



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

July 11, 2001

Mr. John Dubeck  
Eka Chemicals, Inc.  
1775 West Oak Commons Court  
Marietta, GA 30062-2254

Dear Mr. Dubeck:

Subject: Purate™ Precursor  
Registration Number: 49620-4  
Registration Amendment

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, will be acceptable provided that you make the labeling changes listed below before you release the product for shipment bearing the amended label.

1. The following statement appearing on the first panel needs to be placed following the statements of percentages.

“ - FOR INDUSTRIAL USE ONLY-  
KEEP OUT OF REACH OF CHILDREN”

2. The human hazard statement at the top of the second panel needs to be revised to state:

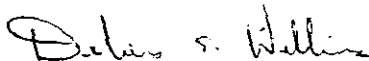
“Corrosive: causes irreversible eye damage. Do not get in eyes or skin or clothing. Wear protective eyewear (goggles or face shield). Wear protective clothing and neoprene gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Note: use of contact lenses is not recommended when handling this product.”

A stamped copy is enclosed for your records. Submit one copy of the final printed label before you release the product for shipment bearing the amended label.

If you have any questions, please call Patrick Dobak at (703) 308-8180.

Sincerely yours,



*for* Robert S. Brennis  
Product Manager (32)  
Regulatory Management Branch II  
Antimicrobial Division (7504C)

# Purate™

**Aqueous Solution with 40% Sodium Chlorate and 10% Hydrogen Peroxide**  
*A PRECURSOR CHEMICAL SOLUTION FOR USE ONLY IN THE SVP-PURE™ CHLORINE DIOXIDE GENERATOR*

In addition to this precursor chemical, a feedstock of 78% sulfuric acid is required to generate chlorine dioxide.

**- FOR INDUSTRIAL USE ONLY -  
KEEP OUT OF REACH OF CHILDREN**

## DANGER

FIRST AID	
<b>IF IN EYES</b>	Hold eye open and flush with a directed stream of water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
<b>IF ON SKIN OR CLOTHING</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
<b>IF SWALLOWED</b>	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>IF INHALED</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage.	

**ACTIVE INGREDIENT:**

Sodium Chlorate (NaClO <sub>3</sub> ) .....	40.0%
OTHER INGREDIENTS:.....	60.0%
TOTAL .....	100.0%

**EKA CHEMICALS, INC.**  
1775 West Oak Commons Court  
Marietta, GA 30062-2254

EPA Reg. No. 49620-4  
EPA Est. No. 49620-MS-1 \_\_\_\_\_  
EPA Est. No. 48520-CT-1 \_\_\_\_\_  
EPA Est. No. 65001-CO-1 \_\_\_\_\_

**ACCEPTED  
with COMMENTS  
in EPA Letter Dated:**

JUL 11 2001



Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No. 49620-4

Net Contents \_\_\_\_\_ Gallons

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

## DANGER

*Purate*<sup>™</sup> is corrosive. Causes irreversible eye damage. Use of contact lenses is not recommended when handling this product. Do not get in eyes or on skin or clothing. Wear protective eyewear (goggles or face shield). Wear protective clothing and neoprene gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

## ENVIRONMENTAL HAZARDS

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

## CHEMICAL HAZARDS

*Purate*<sup>™</sup> is a strong oxidizing agent. Do not contaminate with dirt, oils or organic matter of any sort. Contamination may cause violent chemical reactions, fire and explosion. Clean up all chemical spills immediately. Allowing spills to dry or concentrate may cause spontaneous combustion. In case of chemical spills, avoid bodily contact and wear appropriate protective equipment.

## DIRECTIONS FOR USE

### General Directions:

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

*Purate*<sup>™</sup> is for use only in the *SVP-Pure*<sup>™</sup> Chlorine Dioxide Generator, a pesticide device installed to generate chlorine dioxide. Feed rates for *Purate*<sup>™</sup> are determined by the operator to achieve the desired production rate for chlorine dioxide. As described below, the appropriate production rate will depend on the severity of contamination, the degree of control desired, the size of the system and residual necessary for effective control. For all uses, the point of feed of chlorine dioxide should be below the water level to prevent volatilization of the chlorine dioxide. Chlorine dioxide must be added to the water stream at a point where adequate mixing and uniform distribution can occur.

### Drinking Water Treatment:

This product is approved for use in water treatment facilities that produce potable drinking water in compliance with the Safe Drinking Water Act. A typical dosage of chlorine dioxide for water systems is between 0.5 and 5 ppm on a continuous basis. *Purate*<sup>™</sup> has been approved by the National Sanitation Foundation for use in drinking water systems.

