# The Arizona Border Study

*An Extension of the*
*Arizona National Human Exposure Assessment Survey (NHEXAS)Study*
*Sponsored by the Environmental Health Workgroup of the Border XXI Program*

## Quality Systems and Implementation Plan
## for Human Exposure Assessment

The University of Arizona
Tucson, Arizona 85721

Cooperative Agreement CR 824719

**Standard Operating Procedure**                              **SOP-IIT-A-8.0**

**Title:**    Conversion of Servings to Kilograms

**Source:**  The University of Arizona

U.S. Environmental Protection Agency
Office of Research and Development
Human Exposure & Atmospheric Sciences Division
Exposure & Dose Research Branch

# STANDARD OPERATING PROCEDURE
## FOR
## CONVERSION OF SERVINGS TO KILOGRAMS

This Standard Operating Procedure (SOP) uses data that have been properly coded and certified with appropriate QA/QC procedures by the University of Arizona NHEXAS team.

## Objective

Create a file which contains the factors for converting from "serving" unit to "kg" unit, for each food item used in the Diet Diary questionnaire.

## Variable List

| Variable | Description |
| --- | --- |
| *AZCODE* | The code of each food item used in the Diet Diary Questionnaire. |
| *AZFDNAME* | The name of each food item used in the Diet Diary Questionnaire. |
| *SERVSIZE* | The serving size of each food item used in the Diet Diary Questionnaire. The unit is "servings". |
| *FB* | Type of food (solid, beverage, and water) |
| *EPACODE* | The code of each food item used in the EPA conversion file. |
| *GRAM* | Gram of food mass per serving. |
| *KG* | Kilogram of food mass per serving. |

## Procedure

1. In Excel, create a file with the following variables: *AZCODE,* and *AZFDNAME*. Data for the two variables are obtained from the Diet Diary Questionnaire's data files. They are the food code and food name of all food items consumed by at least one respondent during the 4-day period. Save this file as IIT CONVERSION.
   There are a total of 288 food items in NHEXAS' samples, including tap and drinking water. The food items in the NHEXAS questionnaire are categorized into 10 food categories. The last item of each category is labeled as "other". The 10 items are presented in the 288 food items as well.

2. In IIT CONVERSION, create *SERVSIZE* column and fill it out using data obtained from the questionnaire form. Create *FB* column and fill it out for the type of each food item as solid food or beverage.

3. Also in IIT CONVERSION, create *EPACODE* and *GRAM* columns. To fill them out, an EPA conversion file given to IIT by Dr. Berry is used. This file contains 9 food categories and, for each food item, data on unit mass of food in grams per serving. For each food item in *AZFDNAME*, an identical or similar food item in the EPA conversion file is identified. The corresponding EPA food code and grams per serving data are then copied from the EPA conversion file to *EPACODE* and *GRAM* columns in IIT CONVERSION, respectively. Finally, convert the conversion factors from "gram" to "kilogram" in a column called *KG*.

## Spreadsheet Format

In IIT CONVERSION:

| Column | Variable |
|--------|----------|
| 1 | *AZCODE* |
| 2 | *AZFDNAME* |
| 3 | *SERVSIZE* |
| 4 | *FB* |
| 5 | *EPACODE* |
| 6 | *GRAM* |
| 7 | *KG*, calculated from *GRAM* × 0.001 |