardous ingredients
Name according to EC Directive :Hydrogen Peroxide
Hazard symbols :O C
Cas No :7722 -84 -1
EC No. :231-765-0
Content :20-40% Hydrogen Peroxide
Recommended uses :Used in bleaching textiles, food , hair ,
paper and other materials; component of rocket propellant; used in the
manufacture of a wide range of chemicals, plastics , pharmaceuticals; used in
photography , electroplating , water tretament and wastewater treatment.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- Toxicity effects principally related to its corrosive properties.
- Oxidizer.
- Contact with combustibles may cause fire.
- Decomposes yielding oxygen that supports combustion of organic matters and can cause overpressure if confined.
- Corrosive to eyes, nose, throat, lungs and gastrointestinal tract.

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POTENTIAL HEALTH EFFECTS: Corrosive to eyes, skin, nose, throat and lungs. May cause irreversible tissue damage to the eyes including blindness. May cause skin irritation.

Inhalation :

- Nose and throat irritation.
- Cough.
- In case of repeated or prolonged exposure; risk of sore throat, nose bleeds, chronic bronchitis.

Eyes :

- Severe eye irritation ,watering,redness and swelling of the eyelids.
- Risk of serious or permanent eye lesions.

Skin contact :

- Irritation and temporary whitening at contact area.
- Risk of burns.

Ingestion :

- Paleness and cyanosis of the face.
- Severe irritation, risk of burns and perforation of the gastrointestinal track accompanied by shock.
- Excessive fluid in the mouth and nose, with risk of suffocation.
- Risk of throat, edema (fluid in lungs) and suffocation.
- Nausea , vomiting (bloody)
- Risk of chemical pneumonitis from product inhalation.

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4. FIRST AID MEASURES

Inhalation:

- Remove to fresh air .
- If breathing difficulty or discomfort occurs, call physician.

Eyes:

- Immediately flush with water for at least 15 minutes, while keeping the eyelids open.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Consult with an ophthalmologist in all cases.

Skin:

- Wash with large amounts of water.
- If irritation persists, see a physician.

Ingestion:

- If swallowed, drink plenty of water immediately to dilute.
- Do not induce vomiting or give anything by mouth to an unconscious person.
- See physician.

Notes to Physician :

Hydrogen peroxide at these concentrations is a strong oxidant. Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. There is a remote possibility, however, that a nasogastric or orogastric tube may be required for the reduction of severe distension due to gas formation.

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5. FIRE FIGHTING MEASURES

Extinguishing Media: Preferably water or water fog. Carbon dioxide and dry chemical may also be used.

Fire / Explosion Hazards: Product is non-combustible. On decomposition H₂O₂ releases oxygen which may intensify fire.

Fire Fighting Procedures: Any tank or container surrounded by fire should be flooded with water for cooling. Wear full protective clothing and self-contained breathing apparatus.

Flammable Limits: Non-combustible

Sensitivity to Impact: No data available

Sensitivity to Static Discharge: No data available

6. ACCIDENTAL RELEASE MEASURES

- Dilute with large volume of water and hold in a pond or diked area until H₂O₂ decomposes.
- Dispose according to methods outlined for waste disposal.

7. HANDLING AND STORAGE

Handling:

- Wear chemical splash-type monogoggles and full-face shield, impervious clothing, such as rubber, PVC, etc., and rubber or neoprene gloves and shoes.
- Avoid cotton, wool and leather. Avoid excessive heat and contamination. Contamination may cause decomposition and generation of oxygen gas which could result in high pressures and possible container rupture.
- Hydrogen peroxide should be stored only in vented containers and transferred only in a prescribed manner.
- Never return unused hydrogen peroxide to original container, empty drums should be triple rinsed with water before discarding.
- Utensils used for handling hydrogen peroxide should only be made of glass, stainless steel, aluminum or plastic.

Storage:

- Store drums in cool areas out of direct sunlight and away from combustibles.
- Keep away from incompatible products.
- Keep in container fitted with safety valve or vent.
- Keep in original packaging, closed.
- Provide containment diking for storage of the packages and transfer installation.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

<u>Chemical Name</u>	<u>ACGIH</u>	<u>OSHA</u>
Hydrogen peroxide	1ppm(TWA)	1ppm(PEL)

Exposure Controls:

- Ventilation should be provided to minimize the release of hydrogen peroxide vapors and mists into the work environment.
- Spills should be minimized or confined immediately to prevent release into the work area.
- Remove contaminated clothing immediately and wash before reuse.

