# TurfRx Oxy

Material Safety Data Sheet

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INGREDIENTS

Ethaneperoxoic Acid 5.00 % W/W

## * * * Section 1 - Chemical Product and Company Identification * * *

**Product Use:** Fertilizing agent
**Synonyms:** Ethaneperoxoic Acid

## * * * Section 2 - Composition / Information on Ingredients * * *

| CAS # | Component | Percent |
|---|---|---|
| 7732-18-5 | Water | 60-70 |
| 7722-84-1 | Hydrogen Peroxide | 20-30 |
| 64-19-7 | Acetic Acid | 10-15 |
| 79-21-0 | Peroxyacetic acid | 5 |
| 7320-34-5 | Potassium pyrophosphate | 0-1 |

**Component Information/Information on Non-Hazardous Components**

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

## * * * Section 3 - Hazards Identification * * *

**Emergency Overview**

Product is a corrosive clear, colorless aqueous solution with pungent odor. Product is a strong oxidizing agent and may cause spontaneous ignition with combustible materials. Product may be severely irritating to the eyes, skin and respiratory system and may cause burns. Use with adequate ventilation. Do not inhale vapors or mists. Do not get on skin or in eyes. Firefighters should wear full protective clothing and self contained breathing apparatus.

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**Hazard Statements**

DANGER! OXIDIZER. CORROSIVE. Contact with other material may cause fire. May cause severe irritation or burns to eyes, skin and respiratory tract. Harmful or fatal if swallowed. Keep from contact with clothing or other combustible materials. Do not breathe vapors or mists from this product. Do not get in eyes, on skin or on clothing. Use only with adequate ventilation. Wear chemical goggles, faceshield if splashing is possible, impervious gloves and protective clothing when handling. Wash thoroughly after handling. Keep out of reach of children. In case of fire involving this product, use water only. In case of leak or spill, wear appropriate protective equipment and clothing during cleanup. Flush spill area with large amounts of water. Do not return spilled material to original container. Prevent undiluted product from entering sewer or waterway. Dispose of waste according to local, state, federal and provincial regulations. Store in original vented container in dry location. Avoid direct exposure to sun or heat. Store product away from combustible materials. Never use pressure to empty, as this container is not a pressure vessel. Avoid open lights, fire and sparks. Add only OXYCOM-PREP, OXYCOM-PREP PLUS, OXYCOM-RESPOND or OXYCOM-RESPOND PLUS to this container at time of application. Mixed product musts be used. Do not store mixed products. Do not add any other products to this container. Never return unused material to this container. When empty, thoroughly rinse container before transporting.

**Potential Health Effects: Eyes**

Contact with liquid may produce severe eye irritation, causing severe conjunctival irritation, corneal defects and possibly permanent loss of vision. Vapors may also produce eye irritation.

**Potential Health Effects: Skin**

This product is severely irritating to the skin and may cause burns. Vapors may also produce skin irritation.

**Potential Health Effects: Ingestion**

Ingestion of corrosive acids may result in severe burns to the lips, oral cavity and esophagus with more severe burns and damage to the stomach. Aspiration of the product may result in chemical pneumonitis and pulmonary edema.

**Potential Health Effects: Inhalation**

This product is severely irritating to the respiratory system.

**HMIS Ratings: Health:** 3* **Fire:** 0 **Reactivity:** 1 **Pers. Prot.:** Chemical goggles/faceshield, impervious gloves, protective clothing

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

## * * * Section 4 - First Aid Measures * * *

**First Aid: Eyes**

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice.

**First Aid: Skin**

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. If irritation persists, get medical attention. Wash contaminated clothing before reuse.

**First Aid: Ingestion**

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting unless instructed to do so by medical personnel.

**First Aid: Inhalation**

If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist.

**First Aid: Notes to Physician**

Provide general supportive measures and treat symptomatically.

## * * * Section 5 - Fire Fighting Measures * * *

**Flash Point:** 241 ºF (116.1 ºC)
**Method Used:** Not available
**Upper Flammable Limit (UFL):** Not available
**Lower Flammable Limit (LFL):** Not available
**Auto Ignition:** Non-flammable
**Flammability Classification:** Non-flammable
**Rate of Burning:** Not available

**General Fire Hazards**

This product is an aqueous mixture which will not burn. If evaporated to dryness, the solid residue may pose a moderate fire hazard. Oxidizing agent, may cause spontaneous ignition of combustible materials. Danger of explosion during rapid decomposition or upon heating if product is not adequately vented.

