

Corrections to U.S. EPA/OAQPS Incinerators/Oxidizers Cost Calculation Spreadsheet - oxidizers_calc_sheet_September 2022.xlsm

1. When resetting the Data Inputs sheet to default values, there is a note in cell D25 that says “23 inches of water is the default pressure drop for thermal oxidizers; 19 inches of water is the default pressure drop for catalytic oxidizers. Enter actual value, if known.” However, the default values that are populated are the exact opposite. On page 2-50 of the cost manual chapter, the default values are 19 for thermal oxidizers and 23 for catalytic oxidizers, so it appears that the correct values are being populated and the note is incorrect. We have corrected the note in cell D25. The program now enters a blank field for pressure drop when the reset button is pressed and the correct pressure of 19 or 23 inches is entered when the oxidizer type is selected from the drop-down menu. The message text in cell D24 has also been revised to display the correct message based on the type of oxidizer selected.
2. The oxidizers workbook now includes a default catalyst cost in cell B76 of the Data Inputs worksheet tab. The default catalyst cost is \$650/ft³. This is consistent with the Incinerators/Oxidizers Control Cost Manual chapter, which states on page 2-50 that “The cost, in 2014 dollars, of the replacement catalyst must be obtained from the vendor, but it may be estimated at \$3,000/ft³ for noble metal catalysts and \$650/ft³ for base metal oxide catalysts. For the example case, the catalyst is a base metal oxide because the waste gas contains a chlorinated compound.” The value will be automatically entered in cell B34 when the user selects a catalytic oxidizer from the drop-down menu.
3. Cell B41 of the Data Inputs worksheet tab has been corrected to remove a limit on the size of the CEPCI cost index value. Previously, a limit of 584.6 was included. It has now been removed. A CEPCI cost index for any year can now be included without limit.
4. There is a typo in Cell A22 of the Cost Estimate worksheet tab that has been corrected. It read “Handlong and Errection” – it now reads “Handling” and “Erection.”
5. There is a small typo in Cell I78 of the Data Inputs worksheet tab that has been corrected. Part of it reads “Available at Available at”, and the second “Available at” has now been removed.
6. The molecular weight of Toluene has been corrected from 92.13 to 92.14 in Table A, and the units are now defined in this workbook as lb (pound)/lb-mole.
7. The default natural gas cost in the Data Inputs worksheet tab has been corrected to 3.51\$/Mscf (thousand standard cubic feet) in 2016 using the referenced EIA data source.
8. The default price of electricity in 2016 in the Data Inputs worksheet tab has been corrected to \$0.0641/kWh (kilowatt-hour) for consistency with the price used in the refrigerated condensers workbook, which is also for 2016.
9. Cell D8 on Data_Inputs tab: Added a note in the far right of row D to indicate that the values should be lower heating values (LHVs), not higher heating values (HHVs).
10. Row 41 on the Design_Parameters tab: Added a note that the temperature of waste gas at the outlet of the preheater (into the combustion chamber) is not relevant for RTOs (regenerative or recuperative).
11. The numerator and denominator values in cell V49 on the Design Parameters tab of the spreadsheet need to be reversed, and this correction has been made.
12. The formula for what is now the numerator for the calculation in cell V49 of the Design Parameters tab of the worksheet (due to the correction in #8 above) had two references to the value for T_{ref} , but one of them should have been to the waste gas temperature instead. This correction has been made.
13. The purchased equipment cost in cell B15 of the Cost Estimate tab of the worksheet has been corrected.

