

## Answer on Question #44334 – Chemistry - Organic Chemistry

### Question:

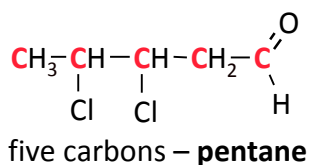
What is the IUPAC name of  $\text{CH}_3\text{CHClCHClCH}_2\text{CHO}$ ?

### Solution:

To determine the name of compound using the I.U.P.A.C. Nomenclature System, use next rules:

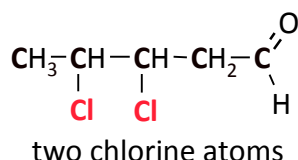
1. Identify the longest carbon chain. This chain is called the parent chain.

Name chain with following names in accordance to number of carbons in parent chain:

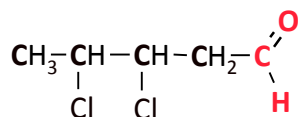


2. Identify all of the substituents (groups appending from the parent chain).

The halogen is treated as a substituent on an alkane chain:



3. Identify all of the functional groups:

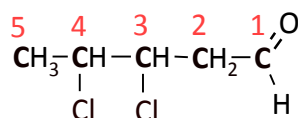


An aldehyde is a carbon chain with an oxygen double bonded to the last/first carbon.

Use the suffix **-anal**. No position number is required.

**pentanal**

4. Number the carbons of the parent chain. The carbonyl group takes precedence over halogen substituents in the numbering of the parent chain:



5. Halide functional groups- take the halogen name (chlorine) and remove the “-ine” and add an “-o” in place for the resulting name (**chloro**). If the same substituent occurs more than once, the location of each point on which the substituent occurs is given (**3,4-**). In addition, the number of times the substituent group occurs is indicated by a prefix (di, tri, tetra, etc.):

**3,4-dichloro**

6. Name the compound: **3,4-dichloropentanal**.

**Answer: 3,4-dichloropentanal.**