

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

INTEROX ® ST-70, INTEROX ® DG-70

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

1.1. Identification of the substance or mixture

Product name : INTEROX ® ST-70, INTEROX ® DG-70
Chemical Name : Hydrogen peroxide
Synonyms : Hydrogen peroxide, aqueous solution, Hydroperoxide, Hydrogen peroxide
Molecular formula : H₂O₂
Molecular Weight : 34 g/mol

1.2. Use of the Substance/Mixture

Recommended use : - Bleaching agent
- Chemical industry
- Metal treatment
- Oxidising Agents
- Pulp and paper

1.3. Company/Undertaking Identification

Address : SOLVAY INTEROX Pty Ltd
MCPHERSON STREET, 20-22
AUS- 2019 BANKSMEDOW

Telephone : 61293168000

Telefax : 61293166445

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
- Oxidising
- Contact with combustible material may cause fire.
- Harmful by inhalation and if swallowed.
- Causes burns.



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) | >= 70 - <= 71 % | O C Xn | R 5 R 8 R35 R20/22 |

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

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

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.

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

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/m³
- Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment) 08 2005
Remarks: Listed

8.2. Exposure controls

- Ensure adequate ventilation.
- 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
- 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)

| | |
|------------|--------------|
| Appearance | : liquid |
| Colour | : colourless |
| Odour | : pungent |

9.2. Important health safety and environmental information

| | |
|-----------------------------|--|
| pH | : < 3 <i>Remarks: Apparent pH</i> |
| Boiling point/boiling range | : 125 °C (H ₂ O ₂ 70 %) |
| Flash point | : <i>Remarks: The product is not flammable.</i> |
| Flammability | : <i>Remarks: The product is not flammable.</i> |
| Explosive properties | : <u><i>Explosion danger:</i></u> <i>Remarks: With certain materials (see section 10).</i> <i>Remarks: In case of heating:</i> |
| Oxidizing properties | : <i>Remarks: Oxidizer</i> |
| Vapour pressure | : 8 - 9 mbar (H ₂ O ₂ 70 %) <i>Remarks: Total pressure (H₂O₂ + H₂O)</i> <i>Temperature: 20 °C</i> : 45 mbar (H ₂ O ₂ 70 %) <i>Remarks: Total pressure (H₂O₂ + H₂O)</i> <i>Temperature: 50 °C</i> : 2 mbar (H ₂ O ₂ 70 %) <i>Remarks: Partial pressure (H₂O₂)</i> <i>Temperature: 30 °C</i> |
| Relative density / Density | : 1.29 (H ₂ O ₂ 70 %) |
| Solubility | : Soluble in: : Water : Polar organic solvents |
| Partition coefficient: | : <i>Remarks: no data available</i> |



n-octanol/water

| | | |
|-----------------------|---|--|
| Viscosity | : | 1.24 mPa.s (H2O2 70 %) Temperature: 20 °C |
| Vapour density | : | 1.02 (H2O2 70 %) |

9.3. Other data

| | | |
|----------------------------------|---|---|
| Freezing point: | : | -40.3 °C (H2O2 70 %) |
| Auto-flammability | : | Remarks: The product is not flammable. |
| Surface tension | : | 77.2 mN/m (H2O2 70 %) 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, 841 mg/kg (H2O2 60 %)

Acute inhalation toxicity

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

Acute dermal toxicity

- LD50, rabbit, > 2.000 mg/kg (H2O2 70 %)

Skin irritation

- rabbit, corrosive effects, 1 h (H2O2 50 %)

Eye irritation

- Risk of serious damage to eyes. (H2O2 70 %)

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, rat, 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)

- 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

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 | 2015 |
|---|-----------------------------|
| IATA-DGR | |
| Class | FORBIDDEN |
| Proper shipping name: HYDROGEN PEROXIDE, STABILIZED | |
| IMDG | |
| Class | 5.1 |
| Sub-risks | Corrosive |
| Packing group | I |
| IMDG-Labels | OXIDIZING AGENT + CORROSIVE |
| HI/UN No. | 2015 |
| EmS: | F-H, S-Q |
| Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED | |
| ADG | |
| Class | 5.1 |
| Sub-risks | 8 |
| Packing group | I |
| ADG-Labels | 5.1 + 8 |
| HI/UN No. | 559/2015 |
| Special Provision 640A: | 6400 |
| Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED | |
| 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 Oxidising



| | | |
|-------------|--|---|
| | C | Corrosive |
| R-phrase(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-phrase(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). |

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

- Australian version
This data sheet contains changes from the previous version in section(s): 14
- 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.
- 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.

