

SAFETY DATA SHEET
Australian version - NOHSC:2011 (2003)

INTEROX[®] ST-50 (H₂O₂ < 50 %)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Identification of the substance or mixture

Product name	:	INTEROX [®] ST-50 (H ₂ O ₂ < 50 %)
Chemical Name	:	Hydrogen peroxide
Synonyms	:	Hydroperoxide, Hydrogen dioxide
Molecular formula	:	H ₂ O ₂
Molecular Weight	:	34 g/mol

1.2. Use of the Substance/Mixture

Recommended use	:	<ul style="list-style-type: none">- Bleaching agent- Chemical industry- Electronic industry- Metal treatment- Odour agents- Oxidising Agents- Textile industry- Water treatment- Pulp and paper
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1.3. Company/Undertaking Identification

Address	:	
Telephone	:	
Telefax	:	

1.4. Emergency and contact telephone numbers

Emergency telephone	:	1 800 023 488 (Emergency 24 Hour) +44 1865 407333 (UK) [CareChem 24] AU: +61-2-93168000 (Product information)
E-mail address	:	sdstracking@solvay.com

2. HAZARDS IDENTIFICATION

Appearance	:	liquid
Colour	:	colourless
Odour	:	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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name (CAS-No. / EC-No. / Annex-1)	Concentration (W/W)	Classification	R-phrases(s)
Hydrogen peroxide (7722-84-1 / 231-765-0 / 008-003-00-9)	< 50 %	O C Xn	R 5 R 8 R35 R20/22

4. FIRST AID MEASURES

4.1. Inhalation

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

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.

4.3. Skin contact

- Remove and wash contaminated clothing before re-use.
- Wash off with plenty of water.
- Keep warm and in a quiet place.
- Consult a physician.

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

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

- 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

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
- Wear chemical resistant oversuit



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

- 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.

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

7.1. 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.

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Exposure Limit Values

Hydrogen peroxide

- ACGIH: 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/m³
- 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.

8.2.1. Occupational exposure controls

8.2.1.1. *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.
- In case of emissions, face mask with type NO-P3 cartridge.

8.2.1.2. *Hand protection*

- Impervious 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*

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

8.2.1.5. *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.

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)

Appearance	: liquid
Colour	: colourless
Odour	: pungent

9.2. Important health safety and environmental information

pH	: 1 - 4 <i>Remarks: Apparent pH</i>
Boiling point/boiling range	: 115 °C (H ₂ O ₂ 50 %) : 110 °C (H ₂ O ₂ 40 %)
Flash point	: <i>Remarks: The product is not flammable.</i>
Flammability	: <i>Remarks: The product is not flammable.</i>
Explosive properties	: <u>Explosion danger.</u> <i>Remarks: With certain materials (see section 10). Remarks: In case of heating:</i>
Oxidizing properties	: <i>Remarks: yes</i>
Vapour pressure	: 1 mbar (H ₂ O ₂ 50 %) <i>Temperature: 30 °C</i> : 12 mbar (H ₂ O ₂ 50 %) <i>Remarks: Total pressure (H₂O₂ + H₂O) Temperature: 20 °C</i> : 72 mbar (H ₂ O ₂ 50 %) <i>Remarks: Total pressure (H₂O₂ + H₂O) Temperature: 50 °C</i>
Relative density / Density	: 1.2 (H ₂ O ₂ 50 %) 1.15 (H ₂ O ₂ 40 %)
Solubility	: Soluble in: : Water : Polar organic solvents
Partition coefficient: n-octanol/water	: <u>log Pow:</u> -1.1
Viscosity	: 1.2 mPa.s (H ₂ O ₂ 50 %) <i>Temperature: 20 °C</i> : 1.15 mPa.s (H ₂ O ₂ 40 %)
Vapour density	: 1 (H ₂ O ₂ 50 %)

9.3. Other data

Freezing point:	: -52 °C (H ₂ O ₂ 50 %)
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: -41 °C (H₂O₂ 40 %)**Auto-flammability** : *Remarks:* The product is not flammable.**Surface tension** : 75.6 mN/m (H₂O₂ 50 %)
Temperature: 20 °C**Decomposition temperature** : ≥ 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, 1,232 mg/kg (H₂O₂ 35 %)

Acute inhalation toxicity

- LC₅₀, 4 h, rat, 2.000 mg/m³ (Hydrogen peroxide)

Acute dermal toxicity

- LD₅₀, rabbit, > 2.000 mg/kg (H₂O₂ 35 %)

Skin irritation

- rabbit, Skin irritation (H₂O₂ 35 %)

Eye irritation

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

Irritation (other route)

- Inhalation, mouse, Irritating to respiratory system., RD 50 = 665 mg/m³, (Hydrogen peroxide)

Sensitisation

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

Chronic toxicity

- Oral, Prolonged exposure, Various species, Target Organs: Gastrointestinal tract, observed effect
- Inhalation, Repeated exposure, dog, Lowest observable effect level: 14.6 mg/m³, irritant effects

Carcinogenicity

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



Genetic toxicity in vitro

- In vitro tests have shown mutagenic effects.

Genetic toxicity in vivo

- 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

11.2. 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

- 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

12.1. Ecotoxicity effects

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.m³/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.

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 (H₂O and O₂).
- 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

UN-Number	2014
IATA-DGR	
Class	5.1
Sub-risks	Corrosive
Packing group	II
ICAO-Labels	5.1 + 8
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:	
- IATA: forbidden over 40 %	
- HAZCHEM Code: 2P	

15. REGULATORY INFORMATION

15.1. Labels

- Hazardous components which must be listed on the label: Hydrogen peroxide
- The product is classified and labelled in accordance with Directive 1999/45/EC.

Symbol(s)	Xn	Harmful
R-phrases(s)	R22 R37/38 R41	Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes.
S-phrases(s)	S 1/2 S26 S28 S36/37/39 S45	Keep locked up and out of the reach of children. 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).



15.2. Other information

- The percentage concentration of the solution has to be indicated next to the product name.

15.3. Inventory Information

Toxic Substance Control Act list (TSCA)	: -	In compliance with inventory.
Australian Inventory of Chemical Substances (AICS)	: -	In compliance with inventory.
Canadian Domestic Substances List (DSL)	: -	In compliance with inventory.
Korean Existing Chemicals List (ECL)	: -	In compliance with inventory.
EU list of existing chemical substances (EINECS)	: -	In compliance with inventory.
Japanese Existing and New Chemical Substances (MITI List) (ENCS)	: -	In compliance with inventory.
Inventory of Existing Chemical Substances (China) (IECS)	: -	In compliance with inventory.
Philippine Inventory of Chemicals and Chemical Substances (PICCS)	: -	In compliance with inventory.
New Zealand Inventory of Chemicals (NZIOC)	: -	In compliance with inventory.

16. OTHER INFORMATION**16.1. Administrative information**

- General revision
- Distribute new edition to clients

16.2. Text of R phrases mentioned in Section 3

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

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.

