

SECTION 1. COMPANY & PRODUCT IDENTIFICATION

Date of Issue: 6 January 2021

1.1 Product Identifier

Product Brand name: PERACTIF 5000

Product Description: Sanitizer

Product Code: 200014

1.2 Other Means of Identification

CAS-No 79-21-0

Synonyms Peracetic Acid; Ethaneperoxoic Acid; Peroxyacetic Acid; Acetyl Hydroperoxide

1.3 Relevant Identifier uses of the substance or mixture and uses advised against

Oxidizing agent for a variety of organic reactions

Restrictions on Use: Use as recommended by the label.

1.4. Details of the supplier of the safety data sheet**Tidol Corporation**

146 Shorting Road, Scarborough ON M1S 3S6, Canada

Tel: 416-293-2244/ 1-800 881-8672 Fax: 416-293-5808

Email: info@tidolcorp.com

1.5 Emergency Telephone Number

Vendor 1-800-881-8672

Canutec 1-613-996-6666 or 1-888-CAN-UTEC

SECTION 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or Mixture****OSHA Regulatory Status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Organic Peroxide	Type F
Flammable liquids	Category 3

2.2 Label elements**Hazard Statements**

H301 - Toxic if swallowed

H312 - Harmful in contact with skin

H314 - Causes severe skin burns and eye damage

H331 - Toxic if inhaled

H335 - May cause respiratory irritation

Physical Hazards

H242 - Heating may cause a fire

H226 - Flammable liquid and vapor

Precautionary Statements - Prevention

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P220 - Keep/Store away from clothing/combustible materials
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P234 - Keep only in original container
P235 - Keep cool

Precautionary Statements - Response

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P310 - Immediately call a POISON CENTER or doctor
P370 + P378 - In case of fire: Use water for extinction

Precautionary Statements - Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P411 + P235 - Store at temperatures not exceeding 30 °C/ 86 °F. Keep cool
P410 - Protect from sunlight

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Do not store on wooden pallets. Avoid damage to containers. In case of decomposition: isolate container, douse container with cool water and dilute with large volumes of water. In case of leak or spill: Stop leak if this can be done without risk. Flush area with large quantities of water. Undiluted material should not be allowed to enter confined spaces. Risk of decomposition by heat or by contact with incompatible materials.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	% v/v
Acetic Acid	64-19-7	7.00 - 8.00
Peracetic Acid	79-21-0	5.50 - 6.00
Water	7732-18-5	55.00 - 65.00
Hydrogen Peroxide	7722-84-1	25.00 - 30.00

SECTION 4. FIRST AID MEASURES INFORMATION

General Advice

Liquid and mist are corrosive and can cause burns, direct contact could cause irreversible damage to eyes including blindness and/or irreversible destruction of skin tissue. Vapor/mist will irritate the nose, throat and lungs, but will usually subside when exposure ceases. The severity of the effects depends in the concentration and dose.

Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids intermittently. Consult a physician.

Skin Contact

Immediately flush with plenty of water while removing contaminated clothing and/or shoes, and thoroughly wash with soap and water. Seek immediate medical attention/advice. Wash contaminated clothing with plenty of water to prevent fire hazard.

Inhalation

Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

Ingestion

Clean mouth with water. Drink 1 or 2 glasses of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

This product is irritating to the respiratory system and can cause pulmonary inflammation and edema, especially if it is inhaled in the aerosol form. In case of accidental ingestion, necrosis may result from mucous membrane burns (mouth, esophagus and stomach). Oxygen rapid release may cause stomach swelling and hemorrhaging, which may produce major, or even fatal, injury to organs if a large amount has been ingested. Corneal lesions and irreversible damage if contact with the eyes.

Indication of immediate medical attention and special treatment needed, if necessary

This product can be corrosive to skin, eyes, and mucous membranes. Consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Observations may be warranted. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

SECTION 5. FIRE FIGHTING MEASURES INFORMATION

Suitable Extinguishing Media	Water. Cool containers with flooding quantities of water until well after fire is out.
Unsuitable extinguishing media	Chemical type extinguishers are not effective with peracetic acid or hydrogen peroxide.
Specific Hazards Arising from the Chemical	Decomposes under fire conditions to release oxygen that intensifies the fire.
<u>Explosion data</u>	
Sensitivity to Mechanical Impact	Not Available.
Sensitivity to Static Discharge	Not Available.
Protective equipment and precautions for firefighters	
	Wear self-contained breathing apparatus and protective suit. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles

SECTION 6. ACCIDENTAL RELEASE MEASURES INFORMATION

Personal Precautions	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see Section 8.
Other	For further clean-up instructions, call PeroxyChem Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
Environmental Precautions	Prevent material from entering into soil, ditches, sewers, waterways, and/or groundwater. See Section 12, Ecological Information for more detailed information.
Methods for Containment	Control runoff and isolate discharged material for proper disposal. Do not allow material to enter storm or sanitary sewer system.
Methods for cleaning up	Hydrogen peroxide is an ingredient in this product; completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on combustible materials such as paper, fabrics, leather or wood can cause the material to ignite and result in a fire.