Personal protective equipment:

Eyes and face:

- Use chemical splash-type monogoggles and a full-face shield made of polycarbonate, acetate, polycarbonate/acetate, PETG or thermoplastic.

Hand protection:

- Liquid proof rubber or neoprene gloves.

Respiratory:

- If concentrations in excess of 10ppm are expected use approved self-contained breathing apparatus.
- Do not use oxidizable sorbants such as activated carbon.

9. PHYSICAL AND CHEMICAL PROPERTIES

Odor:	Slightly pungent
Apperance:	Clear, colorless liquid
Autoignition temperature:	Non-combustible
Boiling point:	103 °C (218 °F)(20%) 108 °C(226 °F) (35%)
Coefficient of oil/water:	Not available
Density/weight per volume:	Not available
Evaporation rate:	Above 1 (Butyl Acetate = 1)
Flash point:	Non-combustible
Freezing point:	-15 °C (6 °F) (20%); -32 °C (-27 °F) (35%)
Odor threshold:	Not available
Oxidizing properties:	Strong oxidizer
Percent volatile:	100%
pH:	(as is) 1.0 to 3.5
Solubility in water:	(in H ₂ O % by wt) 100%

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10. STABILITY AND REACTIVITY

Stability : Stable (heat and contamination could cause decomposition)

Conditions to avoid: Excessive heat or contamination could cause product to become unstable.

Materials and substances to avoid: Acids, bases, metals, salts of metals, reducing agents, organic materials, flammable substances.

Hazardous decomposition products : Oxygen; Decomposition releases steam and heat.

11. TOXICOLOGICAL INFORMATION

Eye effects : Extremely irritating /corrosive (rabbit) (35% H₂O₂)

Skin effects : Mildly irritating after 4 hours exposure (rabbit) (35% H₂O₂)

Dermal LD₅₀ : >2000mg/kg (rabbit) (35% H₂O₂)

Oral LD₅₀ : =1193mg/kg (rat) (35% H₂O₂)

Inhalation LC₅₀ : >0.17mg/l (rat) (35% H₂O₂)

Target organs : Eye, skin, nose, throat, lungs

Acute effects from overexposure : Extremely irritating/corrosive to eyes and gastrointestinal tract. May cause irreversible tissue damage to the eyes, including blindness. Inhalation of mist or vapors may be severely irritating to nose, throat and lungs. May cause skin irritation.

Chronic effects from overexposure : There are reports of limited evidence of carcinogenicity of hydrogen peroxide to mice administered high concentrations in their drinking water.

Carcinogenicity :

<u>Chemical name</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>
Hydrogen peroxide	listed	not listed	not listed

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12. ECOLOGICAL INFORMATION

Chemical fate information: Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Hydrogen peroxide half-life in fresh water ranged from 8 hours to 20 days, in air from 10-20 hrs. and in soils from minutes to hours depending upon microbiological activity and metal contaminants.

13. DISPOSAL CONSIDERATIONS

Disposal method: An acceptable method of disposal is to dilute with a large amount of water and allow the hydrogen peroxide to decompose followed by discharge into a suitable treatment system in accordance with all regulatory agencies. The appropriate regulatory agencies should be contacted prior to disposal.

14. TRANSPORT INFORMATION

Mode	DOT	IMDG	IATA
UN Number	UN 2014	UN 2014	UN 2014
Class(subsidiary)	5.1(8)	5.1(8)	5.1(8)
Proper Shipping Name	Hydrogen Peroxide, aqueous solution	Hydrogen Peroxide, aqueous solution	Hydrogen Peroxide, aqueous solution
Hazard label(subsidiary)	Oxidizer (corrosive)	Oxidizing Agent + corrosive	Oxidizer + Corrosive
Marine Pollutant	No	No	No
Placard (subsidiary)	Oxidizer (5.1) Corrosive(8)	2014	
Packing Group	II	II	II
Other Information	Protect from physical damage. Keep drums in upright position. Drums should not be stacked in transit. Do not store drum wooden pallets.		

15. REGULATORY INFORMATION

Labelling according to EC Directives

Symbol : C Corrosive

R-phrases : 34 Causes burns

S-phrases : 3-26-36/37/39-45 Keep in a cool place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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).

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