**Date:** March 16, 2007
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SECONDARY VALUES FOR POTASSIUM ACETATE (CAS # 127-08-2)

A search was conducted for information on the chemical properties and toxicity of potassium acetate (to human health and to fish and aquatic life) using the following databases and search engines: ECOTOX (toxicity to fish and aquatic life), IRIS (Integrated Risk Information System; toxicity to human health), and CHEMFATE (environmental fate).

FISH AND AQUATIC LIFE

To derive an acute toxicity criterion for aquatic life, acute toxicity test results are required for at least one species in each of eight different families. Specific requirements and the data available to meet these requirements are found in Table 1. Following a search for information on the toxicity of potassium acetate to fish and other aquatic life, it was determined that data are available to meet only two out of the eight requirements. Because there are data for a daphnid species, it is possible to calculate a secondary acute value for potassium acetate.

Cold Water

To calculate a secondary acute value (SAV), the lowest genus mean acute value (GMAV) in the database is divided by the secondary acute factor (SAF; an adjustment factor corresponding to the number of satisfied requirements).

SAF for two out of eight requirements met = 13.0

Lowest GMAV = 2,100,000 (*Oncorhynchus mykiss*)

**SAV** = GMAV/SAF
= 2,100,000 / 13
**= 161,538 µg/L (160 mg/L)**

The MSDS sheet lists a chronic value for the fathead minnow; however, without a corresponding acute value, it is not useful. Therefore, a secondary chronic value will be calculated using default acute-chronic ratios.

SACR = Geometric mean of 18, 18, and 18 = 18

**SCV** = SAV/SACR
= 161,538 / 18
= **8,974 µg/L (8.9 mg/L)**

Warm Water Sport Fish

The rainbow trout drops out of the warm water sport fish database.

Lowest GMAV = 3,000,000 (*Daphnia magna*)

**SAV** = GMAV/SAF
= 3,000,000 / 13
**= 230,769 µg/L (230 mg/L)**

**SCV** = SAV/SACR
= 230,769 / 18
= 12,820 **µg/L (13 mg/L)**

Warm Water Forage Fish, Limited Forage Fish, Limited Aquatic Life

Because the lowest GMAV in the warm water sport fish database is for *Daphnia magna*, an invertebrate, and because this species will not drop out for any of the other use classifications, secondary values for warm water sport fish, warm water forage fish, limited forage fish and limited aquatic life waters will be the same as for warm water sport fish.

Table 1. Requirements for calculation of an acute toxicity criterion for protection of aquatic life for potassium acetate, and corresponding acute toxicity data.

| Species Name | Common Name | Duration/ Endpoint | Value µg/L | Reference #[a] | Source |
|---|---|---|---|---|---|
| 1. At least one salmonid fish in the family Salmonidae, in the class Osteichthyes. | | | | | |
| ***Oncorhynchus mykiss*** | **rainbow trout** | **96-h/LC50** | **>2,100,000** | **1** | **MSDS** |
| 2. At least one non-salmonid fish from another family in the class Osteichthyes, preferably a commercially or recreationally important warmwater species. | | | | | |
| 3. At least one planktonic crustacean (e.g., cladoceran, copepod). | | | | | |
| ***Daphnia magna*** | **water flea** | **48-h/LC50** | **>3,000,000** | **1** | **MSDS** |
| 4. At least one benthic crustacean (e.g., ostracod, isopod, amphipod, crayfish). | | | | | |
| 5. At least one insect (e.g., mayfly, dragonfly, damselfly, stonefly, caddisfly, mosquito, midge). | | | | | |
| 6. At least one fish or amphibian from a family in the phylum Chordata not already represented in one of the other subdivisions. | | | | | |
| 7. At least one organism from a family in a phylum other than Arthropoda or Chordata (e.g., Rotifera, Annelida, Mollusca). | | | | | |
| 8. At least one organism from a family in any order of insect or any other phylum not already represented in subdivisions 1 through 7. | | | | | |

[1]MSDS Sheet. Runway Deicer- Potassium Acetate E-36. Fyve Star, Inc.

HUMAN HEALTH

To calculate a criteria or secondary value for the protection of human health, it is first necessary to determine if the substance has been shown to be carcinogenic (which will result in the calculation of a human cancer criteria or secondary value) or not (which will result in the calculation of a human threshold criteria or secondary value). The carcinogenicity of potassium acetate has not been assessed by EPA. Because neither an oral reference dose nor an oral slope factor is available, neither human threshold nor human cancer secondary values can be calculated for potassium acetate at this time.