



Chlor Pars Company Producer Chlorine, Alkalis & Hydrogen peroxide

## Material Safety Data Sheet- Hydrogen Peroxide 50%

Code: QAD-MSDS-05-EN

Rev:04

Issue Date: 04/08/2019

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Issued By:

Approved By:

QA manager: MAMAGHANIAN

CEO: AYANI



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### 1. IDENTIFICATION

**Product name:** Hydrogen Peroxide 50%

Chemical Name: Hydrogen Peroxide Aqueous Solution

Synonyms: Hydrogen dioxide, hydro peroxide, peroxide

Chemical Formula:  $H_2O_2$

Molecular Weight: 34 g

CAS No: 7722-84-1

EINECS No: 231-765-0

Identified uses: Bleaching agent, Cleaning agent, Colorings agent, Disinfectant, Cosmetics, Chemical industry, Electronic industry, Metal treatment, dour agents, Oxidizing Agents, Textile industry, Water treatment, Pulp and paper

### COMPANY IDENTIFICATION

Name Company: Chlor pars co

Address: 20Km of Tabriz-Tehran road, Tabriz – Iran

Telephone number: +98(041) 36300609

Fax number: +98(041)3364431, 36300611

Web: [www.chlorpars.com](http://www.chlorpars.com)

### 2. HAZARDS IDENTIFICATION

Appearance: liquid

Color : colorless

Odor : pungent

- Classified as hazardous according to criteria of NOHSC.
- Classified as dangerous goods according to the ADG Code
- Oxidizing properties
- Harmful if swallowed.
- Irritating to respiratory system and skin.
- Risk of serious damage to eyes



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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS No	%Concentration	EC No.	EC Class
Hydrogen peroxide	7722-84-1	50	231-765-0	O, C, Xn; R5- R8-R20/22-R35
Water	7732-18-5	50	231-791-2	Not classified

### 4. FIRST AID MEASURES

#### Inhalation

- Remove to fresh air.
- If symptoms persist, call a physician.

#### 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.

#### Skin contact

- Remove contaminated shoes, socks and clothing, under the shower if necessary; wash the affected skin with running water.
- Keep warm (blanket), provide clean clothing.
- Consult a physician.

#### Ingestion

- Rinse mouth with water.
- Do NOT induce vomiting.
- Oxygen or artificial respiration if needed.
- If symptoms persist, call a physician or Poison Control Centre immediately.

### 5. FIREFIGHTING MEASURES

#### Suitable extinguishing media

- Water
- Water spray

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

- None.

#### Special exposure hazards in a fire

- Oxygen released on exothermic decomposition may support combustion in case of surrounding fire.
- Contact with combustible material may cause fire.



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- Contact with flammables may cause fire or explosions.
- Risk of explosion if heated under confinement.

#### Special protective equipment for fire-fighters

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
- Wear chemical resistant oversuit
- Cool containers / tanks with water spray.

#### 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

#### Personal precautions

- Evacuate personnel to safe areas.
- Keep people away from and upwind of spill/leak.
- Use personal protective equipment.
- Drying of this product on clothing or combustible materials may cause fire.
- Keep wetted with water.
- Keep away from Incompatible products.
- Prevent further leakage or spillage if safe to do so.

#### Environmental precautions

- Should not be released into the environment.
- Limited quantity
- Flush into sewer with plenty of water.
- Large quantities:
- If the product contaminates rivers and lakes or drains inform respective authorities.

#### Methods for cleaning up

- Dam up.
- Do not mix waste streams during collection.
- Keep in properly labelled containers.
- Keep in suitable, closed containers for disposal.
- 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.



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## 7. HANDLING AND STORAGE

### Handling

- Use only in well-ventilated areas.
- Before all operations, passivate the piping circuits and vessels according to the procedure recommended by the producer.
- Use only clean and dry utensils.
- Never return unused material to storage receptacle.
- May not get in touch with:
  - Organic materials
- Keep away from Incompatible products.
- Keep away from heat.
- Keep at temperature not exceeding 60 °C.

### Storage

- Keep in a cool, well-ventilated place.
- Keep away from heat.
- Keep away from incompatible products
- Keep away from combustible material.
- Keep in container fitted with safety valve or vent.
- Keep in original packaging, closed.
- Keep in a bonded area.
- Regularly check the condition and temperature of the containers.
- Information about special precautions needed for bulk handling is available on request.
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- Electrical equipment should be protected to the appropriate standard.

### Specific use(s)

- For further information, please contact: Supplier

### Packaging material

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

### Other information

- Warn people about the dangers of the product.
- 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.



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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 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

### Exposure controls

- Ensure adequate ventilation
- Apply technical measures to comply with the occupational exposure limits.

### Occupational exposure controls

#### Respiratory protection

- In case of insufficient ventilation, wear suitable respiratory equipment.
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Recommended Filter type: NO -P3

#### Hand protection

- Impervious gloves
- Suitable material : PVC, Natural Rubber, butyl-rubber, Nitrile rubber
- 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).

#### Eye protection

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

#### Skin and body protection

- Chemical resistant apron
- If splashes are likely to occur, wear:
  - Boots
  - Suitable material
  - PVC
  - Natural Rubber



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#### Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Take off contaminated clothing and shoes immediately.
- Wash contaminated clothing before re-use.
- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

#### Environmental exposure controls

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### General Information

Appearance: liquid

Colour: colourless

Odour: pungent

#### Important health safety and environmental information

pH: 1 - 4

point/boiling range : 115 °C (H<sub>2</sub>O<sub>2</sub> 50

%)

Flash point: *Remarks:* not applicable.

Flammability: *Remarks:* The product is not flammable.

Explosive properties: *Explosion danger:*

*Remarks:* With certain materials (see section 10).