**Hazardous Combustion Products**

Upon combustion, this product may release oxygen, heat, steam, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

**Extinguishing Media**

Small fires: use large quantities of water and/or water spray; no dry chemical, CO2 or halon. Large fires: flood area with water. Move container from fire area if can be done without risk. Apply cooling water to the sides of containers that are exposed to flames until well after the fire is extinguished.

**Fire Fighting Equipment/Instructions**

Firefighters should wear full protective clothing including self contained breathing apparatus.

**NFPA Ratings: Health:** 3 **Fire:** 0 **Reactivity:** 1 **Other:** OX
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

## * * * Section 6 - Accidental Release Measures * * *

**Containment Procedures**

Stop the flow of material, if this is without risk.

**Clean-Up Procedures**

If possible, dike with a large quantity of sand or earth. Dilute with large quantities of water. Absorb spill with inert (non-flammable) material. Shovel material into appropriate waste container for disposal.

**Evacuation Procedures**

Persons not wearing protective equipment should be excluded from area of the spill until clean-up is completed.

**Special Procedures**

Wear appropriate personal protective equipment. Do not allow product to enter sewer or waterways. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material. Remove all flammable gases, organic solvents, or anything which can be easily oxidized.

## * * * Section 7 - Handling and Storage * * *

**Handling Procedures**

Do not inhale vapors or mists of this product. Use this product with adequate ventilation. Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling. Do not reuse the empty container. When using this material, do not eat, drink or smoke.

**Storage Procedures**

Keep the container tightly closed and in a cool, well-ventilated place. Do not store this material in open or unlabeled containers. Keep in a container fitted with a vent / safety vent. Keep this material away from food, drink and animal feed. Keep this product from heat, sparks, or open flame. Keep product away from organic solvents and other products containing easily oxidized functional groups.

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## * * * Section 8 - Exposure Controls / Personal Protection * * *

**Exposure Guidelines**

**A: General Product Information**

Use good industrial hygiene practices in handling this material. Attempts should be made to eliminate all contact with skin and eyes, and to limit inhalation exposure.

**B: Component Exposure Limits**

**Hydrogen Peroxide (7722-84-1)**

ACGIH: 1 ppm TWA; 1.4 mg/m3 TWA
OSHA: 1 ppm TWA; 1.4 mg/m3 TWA
NIOSH: 1 ppm TWA; 1.4 mg/m3 TWA

**Acetic Acid (64-19-7)**

ACGIH: 10 ppm TWA; 25 mg/m3 TWA
15 ppm STEL; 37 mg/m3 STEL
OSHA: 10 ppm TWA; 25 mg/m3 TWA
NIOSH: 10 ppm TWA; 25 mg/m3 TWA
15 ppm STEL; 37 mg/m3 STEL

**C: Exposure Limits for Chemicals Produced in Use.**

This material has no components listed.

**Engineering Controls**

Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.

**PERSONAL PROTECTIVE EQUIPMENT**

**Personal Protective Equipment: Eyes/Face**

Wear chemical goggles; face shield (if splashing is possible).

**Personal Protective Equipment: Skin**

Use impervious gloves. The use of butyl rubber gloves is recommended. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves.

**Personal Protective Equipment: Respiratory**

If ventilation is not sufficient to effectively prevent buildup of vapors, appropriate NIOSH/MSHA respiratory protection must be provided

**Personal Protective Equipment: General**

Eyewash fountains and emergency showers are recommended.

## * * * Section 9 - Physical & Chemical Properties * * *

| | | | |
|---|---|---|---|
| **Appearance:** | Clear, colorless | **Odor:** | Pungent |
| **Physical State:** | Liquid | **pH:** | <1 |
| **Vapor Pressure:** | Not available | **Vapor Density:** | Not available |
| **Boiling Point:** | Not applicable product decomposes | **Melting Point:** | Not applicable |
| **Solubility (H2O):** | Completely | **Specific Gravity:** | 1.1-1.12 |
| **Freezing Point:** | -30 Deg C (-22 Deg F) | | |

**Physical Properties: Additional Information**

Decomposition temperature: self-accelerating decomposition temperature (SADT) 55 Deg C.

## * * * Section 10 - Chemical Stability & Reactivity Information * * *

**Chemical Stability**

Stable with slow gas release.

**Chemical Stability: Conditions to Avoid**

Heat and sources of heat.

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Supersedes: -

**Incompatibility**

Incompatibilities include acids, bases, metals, salts of metals, reducing agents, organic materials and flammable substances.

**Hazardous Decomposition**

Upon decomposition, this product may yield oxygen, heat, steam, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

**Hazardous Polymerization**

Hazardous polymerization will not occur.