### Industrial Process Water Uses:

This product is approved for the control of microbial, algal and mollusc populations in industrial process or waste water at the sites listed below. The dosage of chlorine dioxide required is dependent on the specific use; see specific directions below. *Purate*<sup>™</sup> may be used to treat the following aquatic sites:

**Recirculating and non-recirculating cooling water:** To control microbial and algal slime in cooling water systems, an intermittent or continuous application may be used. If using a continuous feed, maintain residual chlorine dioxide concentrations between 0.1 - 1.0 ppm. If using intermittent feed, maintain a residual concentration of 0.1 - 5.0 ppm. In recirculating systems, chlorine dioxide should be added to the drip pan, cold water well, or other points where adequate mixing and uniform distribution can occur. To remove adult mollusks in once-through cooling water systems, an intermittent dose of 0.2 - 25 ppm is necessary; the exact dose is dependent on the infestation present. If a continuous dose is preferred, apply chlorine dioxide at rates that maintain 0.25 - 2 ppm in the cooling water. To prevent settling and attachment of the free swimming larvae of mollusks (veligers), apply a continuous feed to achieve a residual of 0.1 - 0.5 ppm.

**Textile processing water and pulp and paper process water for paper that does not contact food:**  
To control microorganisms that form slime in paper process water and that cause blockages of paper mill

equipment, and to oxidize slime buildup already present, chlorine dioxide may be applied in an intermittent or continuous dose. Either method of application should maintain a residual concentration of 0.1 - 5.0 ppm of chlorine dioxide in the paper process water. If the system is badly fouled, it must be cleaned prior to treatment with chlorine dioxide.

**Pasteurizer, cannery and retort water systems:** To control odor and reduce bacterial slime in cooling and warming waters such as canning, retort, and pasteurizer process water, chlorine dioxide may be added intermittently to achieve a dose of 0.4 ppm.

**Impounded lake, pond and reservoir water, including industrial waste water:** To control microorganisms and algae that cause unacceptable odors and slime, these aquatic sites may be treated with chlorine dioxide on an intermittent basis. Sufficient chlorine dioxide must be added to reach a residual concentration of 5 ppm, in order to achieve adequate control of odor and slime caused by algae and microorganisms.

**Sewage and wastewater systems:** For (disinfection/sanitization) of sewage and wastewater, add chlorine dioxide to achieve a residual of up to 5 ppm. To control odors caused by sulfides associated with sewage and wastewater, a minimum of 5.2 ppm chlorine dioxide must be applied to oxidize 1 ppm sulfide (measured as sulfide ion) if the pH is between 5-9. A minimum of 1.5 ppm chlorine dioxide will oxidize 1 ppm phenol if the pH is less than 8; if the pH is greater than 10, a minimum of 3.5 ppm chlorine dioxide is required.

**Gas and oil recovery injection water; fracturing system fluids:** To control sulfate reducing bacteria that form colloidal sulfur or iron sulfides and bacterial biofilms, and to oxidize sulfides, a continuous or intermittent application of chlorine dioxide may be used. If using a continuous feed of chlorine dioxide, apply it at rates slightly higher than the sulfide oxidative demand, as determined by a sulfide demand study. If using an intermittent feed, apply a shock dose of 200 - 3000 ppm chlorine dioxide. Please be certain that this product is not discharged into lakes, streams, ponds, oceans or other waters.

**Ultrasonic tank water; photo processing wash water; and leather processing solutions:** To control slime caused by microbial populations in these liquid systems, a residual chlorine dioxide concentration between 0.25 to 5.0 ppm is necessary. Chlorine dioxide may be added intermittently, or on a continuous basis to achieve the desired residual; the concentration maintained is dependent on individual systems.

**Agricultural Water Uses (Non-Food Contact):**

*Purate™* is approved for use in the control of microbial populations in water for the following agricultural non-food contact uses:

Drinking water treatment for animals not meant for human consumption (e.g., show and research animals, animals raised for fur or wool; horses, mules or donkeys). Treatment of drinking water tanks for livestock not meant for human consumption can be achieved by intermittent or continuous application of chlorine dioxide. Either method should be monitored, to achieve a residual concentration between 1.0 - 2.0 ppm chlorine dioxide.

<b>This product also may be used to generate chlorine dioxide for non-pesticidal uses such as:</b>	
Oxidizing nutrients	Reducing sludge
Eliminating odors	Clarifying/precipitating organic and inorganic particles
Controlling scale & deposits	Reducing TOC (Total Organic Carbon)
Controlling iron & manganese	Reducing color
Controlling corrosion	Destruction of odors caused by phenolics simple cyanides and sulfides by chemical oxidation

**STORAGE AND DISPOSAL****STORAGE**

Unless delivered in bulk, store in the original container. Store at ambient temperatures from 40 °F to 100 °F. Store separately from sulfuric acid precursor and all other acids. Store in fire-resistant area separate from incompatible materials such as acids, powdered metals, organic chemicals, combustible materials and dirt. Clean up spills immediately.

**DISPOSAL OF WASTES**

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL**

Triple rinse (or equivalent). Then offer for recycling or reconditioning. If recycling is unavailable, puncture and dispose of container in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**WARRANTY**

EKA CHEMICALS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for purposes stated on such label when used in the *SVP-Pure™ Chlorine Dioxide Generator*.