SECTION 7. HANDLING AND STORAGE INFORMATION

Handling	Handle product only in closed system or provide appropriate exhaust ventilation. Electric and light installations ought to be explosion-proof. Use only non-sparking tools. IBC (Tote) - IBC should be emptied as thoroughly as possible and recycled without rinsing. Drums - Empty as thoroughly as possible. Triple rinse drums before disposal. Avoid contamination; impurities accelerate decomposition. Never return product to original container.
Storage	Do not store near reducing agents, fuels or other non-compatible materials. Keep in a dry, cool and well-ventilated place. Keep at temperatures below 30°C. Higher temperatures will accelerate decomposition resulting in loss of assay. Keep away from direct sunlight. Keep away from heat and sources of ignition i.e., steam pipes, radiant heaters, hot air vents or welding sparks. Use first in, first out storage system. Do not double-stack. Containers must be vented.
Incompatible products	Oxidizing agents; Strong reducing agents; Combustible materials; Heavy metals such as iron, copper, chromium, nickel, aluminum and cobalt.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION INFORMATION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Acetic Acid 64-19-7	STEL 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m ³	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m ³ STEL: 15 ppm STEL: 37 mg/m ³
Peracetic Acid 79-21-0	STEL 0.4 ppm	-	-
Hydrogen Peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m ³

Appropriate engineering controls

Engineering measures Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective

Equipment Eye/Face Protection Tightly fitting safety goggles. Face-shield.

Skin and Body Protection Rubber or neoprene footwear. Impervious clothing materials such as rubber, neoprene, nitrile or polyvinyl chloride. Wear liquid proof rubber or neoprene gloves. Hydrogenperoxide is an ingredient in this product; completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on combustible materials such as paper, fabrics, leather or wood can cause the material to ignite and result in a fire.

Hand Protection Rubber/latex/neoprene or other suitable chemical resistant gloves. Wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators: Full face piece respirator with organic vapor/acid gas cartridge or canister. If break-through occurs, use airline supplied or self-contained breathing apparatus with full face piece.

Hygiene measures Clean water should be available for washing in case of eye or skin contamination. Remove and wash contaminated clothing before re-use. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Launder work clothing separately from regular household laundry.

General information Protective engineering solutions should be implemented and in use before personal protective equipment is considered.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearances	Liquid
Initial Boiling Point	Not applicable
Boiling Range	~107 °C / 225 °F
Bulk Densities	Not Applicable
Flammability	Non flammable
Upper Flammability limit	Non Flammable
Lower Flammability limit	Non flammable
Partition coefficient	Not available
Auto Ignition temperature	Non flammable
Decomposition Temperature	> 55 °C (SADT) (55-gal. drum)

Color	Colorless, clear
Densities	Not Available.
Evaporation Rate	< 1 (n-butyl acetate=1)
Explosive properties	Not Applicable
Extinguishing Media for Fires	Non-Flammable
Flash Points	46 °C / 115 °F Closed cup Open Cup - No measurable flash point up to 110°C Fire Point - No fire point. This material will not sustain a flame
Heats of Combustion	Not Available.
Henry's Law Constant	Not Available.
Melting point/freezing point	-44 °C / -47 °F
Odor Threshold Values	Not Available.
Odors	stinging, Pungent vinegar-like
Percent Volatility	Not Available.
pH Value	< 1
Specific Gravity	1.13 g/mL @ 20 °C
Vapor Pressures	20 mm Hg at 25°C
Water Miscibility	Water Soluble
Water Solubility (Qualitative)	Infinite

