

APR 10 1998

Vulcan Chemical Technologies, Inc.  
1902 Channel Drive  
West Sacramento, CA 95691

Attention: Eliot I. Harrison  
Agent for Vulcan Chemical Technologies, Inc.

Subject: Akta Klor 15  
EPA Registration Number 21164-8  
Your Submission Dated October 14, 1997

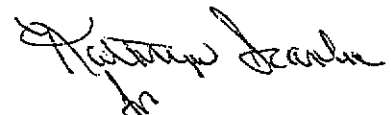
The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provide that you make the labeling changes listed below before you release the product for shipment bearing the amended labeling.

1. The efficacy of Akta Klor 15 was demonstrated to be equivalent to that of  $\geq 200$  ppm NaOC1 when tested against Salmonella typhi.
2. Under the "Environmental Hazards" statement revise the first sentence to read: "This pesticide is toxic to fish and aquatic organisms".
3. The net contents should be declared on the label or on the container.

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 concerning this letter, please contact Delores Williams at (703) 308-6372.

Sincerely,



Robert S. Brennis  
Product Manager (32)  
Regulatory Management Branch II  
Concurrences  
Antimicrobials Division (7510W)

SYMBOL							
SURNAME							
DATE							



**PRECAUTIONARY STATEMENTS****Hazards to Humans and Domestic Animals**

**DANGER.** Corrosive. Causes eye and skin damage. Harmful if swallowed. Irritating to nose and throat. Avoid breathing vapor. Do not get in eyes, on skin or clothing. Wear goggles or face shield, rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other water 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.

**PHYSICAL OR CHEMICAL HAZARDS**

DO NOT mix with acids or other chemicals except water. Mixing with acid or other chemicals may cause evolution of chlorine dioxide gas, which is poisonous and explosive.

**DIRECTIONS FOR USE**

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

**TREATMENT**

AKTA KLOR 15 is a source of chlorine dioxide for use in controlling microorganisms in water and wastewater systems and on hard surfaces. In treating water systems, AKTA KLOR 15 must be used only in conjunction with approved chlorine dioxide generation equipment, which utilizes chlorine gas, or a combination of chlorine solution and/or muriatic acid or food grade acid as the activating agent. In treating hard surfaces, use AKTA KLOR 15 with a chlorine dioxide foam system (FOAM ADD 10). In general, the chlorine dioxide solution is applied to achieve residual concentrations of 10 ppm or less for water treatment and from 100-200 ppm for hard-surface treatment.

Because of the variability of demand in water and process systems the dosage of chlorine dioxide which is required to achieve the target residuals, is normally lower for continuous feed systems than for slug or timed feed applications. The minimum acceptable residual for chlorine dioxide, as determined by a verified procedure, is 0.1 ppm for a minimum one minute contact time.

**POINTS OF ADDITION**

In all cases, generated chlorine dioxide solution should be applied in such a manner to ensure adequate mixing and minimal volatilization. The water stream to be treated may either be passed directly through the chlorine dioxide generator or treated via a side stream injection point. The generation system employed should be in good working order and capable of achieving chlorine dioxide solutions free from chlorine contamination. Residual determination procedures should be substantiated methods and should also be specific for chlorine dioxide or used in systems where no chlorine contamination is possible. Do not add AKTA KLOR 15 directly to process water.

**APPLICATIONS**

**Potable Water and Wastewater Disinfection:**

For most municipal and other potable water systems, a chlorine dioxide residual concentration up to 2.0 ppm is sufficient to provide adequate disinfection. The concentration of total residual oxidants (chlorine dioxide, chlorite and chlorate) should be monitored such that it does not exceed 1.0 ppm in the distribution system. For wastewater and sewage applications, residual chlorine dioxide concentrations up to 5.0 ppm are generally adequate.

**Sanitization of Food-Contact Surfaces:**

Use AKTA KLOR 15 in combination with FOAM ADD 10 to generate a chlorine dioxide containing foam solution for use as a terminal no-rinse sanitizer for food-contact surfaces, food-processing equipment and utensils.

Prior to application of the sanitizing foam, remove gross food particles and soil by a pre-flush, or pre-scrape, and, when necessary, pre-soak treatment. Then thoroughly wash all equipment, surfaces and utensils with a suitable detergent or cleaner, followed by a potable water rinse.

Application of the foam sanitizing solution can be accomplished by manually combining 15 oz. of FOAM ADD 10 with 1.25 oz. of AKTA KLOR 15, gently mixing for ten minutes and then immediately diluting with water to ten gallons. Alternatively, use the *Rio Linda Chemical Portable Foamer* or a centrally located installed system to mix the components, at the use levels noted above.

Cover the entire area being treated with the foam sanitizer to a depth of 1/4-1". A contact time of at least one minute is required for sanitization. Allow the foam sanitizer to thoroughly drain and dry from all equipment and surfaces prior to recontact of the sanitized surface with food or feed items.

**Food Processing Plants, Dairies, Bottling Plants, and Breweries:**

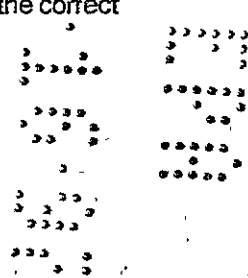
For microbial control in typical food processing water systems, such as flume transport, chill water systems, hydrocoolers, and other water systems, apply AKTA KLOR 15 through a chlorine dioxide generation system to achieve a chlorine dioxide residual concentration ranging from 0.25 to 5.0 ppm.

Chlorine dioxide generated from AKTA KLOR 15 may also be used as a water sanitizer for fruit and vegetable washing and cut and peeled potatoes, meat, seafood and egg shell products, without a subsequent potable water rinse requirement, provided that the concentration of total residual oxidants meet the residual limitations of  $\leq 1.0$  ppm.

Residual concentrations up to 5.0 ppm chlorine dioxide in process water may be used for washing whole uncut and unpeeled fruits and vegetables although a final potable water rinse is required if the residual exceeds 1 ppm.

Potatoes, including those which have been peeled or cut, may be treated with sufficient chlorine dioxide to produce a residual concentration of up to 5.0 ppm provided this is followed by a potable water rinse.

Consult you authorized Vulcan Chemical Technologies representative for assistance in determining the correct dosage for this application.



**Poultry Processing Water:**

Use AKTA KLOR 15 to generate chlorine dioxide for use as an antimicrobial agent in water used in poultry processing in an amount not to exceed 3 ppm residual chlorine dioxide as determined by an appropriate method.

**Aqueous Disinfection Systems for CIP Cleaning:**

Use AKTA KLOR 15 to generate chlorine dioxide for disinfecting aqueous CIP cleaning systems. If the concentration of chlorine dioxide generated from AKTA KLOR 15 exceeds 5.0 ppm, a potable water rinse should follow treatment. Care should be taken to ensure the biological and chemical quality of the potable water.

**General Industrial Process Water Treatment (Oilfield Injection Water, Aqueous Stimulation Systems, White Water Paper Mill Systems, and Recirculating Cooling Towers:**

For control of microbial slimes, these systems will require a chlorine dioxide residual concentration ranging between 0.25 and 5.0 ppm. The AKTA KLOR 15 dosage needed to achieve these levels will vary widely depending on the exact application. Please consult your authorized Vulcan Chemical Technologies representative for assistance in determining the correct dosage level.

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**Storage:** Store this product in a cool, dry area, away from direct sunlight and heat to avoid deterioration. In case of spill, flood the area with large quantities of water.

**Pesticide Wastes:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by 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) all containers and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

