

# CREATING CUSTOM CORRECTION FACTORS AND GAS NAMES FOR THE TOXIRAE II PID

## DESCRIPTION

The ProRAE-30 and ProRAE Suite software programs allow users to choose 3 gases from a list of 38 gases and download the correction factors of these 3 gases into the ToxiRAE II instrument. The list of 38 gases represents some typical Volatile Organic Compound (VOC) that can be detected by the ToxiRAE II.

It is possible for users to create a custom list of gas names and correction factors not on the standard list and download them to the ToxiRAE II unit. This technical note demonstrates how to create a list of custom gas names and correction factors.

## Procedures to Create a List of Custom Gas Names and Correction Factors

The list of gas names and Correction Factors for the calibration gas and 3 gases to be stored in the ToxiRAE II unit are stored in a text file called :RAE.INI in ProRAE 30, or TOXIRAE.INI in ProRAE Suite (both referred to as .INI below). This file is installed under the Windows sub-directory during program installation. Using a text editor, you can modify the gas name and correction factor. Here are step-by-step instructions on how to do it.

1. First, back up the existing .INI file so that if you need to restore the original .INI file, you can do so at a later time.
2. Open the .INI file with a text editor or word processor, such as Microsoft Notepad or Word.
3. Look under the [gas0] heading. There are 38 gas names and associated Correction Factors. For example:

```
[Gas0]
Gas1="Acetaldehyde"
Factor1=550
```

**Note:** The correction factor is shown as an integer number. The actual correction factor is equal to the integer number multiplied by 0.01. For example, the actual correction factor for Acetaldehyde is equal to 5.50. The first list is used to select calibration gas. The same list is repeated three times under the heading of [gas1] to [gas3]. These 3 lists are used to select the correction factors for 3 separate gases to be downloaded to the ToxiRAE unit.

4. Replace any existing gas name with a new gas name. Make sure that each gas name is no more than 22 characters long and the gas name is entered in alphabetical order inside the list. Replace the corresponding Correction Factor with a new one.

**Note:** Do not append additional gases at the end of the list. The ProRAE programs only support 38 gases in each list. It is also very important to enter the gas name in alphabetical order. Otherwise, the Correction Factor will not match the corresponding gas name.

If you need to enter more than 38 new gases, enter the next 38 gases in a different list. You can enter a total of 152 different gas names in the 3 lists of [gas1] to [gas3].

5. After editing the gas names and correction factors, save the .INI file. Make sure that you save the file as a text file. Do not save the file with any format information or in a specific word processor format.
6. Now start the ProRAE- program by clicking on the ProRAE icon.
7. Open a configuration file. You will notice that the list of gas names shows the new names that you have just entered.

## Caution

The .INI file is very important. It is needed to set up various parameters for running the ProRAE program properly. Therefore, do not alter any other lines in the file. If you type in extra characters or carriage return/line feed in the file, they may cause the program to crash. In such a case, restore the original .INI file to recover from the program crash.

## **GAS NAMES IN PRORAE SOFTWARE**

Acetaldehyde	Hydrogen sulfide
Acetone	Isobutylene
Allyl alcohol	Isopropyl alcohol
Benzene	Methyl ethyl ketone
Butadiene	Methyl isobutyl ketone
Butyl acetate	Methyl methacrylate
Carbon disulfide	n-Octane
Cyclohexane	Perchloroethylene
Cyclohexanone	$\alpha$ -Pinene
Cyclohexene	$\beta$ -Pinene
Diethylamine	Propylene
Diethyl sulfide	Styrene
Ethyl acetate	Tetrahydrofuran
Ethyl alcohol	Toluene
Ethylbenzene	Trichloroethylene
Ethyl ether	Vinyl chloride
Ethylene	m-Xylene
n-Heptane	o-Xylene
Hexane	p-Xylene