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Reactive and oxidizing agent. Organic peroxide.
Chemical Stability	Stable under normal conditions. Contamination or heat could initiate decomposition.
Possibility of Hazardous Reactions	May produce explosive reactions with Acetic Anhydride. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks; Temperatures above 30°C. Higher temperatures will accelerate decomposition resulting in loss of assay
Incompatible materials	Oxidizing agents; Strong reducing agents; Combustible materials; Heavy metals. such as iron, copper, chromium, nickel, aluminum and cobalt.
Hazardous Decomposition Products	Liable to produce overpressure in container. Acetic acid and oxygen that supports combustion.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	LD50 Rat = 50 -500 mg/kg/bw (35% Peracetic acid) LD50 rat = 1026-1780 mg/kg/bw (15% Peracetic acid) LD50 rat = 185-3622 mg/kg/bw (2.6-6.11% Peracetic acid)
LD50 Dermal	LD50 Rat = 1957 mg/kg/bw (15% Peracetic acid) LD50 rat = 1147 mg/kg/bw (5% Peracetic acid)
LC50 Inhalation	LD50 rat = >2000 mg/kg/bw (Peracetic acid 0.15%-0.89%) LC50 (4-hr) Rat = 76-189 mg/m ³ (15% Peracetic acid) LC50 (4-h) rat = 204 mg/m ³ (5% Peracetic acid)

Serious eye damage/eye irritation Corneal lesions and irreversible damage if contact with the eyes.

Skin corrosion/irritation Corrosive to skin.

Sensitization Did not cause sensitization on laboratory animals.

Information on toxicological effects

Symptoms

Liquid and mist are corrosive and can cause burns, direct contact could cause irreversible damage to eyes including blindness

and/or irreversible destruction of skin tissue. Vapor/mist will irritate the nose, throat and lungs, but will usually subside when exposure ceases. The severity of the effects depends in the concentration and dose.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity	Repeated inhalation of the mist may cause inflammation of the upper respiratory tract, chronic bronchitis and etching of the dental enamel.
Carcinogenicity	Did not show carcinogenic effects in animal experiments. Topical applications do not produce skin tumors. Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).
Mutagenicity	This product is not recognized as mutagenic by Research Agencies. Did not show mutagenic effects in animal experiments.
Reproductive toxicity	This product is not recognized as reprotox by Research Agencies. No toxicity to reproduction in animal studies.
STOT - single exposure	May cause respiratory irritation.
STOT - repeated exposure	Not classified.
Aspiration hazard	Aspiration risk: may cause lung damage if swallowed.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic Environment

Peracetic Acid (79-21-0)				
Active Ingredient(s)	Duration	Species	Value	Units
Peracetic Acid 15%	96 h LC50	Oncorhynchus mykiss (rainbow trout)	0.53	mg/L
Peracetic Acid 5%	96 h LC50	Bluegill sunfish	1.1	mg/L
Peracetic Acid	33 d NOEC	Brachydanio rerio	0.00225	mg/L
Peracetic Acid 5%	96 h LC50	Oncorhynchus mykiss (rainbow trout)	1.6	mg/L
Peracetic Acid 5%	48 h EC50	Daphnia magna	0.73	mg/L
Peracetic Acid 12.5%	48 h EC50	Mytilus sdulis	0.27	mg/L
Peracetic Acid 15%	21 d NOEC	Daphnia magna	0.05	mg/L
Peracetic Acid 5%	72 h EC50	Selenastrum capricornutum	0.16	mg/L
Peracetic Acid 5%	120 h EC50	Selenastrum capricornutum	0.18	mg/L
Peracetic Acid 5%	72 h NOEC	Selenastrum capricornutum	0.061	mg/L
Peracetic Acid	3 h EC50	Respiration inhibition test (OECD 209)	5.1	mg/L

Persistence and degradability	Peracetic acid is completely miscible with water. Aqueous solutions of peracetic acid hydrolyze to acetic acid and hydrogen peroxide. Product is biodegradable.
Bioaccumulation	Based on its low octanol-water partition coefficient and its rapid degradation in the environment, this product is not bioaccumuable.
Mobility	Peracetic acid released in the environment will partition almost exclusively (>99%) to the water compartment. Only a minor part (<1%) will remain in the atmosphere, where it is expected to undergo rapid decomposition with a half life of 22 minutes. The fate of peracetic acid in the environment is mainly determined by its degradation.
Other Adverse Effects	None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods	This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.
US EPA Waste Number	D001 D002
Contaminated Packaging	Non-returnable containers that held this material should be cleaned by triple-rinsing prior to recycle or disposal. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

DOT

UN/ID no	UN 3109
Proper Shipping Name	ORGANIC PEROXIDE TYPE F, LIQUID
Hazard class	5.2
Subsidiary class	8 and 3
Packing Group	II

TDG

UN/ID no	UN 3109
Proper Shipping Name	ORGANIC PEROXIDE TYPE F, LIQUID
Hazard class	5.2
Subsidiary class	8 and 3
Packing Group	II

ICAO/IATA

Air regulation permit shipment of peracetic acid in non-vented containers for Air Cargo Only aircraft, as well as for Passenger and Cargo aircraft. HOWEVER, all peracetic acid containers are vented and therefore, air shipments of peracetic acid are not permitted. IATA air regulations state that venting of packages containing oxidizing substances is not permitted for air transport.

