Material Safety Data Sheet

1. Product and company identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>Code</th>
<th>Date of issue (yyyy/mm/dd)</th>
<th>Material uses</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier</td>
<td></td>
<td></td>
<td></td>
<td>42 rue de l'Artisan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Victoriaville, Qc</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>68-758-1541</td>
</tr>
</tbody>
</table>

In case of emergency

Emergency phone: CANUTEC (613) 996-6666 (Collect calls accepted)

2. Hazards identification

Potential hazards described in this section are not expected when manufacturer's direction for use and proper security measures are observed.

Physical state: Liquid.

Odor: Pungent. Vinegar-like

Emergency overview:

DANGER!

Combustible liquid. Very toxic by inhalation. Corrosive to the respiratory system and digestive tract. Causes burns. May be harmful if absorbed through skin if swallowed. Severely irritating to the eyes and skin. Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry:

Dermal contact. Eye contact. Inhalation. Ingestion.

Inhalation:


Ingestion:

Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Skin:

Harmful in contact with skin. Severely irritating to the skin.

Eyes:

Severely irritating to eyes. Risk of serious damage to eyes.

See toxicological information (Section 11) for more details.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS number</th>
<th>% (w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>10 - 30</td>
</tr>
<tr>
<td>acetic acid</td>
<td>64-19-7</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Peroxyacetic acid</td>
<td>79-21-0</td>
<td>5 - 10</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact:

Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact:

In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes.

Inhalation:

Call medical doctor or poison control center immediately. Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion:

Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders:

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
5. Fire-fighting measures

Flammability of the product: Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Extinguishing media

Suitable: Use dry chemical, CO₂, water spray (fog) or foam.

Not suitable: Do not use water jet.

Special exposure hazards

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous thermal decomposition products

Decomposition products may include the following materials:
- Carbon dioxide
- Carbon monoxide

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on explosion hazards

Oxygen can initiate or promote combustion.

6. Accidental release measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling: Put on suggested personal protective equipment when handling the product. Avoid contact with skin and eyes. Do not ingest. This product is formulated for commercial, institutional and industrial uses only.

Storage: Store in cool ventilated place. Keep container tightly closed when product is stored. Protect from freezing. Keep out of reach of children.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>List name</th>
<th>TWA (8 hours) ppm</th>
<th>mg/m³</th>
<th>STEL (15 mins) ppm</th>
<th>mg/m³</th>
<th>Ceiling ppm</th>
<th>mg/m³</th>
<th>Other ppm</th>
<th>mg/m³</th>
<th>Other ppm</th>
<th>mg/m³</th>
<th>Other ppm</th>
<th>mg/m³</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetic acid</td>
<td>US ACIGH 6/2013</td>
<td>10</td>
<td>25</td>
<td>-</td>
<td>15</td>
<td>37</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AB 4/2009</td>
<td>10</td>
<td>25</td>
<td>-</td>
<td>15</td>
<td>37</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BC 7/2013</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>ON 1/2013</td>
<td>10</td>
<td>25</td>
<td>-</td>
<td>15</td>
<td>37</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td></td>
<td>OC 12/2012</td>
<td>10</td>
<td>25</td>
<td>-</td>
<td>15</td>
<td>37</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Consult local authorities for acceptable exposure limits.

Engineering measures

Général room ventilation is adequate for the use of this product.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Respiratory: No specific protective equipment suggested

Hands: It is suggested to use chemical-impermeable protective gloves when using this product

Eyes: It is suggested to wear safety glasses when handling or using chemical products.

Skin: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: safety apron

Personal protective equipment (Pictograms): 

2014-06-05.
9. Physical and chemical properties

- **Physical state**: Liquid.
- **Molecular formula**: Not applicable.
- **Flammable limits**: Not available.
- **Color**: Colorless.
- **Molecular weight**: Not applicable.
- **Burning rate**: Not applicable.
- **Odor**: Pungent. Vinegar-like
- **Vapor pressure**: 2.9 kPa (22 mm Hg) [room temperature]
- **Burning time**: Not applicable.
- **Relative density**: 1.1
- **Vapor density**: Not available.
- **Critical temperature**: Not available.
- **pH**: <1
- **Volatility**: Not available.
- **Auto-ignition temperature**: 270°C (518°F)
- **Viscosity**: Not available.
- **Odor threshold**: Not available.
- **Ionicity (in water)**: Not applicable.
- **Dispersibility properties**: Not available.
- **Solubility**: Easily soluble in the following materials: cold water and hot water.
- **Melting/freezing point**: -25.9°C (-14.6°F)
- **Boiling/condensation point**: >1 (butyl acetate = 1)
- **Flash point**: Not available.
- **Closed cup**: 83°C (181.4°F) [Not specified] [Product does not sustain combustion.]
- **Auto-ignition temperature**: 270°C (518°F)
- **Flammable limits**: Not available.
- **Don't apply.

10. Stability and reactivity

- **Chemical stability**: The product is stable.
- **Conditions to avoid**: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- **Materials to avoid**: Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis, oxidizing materials, highly reactive or incompatible with the following materials: reducing materials, organic materials and alkalis. Incompatible with: Dirt, iron, copper, chromium, aluminum and cobalt.
- **Hazardous decomposition products**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- **Possibility of hazardous reactions**: Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

**Potential chronic health effects**
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: No known significant effects or critical hazards.
- **Developmental effects**: No known significant effects or critical hazards.
- **Fertility effects**: No known significant effects or critical hazards.
- **Target organs**: Contains material which may cause damage to the following organs: blood, lungs, upper respiratory tract, skin, eye, lens or cornea, teeth.