*Remarks:* In case of heating:

Oxidizing properties: *Remarks:* Oxidizer

Vapour pressure: 12 mbar (H<sub>2</sub>O<sub>2</sub> 50 %)

*Remarks:* Total pressure (H<sub>2</sub>O<sub>2</sub> + H<sub>2</sub>O)

*Temperature:* 20 °C

: 72 mbar (H<sub>2</sub>O<sub>2</sub> 50 %)

*Remarks:* Total pressure (H<sub>2</sub>O<sub>2</sub> + H<sub>2</sub>O)

*Temperature:* 50 °C

: 1 mbar (H<sub>2</sub>O<sub>2</sub> 50 %)

*Remarks:* Partial pressure (H<sub>2</sub>O<sub>2</sub>)

*Temperature:* 30 °C

Relative density / Density: 1.15 (H<sub>2</sub>O<sub>2</sub> 40 %)

: 1.20 (H<sub>2</sub>O<sub>2</sub> 50 %)

Solubility: Soluble in water

: Polar organic solvents

Partition coefficient:: *log Pow:*

n-octanol/water-1.1



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Viscosit : Viscosity

1.2 mPa.s (H<sub>2</sub>O<sub>2</sub> 50 %)

1.15 mPa.s (H<sub>2</sub>O<sub>2</sub> 40 %)

Vapor density: 1 (H<sub>2</sub>O<sub>2</sub> 50 %)

Other data

Freezing point: -41 °C (H<sub>2</sub>O<sub>2</sub> 40 % )

-52°C (H<sub>2</sub>O<sub>2</sub> 50 % )

Auto-flammability: *Remarks:* The product is not flammable.

Surface tension: 75.6 mN/m (H<sub>2</sub>O<sub>2</sub> 50 %)

*Remarks:* 20 °C

## 10. STABILITY AND REACTIVITY

Stability

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

Conditions to avoid

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

Materials to avoid

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

Hazardous decomposition products

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





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## 11. TOXICOLOGICAL INFORMATION

### Toxicological data

#### *Acute oral toxicity*

- LD50, rat, 1,232 mg/kg (H2O2 35 %)

#### *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 (H2O2 35 %)

#### *Skin irritation*

- rabbit, irritant (skin) (H2O2 < 50 %)
- rabbit, corrosive effects, 1 h (H2O2 >= 50 %)

#### *Eye irritation*

- rabbit, Risk of serious damage to eyes. (H2O2 35 %)

#### *Irritation (other route)*

- mouse, Respiratory irritation (RD50), 665 mg/m<sup>3</sup>, (Hydrogen peroxide)

#### *Sensitisation*

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

#### *Chronic toxicity*

- Oral, Prolonged exposure, rat/mouse, Target Organs: gastro-intestinal system, observed effect Inhalation, Repeated exposure, dog, 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*

- In vitro, without metabolic activation, mutagenic effects

#### *Genetic toxicity in vivo*

- In vivo, , Remarks: Animal testing did not show any mutagenic effects.

#### *Possible hazards (summary)*

- Irritating to eyes, respiratory system and skin.
- Risk of serious damage to eyes.
- Carcinogenic effect not applicable to human

### Health effects

#### *Main effects*

- Irritating to skin and mucous membranes
- Risk of serious damage to eyes.

#### *Inhalation*

- Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.
- 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.

#### *Skin contact*



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- Irritation
  - Risk of: Causes burns..
- Ingestion**
- Severe irritation
  - Ingestion causes burns of the upper digestive and respiratory tracts.
  - Nausea
  - Vomiting
  - Bloating of stomach, belching.
  - Risk of chemical pneumonitis from product inhalation.

## 12. ECOLOGICAL INFORMATION

### Eco toxicity effects

#### *Acute toxicity*

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

#### *Chronic toxicity*

- Algae, Skeletonema costatum, EC50, growth rate, 72 h, 2.6 mg/l
- Algae, Skeletonema costatum, NOEC, 72 h, 0.63 mg/l
- Algae, Chlorella vulgaris, EC50, Growth rate, 72 h, 4.3 mg/l
- Algae, Chlorella vulgaris, NOEC, 72 h, 0.1 mg/l

### Mobility

- Air, Henry's law constant (H) = 1  
mPa.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

## 13. DISPOSAL CONSIDERATIONS

### Waste disposal:

Dilution with water is the preferred method of disposal. Dispose of in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste



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disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

### 14. TRANSPORT INFORMATION

UN-Number 2014  
IATA-DGR  
Class 5.1  
Sub-risks CORROSIVE  
Packing group II  
ICAO-Labels OXIDIZER + CORROSIVE

Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION

IMDG  
Class 5.1  
Sub-risks Corrosive  
Packing group II  
IMDG-Labels OXIDIZING AGENT + CORROSIVE  
HI/UN No. 2014  
EmS: F-H, S-Q

Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION

#### ADG

Class 5.1  
Sub-risks 8  
Packing group II  
ADG-Labels 5.1 + 8  
HI/UN No. 58/2014

Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION

#### Remarks:

HAZCHEM Code: 2P

U  
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## 15. REGULATORY INFORMATION

### Labels

Hazardous components which must be listed on the label: Hydrogen peroxide

Classified as hazardous according to criteria of NOHSC.

Symbol(s)	Xn	Harmful
R-phrase(s)	R22	Harmful if swallowed.
	R37/38	Irritating to respiratory system and skin.
	R41	Risk of serious damage to eyes.
S-phrase(s)	S 1/2	Keep locked up and out of the reach of children.
	S 3	Keep in a cool place.
	S28	After contact with skin, wash immediately with plenty of water.
	S36/39	Wear suitable protective clothing and eye/face protection.

## 16. OTHER INFORMATION

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 hygiene, and protection of human welfare and the environment