**PRETREATMENT RATIONALE FOR ISSUANCE**

**A L and S, LLC**
**Kemper County**
**DeKalb, MS**
**AI - 35965**

**MSP092174**
**SIC: 2834**
**January 2014**
**Permit Engineer: Audra Sandifer**

## FACILITY INFORMATION

Nature of Business: A L and S will import Hexachlorocyclohexane (benzene hexachloride) as the raw material (mixed isomer feedstock) to be upgraded to United States Pharmacopeia 30 (USP), active pharmaceutical ingredient (API) standards for lindane (intermediate ingredient), and subsequently formulated into a USP 1% lindane lotion or a USP 1% lindane shampoo (finished product).

Process Wastewater Description: Sanitary wastewater from sinks, shower facilities, and the USP water preparation room drain will be collected by a piping system that discharges to a buried concrete pump chamber that is sized to retain approximately one (1) week's flow of effluent water. The effluent water will be pumped through dual granular activated carbon units in series prior to discharge to the sanitary sewer for treatment at the DeKalb Publicly Owned Treatment Works (POTW). Lindane drug production areas (contaminated process waste and cleaning waste) do not discharge to this drain. All process and cleaning waste from drug production is captured and removed by a third party.

Proposed Flowrate: 375 gallons per day

Applicable Federal Guidelines: The proposed controls for the batch processing of the benzene hexachloride feedstock to USP API grade lindane pharmaceutical products are designed for zero discharge of industrial wastewater. Sanitary wastewater will be pre-treated to preclude the release of contaminants from the sanitary wastewater stream. Based on the zero discharge, there are no applicable federal guidelines.

## RECEIVING POTW INFORMATION

POTW and Permit Number: Dekalb POTW Number 1, MS0025291 (AI-13103)
POTW Treatment Type: Conventional Lagoon
POTW Design Flowrate: 0.2304 MGD
POTW Receiving Stream: Snoody Creek

POTW Receiving Stream 7Q10 ($Q_{7/10}$): 0

**PERTINENT FLOWRATE AND LOADING DATA**

POTW 12-month Average Flowrate ($Q_{POTW}$): 0.152 MGD

**WATER QUALITY ANALYSIS**

Instream Wastewater Concentration(1)

$$IWC, \% = Q_{POTW} / (Q_{POTW} + Q_{7/10}) \times 100$$
$$= 0.152 / (0.152 + 0) \times 100$$
$$= 0.152/0.152 \times 100$$
$$= 100\ \%$$

Because of this, the POTW would have to meet the chronic and acute water quality criteria.

**DEVELOPMENT OF ALLOWABLE CONCENTRATIONS**

Acute (lindane) – Daily Maximum -- 0.95 µg/L
Chronic (lindane) – Monthly Average – 0.08 µg/L

Based on the application and the treatment at the plant, no discharge of lindane is expected. Therefore, we are asking for the lindane concentration to be reported only. If lindane is detected and becomes a concern, permit limits will be established.

**PROPOSED PERMIT LIMITATIONS**

| Parameter | Current Permit Limits | | Proposed Permit Limits | | Sampling Frequency | Sample Type | Basis of Decision[1] |
|---|---|---|---|---|---|---|---|
| | Max. (mg/L) | Avg. (mg/L) | Max. (mg/L) | Avg. (mg/L) | | | |
| Flow** | Report | Report | Report | Report | Once per discharg | Continuous | WQC |
| Lindane | Report | Report | Report | Report | Once per discharge | Grab | WQC |
| $BOD_5$ | Report | Report | | | | | |
| TSS | Report | Report | | | | | |
| pH | 6.0 to 9.0 s.u | | 6.0 to 9.0 s.u. | | Once per discharge | Grab | WQC |
| Temperature | 90° F | | | | | | |

[1] Basis of Decision: WQC = Water Quality Criteria; TBEL = Technology-Based Effluent Limitation; BPJ = Best Professional Judgment; etc.

** Flow reported in gallons/discharge.

BOD, TSS, and temperature reporting has been removed. These are common pollutants in sanitary waste water that normally don't require monitoring.

## X. STATEMENT OF BASIS (narrative)

This pretreatment permit is being issued to insure proper operation and maintetnance of employed treatment technologies and to monitor the efficiency of said treatment. The facility expects there to be no lindane discharged from the facility. We are asking the lindane to be reported only. There are 2 carbon filters being used to remove any residual lindane before it enters the POTW. There is a monitoring station between the 2 carbon filters. When lindane is detected, the carbon in the first filter will be regenerated to protect the POTW from receiving any lindane. There should be no lindane discharged into the POTW.