**Over-exposure signs/symptoms**
- **Inhalation**: Adverse symptoms may include the following: respiratory tract irritation, coughing.
- **Ingestion**: Adverse symptoms may include the following: stomach pain.
- **Skin**: Adverse symptoms may include the following: irritation, redness.
- **Eyes**: Adverse symptoms may include the following: pain or irritation, watering, redness.

**Medical conditions aggravated by over-exposure**: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Score</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetic acid</td>
<td>LC50 Inhalation Gas.</td>
<td>Mouse</td>
<td>5620 ppm</td>
<td>5.6</td>
<td>1 hours</td>
</tr>
<tr>
<td>acetic acid</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>11000 mg/m³</td>
<td>5.6</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1.06 g/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3310 mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3310 mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>2000 mg/m³</td>
<td>5.6</td>
<td>4 hours</td>
</tr>
<tr>
<td>Peroxyacetic acid</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>66 ppm</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>OXYGERM</td>
<td>Rat</td>
<td>1922 mg/kg</td>
<td>-</td>
<td>-</td>
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</table>

2014-06-05.
11. Toxicological information

<table>
<thead>
<tr>
<th>Substance</th>
<th>Species</th>
<th>Result</th>
<th>Exposure</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetic acid</td>
<td>Rabbit</td>
<td>Acute EC50 73400 µg/l</td>
<td>96 hours</td>
<td>Fresh water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute EC50 65000 µg/l</td>
<td>48 hours</td>
<td>Fresh water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute LC50 50.1 ul/L</td>
<td>48 hours</td>
<td>Marine water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute LC50 75000 µg/l</td>
<td>96 hours</td>
<td>Fresh water</td>
</tr>
<tr>
<td></td>
<td>Human</td>
<td>Acute LC50 0.18 mg/l</td>
<td>120 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute LC50 0.73 mg/l</td>
<td>48 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute LC50 1.1 mg/l</td>
<td>96 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute LC50 1.8 mg/l</td>
<td>96 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>Acute E50 0.18 mg/l</td>
<td>120 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute E50 0.73 mg/l</td>
<td>48 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute E50 1.1 mg/l</td>
<td>96 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute E50 1.8 mg/l</td>
<td>96 hours</td>
<td></td>
</tr>
</tbody>
</table>

12. Ecological information

Ecotoxicity: No known significant effects or critical hazards.

Aquatic ecotoxicity:

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Exposure</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetic acid</td>
<td>-</td>
<td>Acute EC50 73400 µg/l</td>
<td>96 hours</td>
<td>Algae - Diatom - Navicula seminulum</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute EC50 65000 µg/l</td>
<td>48 hours</td>
<td>Daphnia - Water flea - Daphnia magna - Neonate</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 50.1 ul/L</td>
<td>48 hours</td>
<td>Crustaceans - Brine shrimp - Artemia sp.</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 75000 µg/l</td>
<td>96 hours</td>
<td>Fish - Bluegill - Lepomis macrochirus</td>
</tr>
<tr>
<td>OXYGERM</td>
<td>-</td>
<td>Acute EC50 0.18 mg/l</td>
<td>120 hours</td>
<td>Algae - Selenastrum</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute EC50 0.73 mg/l</td>
<td>48 hours</td>
<td>Daphnia - Daphnia</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 1.1 mg/l</td>
<td>96 hours</td>
<td>Fish - Lepidochromis</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50 1.8 mg/l</td>
<td>96 hours</td>
<td>Fish - Trout</td>
</tr>
</tbody>
</table>

13. Disposal considerations

Waste disposal: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Waste stream: Not available.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Classification</td>
<td>3149</td>
<td>UN3149 HYDROGEN PEROXYDE AND PEROXYACETIC ACID STABILISED MIXTURE</td>
<td>8 (5.1)</td>
<td>II</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TDG Classification</td>
<td>3149</td>
<td>UN3149 HYDROGEN PEROXYDE AND PEROXYACETIC ACID STABILISED MIXTURE</td>
<td>8 (5.1)</td>
<td>II</td>
<td></td>
<td>Explosive Limit and Limited Quantity Index 0.5 Remarks Limited quantity index 0.5 L</td>
</tr>
</tbody>
</table>

PG* : Packing group

15. Regulatory information

- United States inventory (TSCA 8b): Not determined.
- WHMIS (Canada): Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). Class C: Oxidizing material. Class E: Corrosive material
- Canadian lists: CEPA Toxic substances: None of the components are listed. Canadian ARET: None of the components are listed. Canadian NRPI: None of the components are listed. Alberta Designated Substances: None of the components are listed. Ontario Designated Substances: None of the components are listed. Quebec Designated Substances: None of the components are listed.
- Canada inventory: Not determined.

2014-06-05.
15. Regulatory information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. Other information on the product

Label requirements: COMBUSTIBLE LIQUID AND VAPOR. MAY BE FATAL IF INHALED. CAUSES RESPIRATORY TRACT AND DIGESTIVE TRACT BURNS. CAUSES EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.

References: - Manufacturer's Material Safety Data Sheet.
Date of printing (YYYY-MM-DD): 2014-06-05.
Date of issue (YYYY-MM-DD): 2014-06-05.

Note: MSDS are valid for a 3 years period after the date of issue

Notice to reader
There are potential hazards to people and goods associated with the use of this product which are detailed in the present Material Safety Data Sheet (MSDS). To minimize potential hazards associated with this product it is of users responsibility to conform the directions for use and all other instructions provided in the Material Safety Data Sheet (MSDS) of this product. The manufacturer, distributors and suppliers of this product are exonerating themselves and consequently shall not be liable for any prejudice or damage of any kind, resulting from the use of this product which may not be in accordance with the directions for use or all the instructions provided in the present Material Safety Data Sheet (MSDS) or resulting from an unadvised use of the present product.

Emergency phone: CANUTEC (613) 996-6666 (Collect calls accepted)