

1. Identification

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|---|---|----------------|
| Product identifier | Hydrogen Peroxide 50% | |
| Other means of identification | None. | |
| Recommended use | Industrial applications | |
| Recommended restrictions | None known. | |
| Manufacturer/Importer/Supplier/Distributor information | | |
| Manufacturer | | |
| Company name | PVS Benson | |
| Address | 1012 Gore Road Freelton, ON L0R1K0 Canada | |
| Telephone | 1-800-265-0014 | |
| e-mail | bensoncs@pvschemicals.com | |
| | | |
| Emergency phone number | 24 hours/7 days: | 1-313-921-1200 |
| Supplier | See above. | |

2. Hazard identification

| | | |
|------------------------------|--|---|
| Physical hazards | Oxidizing liquids | Category 2 |
| Health hazards | Acute toxicity, oral | Category 4 |
| | Skin corrosion/irritation | Category 1 |
| | Serious eye damage/eye irritation | Category 1 |
| | Specific target organ toxicity following single exposure | Category 3 respiratory tract irritation |
| Environmental hazards | Not classified. | |

Label elements



Signal word Danger

Hazard statement May intensify fire; oxidizer. Causes severe skin burns and eye damage. May cause respiratory irritation. Harmful if swallowed.

Precautionary statement

Prevention Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing and other combustible materials. Wear protective gloves, protective clothing, eye protection and face protection. Do not breathe mist or vapour. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product.

Response In case of fire: Use appropriate media to extinguish. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. Specific treatment (see information on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal Dispose of container in accordance with local, regional, national and international regulations.

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|-------------------|--------------------------|------------|----|
| Hydrogen peroxide | | 7722-84-1 | 50 |

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

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| Inhalation | IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTRE or doctor. |
| Skin contact | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTRE or doctor. Specific treatment (see information on this label). Wash contaminated clothing before reuse. |
| Eye contact | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor. |
| Ingestion | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTRE or doctor. |
| Most important symptoms/effects, acute and delayed | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. |
| General information | Take off all contaminated clothing immediately. Contact with combustible material may cause fire. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Wear suitable protective clothing. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse. Do not inhale vapours. Avoid contact with eyes and skin. Keep out of reach of children. Contact with combustible material and heat may cause fire. |

5. Fire-fighting measures

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| Suitable extinguishing media | Water Fog. |
| Unsuitable extinguishing media | Carbon dioxide. |
| Specific hazards arising from the chemical | Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed. |
| Hazardous combustion products | Decomposition releases oxygen which may intensify fire. |
| Special protective equipment and precautions for firefighters | Firefighters should wear full protective clothing including self-contained breathing apparatus. |
| Fire fighting equipment/instructions | In case of fire and/or explosion do not breathe fumes. In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | May intensify fire; oxidizer. Contact with combustible material may cause fire. These substances will accelerate burning when involved in a fire. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | <p>Stop leak if you can do so without risk. Use water spray to reduce vapours or divert vapour cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up. Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas.</p> <p>Large Spills: Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.</p> <p>Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p> |

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not discharge into lakes, streams, ponds or public waters.

7. Handling and storage

Precautions for safe handling

Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe mist or vapour. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Use good industrial hygiene practices in handling this material. When using do not eat or drink.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, open flames or other sources of ignition. Store in original tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children. Store in a cool, dry, well-ventilated place away from incompatible materials. Do not store in an unvented container.

8. Exposure controls/Personal protection

Occupational exposure limits**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|-----------------------------------|------|-------|
| Hydrogen peroxide (CAS 7722-84-1) | TWA | 1 ppm |

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components | Type | Value |
|-----------------------------------|------|--------------------|
| Hydrogen peroxide (CAS 7722-84-1) | TWA | 1.4 mg/m3 1 ppm |

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components | Type | Value |
|-----------------------------------|------|-------|
| Hydrogen peroxide (CAS 7722-84-1) | TWA | 1 ppm |

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components | Type | Value |
|-----------------------------------|------|-------|
| Hydrogen peroxide (CAS 7722-84-1) | TWA | 1 ppm |

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components | Type | Value |
|-----------------------------------|------|-------|
| Hydrogen peroxide (CAS 7722-84-1) | TWA | 1 ppm |

Canada. Quebec OELs. (Ministry of Labour - Regulation Respecting the Quality of the Work Environment)

| Components | Type | Value |
|-----------------------------------|------|--------------------|
| Hydrogen peroxide (CAS 7722-84-1) | TWA | 1.4 mg/m3 1 ppm |

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

See above

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear chemical goggles and face shield.

Skin protection**Hand protection**

Nitrile rubber. PVC gloves. Neoprene gloves. Do not wear cotton, wool or leather gloves.

Other

As required by employer code.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2). Do not use any form of air-purifying respirator (APR), especially those containing oxidizable sorbents such as activated carbon.

