

**PROCEDURES FORM FOR THE  
ESTIMATION OF THE KL FROM UNIT SPECIFICATIONS**

NAME OF THE FACILITY for site specific biorate determination

NAME OF UNIT for site specific biorate determination

NAME OF COMPOUND

HENRY'S LAW constant for the compound (mole fraction in gas per mole fraction in water at 25 degrees Celsius)

IDENTIFY THE TYPE OF UNIT

(check one box below)

Quiescent impoundment

1

Surface agitated impoundment

2

Surface agitated impoundment with submerged air

3

Unit agitated by submerged aeration gas

4

EPA Method 304A, Covered unit, UNOX system, or bench scale reactor

5

## PROCEDURES BASED UPON THE TYPE OF UNIT

UNIT

PROCEDURE TO FOLLOW

1 Use the quiescent impoundment model to determine KL. Use  $K_q$  as KL as determined from Form VII.

2 Use the quiescent impoundment model to determine KL for the quiescent zone, Form VII. Use the aerated impoundment model to determine KL for the agitated surface, Form VIII.

3 Use the quiescent impoundment model to determine  $K_q$  for the quiescent zone, Form VII. Use the aerated impoundment model to determine KL for the agitated surface, Form VIII. The total system KL is the sum of the KL from Form VIII and the equivalent KL from Form V. Use the submerged air rate as the vent rate in form V.

4 Use the aerated impoundment model to determine KL if the surface is agitated. Use the quiescent impoundment model if the surface is not agitated. KL includes the effect of volatilization in the air discharge. See section 5.6.1 in AIR EMISSIONS MODELS FOR WASTE AND WASTEWATER (EPA-453/R-94-080A). The total system KL is the sum of the KL from Form VIII and the equivalent KL from Form V. Use the submerged air rate as the vent rate in Form V.

5 KL for the surface is assumed to be equal zero. Determine equivalent KL based upon air discharge. Use Form V for EPA Method 304A or if the concentration in the vent is not measured. Use Form V-A if the concentration in the vent is measured.

Estimate of KL obtained from above procedures (m/s)

6