IMDG/IMO

UN/ID no	UN 3109
Proper Shipping Name	ORGANIC PEROXIDE TYPE F, LIQUID
Hazard class	5.2
Subsidiary Hazard Class	8 and 3
Packing Group	II

OTHER INFORMATION

Material is shipped in 5 gal. (45 lb.), 30 gal. (250 lb.) and 55 gal. (450 lb.) vented linear(not cross-linked) polyethylene containers, as well as linear (not cross-linked) polyethylene IBC's (330 gal.). Do not ship on wooden pallets.

SECTION 15. REGULATORY INFORMATION

U.S. Federal Regulations

Clean Air Act (CAA) - Accidental Release Prevention

Peracetic acid is listed as a Regulated Toxic Substance at 40 CFR 68.130. Pursuant to the threshold determination provisions for mixtures at 40 CFR 68.155(b)(1), the partial pressure of peracetic acid in VigorOx products (up to 35% solutions) are less than 10 mm Hg at 25°C, and thus the product, as sold, is not subject to the threshold determination under the Risk Management Planning regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Peracetic Acid - 79-21-0	79-21-0	35.5	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	Yes

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic Acid 64-19-7	5000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA RQ
Acetic Acid 64-19-7	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Peracetic Acid 79-21-0		500 lb	
Hydrogen Peroxide 7722-84-1		1000 lb	

International Inventories

Component	TSCA (United States)	DSL (Canada)	EINECS/EL INCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)	NZIoC (New Zealand)
Acetic Acid 64-19-7 (40)	X	X	X	X	X	X	X	X	X
Peracetic Acid 79-21-0 (35.5)	X	X	X	X	X	X	X	X	X
Hydrogen Peroxide 7722-84-1 (6.5)	X	X	X	X	X	X	X	X	X

Mexico - Grade Serious risk, Grade 3

CANADA**WHMIS Statement**

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

WHMIS Hazard Class

C - Oxidizing material
E - Corrosive material
D2B - Toxic materials
B3 - Combustible liquid



SECTION 16. OTHER INFORMATION

NFPA	Health Hazards 3	Flammability 2	Stability 2	Special Hazards OX
HMIS	Health Hazards 3	Flammability 2	Physical hazard 0	Special precautions H

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0
 Special Hazards: OX = Oxidizer
 Protection = H (Safety goggles, gloves, apron, the use of supplied air or SCBA respirator is required in lieu of a vapor cartridge respirator)

Uniform Fire Code Organic Peroxide: Class 3--Liquid

The information on this Safety Data Sheet has been obtained from the Globally Harmonized System of Classification and Labeling of Chemicals, Guidance on the preparation of Safety Data Sheet, Suppliers, Manufacturers, and where applicable, from other reliable sources such as CCOHS, RTECS and worldwide web. However, TIDOL CORPORATION makes no warranties, expressed or implied, as to the accuracy; completeness or adequacy of the information contained herein, and shall not be held liable, regardless of fault, to anyone directly or indirectly for damages or injuries in the use of this product arising out of or in connection with the accuracy, completeness or adequacy of such information. It is the purchaser and the user of the product to evaluate the usefulness of the product and the information inscribed here.

Free samples are provided for testing for fitness of the product for use by the purchaser or another third party client and their compliance with applicable statutes is a strict condition of sale. All information given in course of communication is from the best of our knowledge of the products. All recommendations and suggestions are believed to be reliable within limited scope, but should not be construed as warranties. Tidol Corporation, their associated companies and directors disclaim any liability in connection with the purchase, transportation, storage and the use of the product or any data communication.

This Safety data sheet was prepared in compliance with Canadian Hazardous Products Act, 1985, c.H-3 and Hazardous products Regulations 2015-17, Globally Harmonized System of Classification and Labeling of Chemicals and Guidance on the preparation of Safety Data Sheets.