## * * * Section 11 - Toxicological Information * * *

**Acute and Chronic Toxicity**

**A: General Product Information**

A corrosive acid can cause severe irritation and burns to the eyes, skin and respiratory system. Ingestion of a corrosive acid may result in severe burns to the lips, oral cavity and esophagus with more severe burns to the stomach. Higher exposure may cause pulmonary edema.

Hydrogen peroxide is severely irritating and may cause burns to the eyes, skin, and respiratory tract. Hydrogen peroxide peroxide decomposes upon ingestion and can cause inflammation of the stomach and esophagus, abdominal bloating, and gastric bleeding. Systemic effects include dizziness, headache, tremors, numbness, pulmonary edema, seizures, shock, and unconsciousness.

Acetic acid is severely irritating and may cause burns to the eyes, skin, respiratory tract, and gastrointestinal system. Acetic acid can cause allergic lung sensitization reactions, characterized by asthma-like symptoms such as tightness in the chest, difficulty breathing, and wheezing.

Ingestion of potassium salts may result in gastrointestinal irritation, nausea, vomiting, diarrhea as well as confusion and weakness. Systemic oral toxicity to tetrapotassium pyrophosphate is rare and has consisted of acidosis and hypocalcemic tetany.

Peroxyacetic acid is severely irritating and may cause burns to the eyes, skin, and respiratory tract.

**B: Component Analysis - LD50/LC50**

**Hydrogen Peroxide (7722-84-1)**

MX0890000:Hydrogen peroxide, 8% to 20% (10/1/97)
Oral LD50 Rat : 1518 mg/kg
MX0900000:Hydrogen peroxide, 90% (12/1/97)
Inhalation LC50 Rat : 2 gm/m3/4H
Oral LD50 Mouse : 2 gm/kg

**Acetic Acid (64-19-7)**

Inhalation LC50 Mouse : 5620 ppm/1H
Oral LD50 Rat : 3310 mg/kg
Dermal LD50 Rabbit : 1060 uL/kg

**Peroxyacetic acid (79-21-0)**

Inhalation LC50 Rat : 450 mg/m3
Oral LD50 Rat : 1540 uL/kg
Oral LD50 Mouse : 210 mg/kg
Dermal LD50 Rabbit : 1410 uL/kg

**Potassium pyrophosphate (7320-34-5)**

Dermal LD50 Rabbit : >4640 mg/kg

**Carcinogenicity**

**A: General Product Information**

No carcinogenicity data available for this product.

Acetic acid is regarded as a weak tumor promoter because, applied prior to a known carcinogen, acetic acid made mice more sensitive to tumor development.

Oral administration of hydrogen peroxide to mice is reported to have induced intestinal tumors.

Peroxyacetic acid resulted in tumors at the site of application when large amounts were applied to the skin of mice intermittently for 26 weeks.

**B: Component Carcinogenicity**

**Hydrogen Peroxide (7722-84-1)**

ACGIH: A3 - Animal Carcinogen

IARC: Monograph 36, Supplement 7, Monograph 71; 1998 (Group 3 (not classifiable))

**Epidemiology**

No epidemiological data is available for this product.

**Neurotoxicity**

No data available for this product.

**Mutagenicity**

No information available for the product.

Hydrogen peroxide has a wide range of genetic activity in short term tests, possibly by means of hydroxyl radicals. Different results in vitro tests, may be due to differing levels of enzyme scavengers (catalase, dismutase) in the cells.

Acetic acid was not found to be mutagenic by the Ames test or in yeast. However, acetic acid did produce chromosomal damage in Drosophila.

**Teratogenicity**

No teratogenicity/reproductive data available for this product.

## * * * Section 12 - Ecological Information * * *

**Ecotoxicity**

**A: General Product Information**

This product or products similar to this have resulted in toxicity to aquatic organisms.

LC50 (96 hr) rainbow trout: 13 mg/L. Cond: fresh water.
NOEC rainbow trout: <10 mg/L. Cond: pigmentation.
LC50 (96 hr) plaice: 89.1 mg/L. Cond: Salt water.
NOEC plaice: 56 mg/L. Cond: Salt water.
LC50 (48 hr) water flea: 3.3 mg/L. Cond: Fresh water
NOEC water flea: 1 mg/L.
EC50 (48 hr) shrimp (Crangon crangon): 126.8 mg/L. Cond: Salt water. Test Substance: 12% solution.
NOEC shrimp (Crangon crangon): 56 mg/L.
EC50 (72-96 hr) algae (various species): 0.7-16 mg/L.
EC100 (5 min) bacteria (Pseudomonas aeruginosa): 5 mg/L.