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| Thermal hazards | Not applicable. |
| General hygiene considerations | Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. When using do not eat or drink. |

9. Physical and chemical properties

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| Appearance | Clear |
| Physical state | Liquid. |
| Form | Liquid |
| Colour | Colourless |
| Odour | Pungent |
| Odour threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | -52 °C (-61.6 °F) / -52.22 °C (-62 °F) |
| Initial boiling point and boiling range | 114 °C (237.2 °F) |
| Flash point | Non combustible |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Non combustible |
| Flammability limit - upper (%) | Non combustible |
| Explosive limit - lower (%) | Not available. |
| Explosive limit – upper (%) | Not available. |
| Vapour pressure | Not available. |
| Vapour density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (Water) | Soluble |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Non combustible |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Explosive properties | Not explosive. |
| Oxidising properties | May intensify fire; oxidiser. |
| Specific gravity | 1.196 g/cm ³ @ 20°C |

10. Stability and reactivity

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| Reactivity | Keep away from combustible material. Greatly increases the burning rate of combustible materials. This product may react with strong acids. This product may react with strong oxidising agents. This product may react with reducing agents. Reacts vigorously with alkaline material. |
| Chemical stability | Stable under recommended storage conditions. May decompose if heated. |
| Possibility of hazardous reactions | Hazardous polymerisation does not occur. |
| Conditions to avoid | Heat. Do not mix with other chemicals. |
| Incompatible materials | Acids. Reducing Agents. Metals. Caustics. Combustible materials. |
| Hazardous decomposition products | May include and are not limited to: Oxygen. |

11. Toxicological information

Information on likely routes of exposure

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|---------------------|---|
| Inhalation | May cause irritation to the respiratory system. Prolonged inhalation may be harmful. |
| Skin contact | Causes severe skin burns. |
| Eye contact | Causes serious eye damage. |
| Ingestion | Harmful if swallowed. Causes digestive tract burns. May cause stomach distress, nausea or vomiting. |

Symptoms related to the physical, chemical and toxicological characteristics

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

| Components | Species | Test results |
|-----------------------------------|---------|---|
| Hydrogen peroxide (CAS 7722-84-1) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | > 2000 mg/kg, 24 Hours, ECHA |
| | Rat | 3000 - 5480 mg/kg, ECHA |
| <i>Inhalation</i> | | |
| LC50 | Rat | > 170 mg/m3, 4 Hours, ECHA |
| <i>Oral</i> | | |
| LD50 | Rat | 1270 mg/kg, ECHA 1193 mg/kg, ECHA 1026 mg/kg, ECHA, male 872 mg/kg, ECHA 801 mg/kg, ECHA 693.7 mg/kg, ECHA, female |

Skin corrosion/irritation Causes severe skin burns and eye damage.

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|-------------------------|----------------|
| Exposure minutes | Not available. |
| Erythema value | Not available. |
| Oedema value | Not available. |

Serious eye damage/eye irritation Causes serious eye damage.

| | |
|-------------------------------------|----------------|
| Corneal opacity value | Not available. |
| Iris lesion value | Not available. |
| Conjunctival reddening value | Not available. |
| Conjunctival oedema value | Not available. |
| Recover days | Not available. |

Respiratory or skin sensitisation

Canada - Alberta OELs: Irritant

Hydrogen peroxide (CAS 7722-84-1) Irritant

Respiratory sensitisation Not a respiratory sensitizer.

Skin sensitisation This product is not expected to cause skin sensitisation.

Germ cell mutagenicity Non-hazardous by WHMIS criteria.

Carcinogenicity See below.

ACGIH Carcinogens

Hydrogen peroxide (CAS 7722-84-1) A3 Confirmed animal carcinogen with unknown relevance to humans.

Canada - Manitoba OELs: carcinogenicity

Hydrogen peroxide (CAS 7722-84-1) Confirmed animal carcinogen with unknown relevance to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrogen peroxide (CAS 7722-84-1) Volume 36, Supplement 7, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.

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| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Respiratory tract irritation. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not an aspiration hazard. |
| Chronic effects | Prolonged inhalation may be harmful. |
| Further information | Not available. |

12. Ecological information

| | | | |
|--------------------------------------|---|----------------|---------------------|
| Ecotoxicity | Components of this product have been identified as having potential environmental concerns. | | |
| Ecotoxicological data | | | |
| Components | | Species | Test results |
| Hydrogen peroxide (CAS 7722-84-1) | | | |
| Algae | IC50 | Algae | 2.5 mg/L, 72 Hours |
| Crustacea | EC50 | Daphnia | 7.7 mg/L, 48 Hours |
| Persistence and degradability | Not available. | | |
| Bioaccumulative potential | No data available. | | |
| Mobility in soil | No data available. | | |
| Mobility in general | Not available. | | |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. | | |

13. Disposal considerations

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|--|---|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations. Review federal, provincial, and local government requirements prior to disposal. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

14. Transport information

| | |
|---|---|
| General | Canada: TDG Proof of Classification: Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below. |
| Transportation of Dangerous Goods (TDG - Canada) | |
| Basic shipping requirements: | |
| UN number | UN2014 |
| Proper shipping name | HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary) |
| Hazard class | 5.1 |
| Subsidiary hazard class | 8 |
| Packing group | II |

TDG



15. Regulatory information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS status Controlled

International regulations

Inventory status

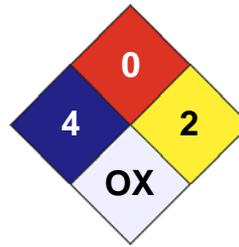
| Country(s) or region | Inventory Name | On Inventory (Yes/No)* |
|----------------------|-------------------------------------|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information

| LEGEND | |
|----------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | 0 |

| | |
|----------------------------|-----|
| HEALTH | / 4 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARD | 2 |
| PERSONAL PROTECTION | X |



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Other information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

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