Chronic ecotoxicity:
LOEC Terrestrial plants (various species), phytotoxicity, 10 mg/L. Result: phytotoxic effect.

**B: Component Analysis - Ecotoxicity - Aquatic Toxicity**

**Hydrogen Peroxide (7722-84-1)**

LC50 (48 hr) carp: 42 mg/L.

**Acetic Acid (64-19-7)**

LC50 (96 hr) fathead minnow: 88 mg/L. Cond: Static, 18-22 degrees C.; LC50 (96 hr) bluegill sunfish: 75 mg/L.; LC50 (24 hr) goldfish: 423 mg/L.; EC50 (24-48 hr) water flea: 32-47 mg/L.

**Potassium pyrophosphate (7320-34-5)**

LC50 (96 hr) rainbow trout: >100 mg/L.; EC50 (48 hr) waterflea: >100 mg/L.

**Environmental Fate**

No bioaccumulation, considerable abiotic and biotic degradability and weak persistence of degradation products.

Nonsignificant volatility in air, considerable solubility and mobility in the water, and non-significant adsorption to soils and sediments.
Significant photolysis in the air, water, and soil.

Water (t1/2 = 120 hrs) degradation products: acetic acid and hydrogen peroxide, biodegradable. Kinetic as a function of temperature, dilution, presence of impurities. Test substance: 0.2%.

Soil, 99%, 20 minutes. Test substance: 1% solution.
Abiotic degradation test: readily biodegradable/closed bottle.

## * * * Section 13 - Disposal Considerations * * *

**US EPA Waste Number & Descriptions**

**A: General Product Information**

You must test your waste using methods described in 40 CFR Part 261 to determine if it meets these or other applicable definitions of hazardous wastes. Supplier lists product as a D001 (ignitable) and D002 (corrosive) hazardous waste.

**B: Component Waste Numbers**

No EPA Waste Numbers are applicable for this product's components.

**Disposal Instructions**

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Do not allow this material to drain into sewers/water supplies.

## * * * Section 14 - Transportation Information * * *

**US DOT Information**

**Shipping Name:** Hydrogen peroxide and peroxyacetic acid mixtures, stabilized
**Hazard Class:** 5.1
**UN/NA #:** UN3149
**Packing Group:** II
**Required Label(s):** OXIDIZER, CORROSIVE
**Additional Info.:** Not available

**International Transportation Regulations**

Not available.

## * * * Section 15 - Regulatory Information * * *

**US Federal Regulations**

**A: General Product Information**

No additional information available.

**B: Component Analysis**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Hydrogen Peroxide (7722-84-1)**

SARA 302: concentration > 52%: TPQ = 1000 pounds; RQ = 1000 pounds

**Acetic Acid (64-19-7)**

CERCLA: final RQ = 5000 pounds (2270 kg)

**Peroxyacetic acid (79-21-0)**

SARA 302: TPQ = 500 pounds; RQ = 500 pounds

SARA 313: form R reporting required for 1.0% de minimis concentration

**State Regulations**

**A: General Product Information**

Additional state regulations may apply.

**B: Component Analysis - State**

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS # | CA | FL | MA | MN | NJ | PA |
|---|---|---|---|---|---|---|---|
| Hydrogen Peroxide | 7722-84-1 | Yes | Yes | Yes | Yes | Yes | Yes |
| Acetic Acid | 64-19-7 | Yes | Yes | Yes | Yes | Yes | Yes |
| Peroxyacetic acid | 79-21-0 | No | Yes | Yes | No | Yes | Yes |

**Other Regulations**

**A: General Product Information**

No additional information.

**B: Component Analysis - Inventory**

| Component | CAS # | TSCA | DSL | EINECS |
|---|---|---|---|---|
| Water | 7732-18-5 | Yes | Yes | Yes |
| Hydrogen Peroxide | 7722-84-1 | Yes | Yes | Yes |
| Acetic Acid | 64-19-7 | Yes | Yes | Yes |
| Peroxyacetic acid | 79-21-0 | Yes | Yes | Yes |
| Potassium pyrophosphate | 7320-34-5 | Yes | Yes | Yes |

**C: Component Analysis - WHMIS IDL**

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

| Component | CAS # | Minimum Concentration |
|---|---|---|
| Hydrogen Peroxide | 7722-84-1 | 1% item 849 (1365) |
| Acetic Acid | 64-19-7 | 1% item 6 (51) |
| Peroxyacetic acid | 79-21-0 | 1% item 1253 (123) |

## * * * Section 16 - Other Information * * *

**Other Information**

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

**Key/Legend**

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration

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