CH10: titrations

1. Titrating an alkali solution

The following documents list the different steps of a titration :

**DOCUMENT 1 : Equipment**

Conical flask (250 mL)

10.0 mL pipet and bulb

Buret,

magnetic rod, magnetic stirrer

Ammonia solution: roughly 0.1 mol.L-1, sample size V=15mL

Hydrochloric acid solution : 0.1 mol.L-1

pH Indicator

**DOCUMENT 2 : Preparation of the alkali sample**

* Rinse a conical flask with some ammonia solution. Don't dry the flask.
* Rinse the pipet with some ammonia solution. Don't dry the pipet.
* Use the pipet and bulb to measure exactly 10.0 mL of ammonia solution.
* Pour the ammonia into the conical flask.
* Add a few drops of pH indicator.

**DOCUMENT 3 : Preparation of the buret assembly**

* Rinse the buret with hydrochloric acid solution.
* Fill the buret to the zero mark.
* Dry the top of the buret with paper.

**DOCUMENT 4 : Titration**

* Run one to two mL of hydrochloric acid solution into the flask and swirl the flask.
* Continue adding small amounts of hydrochloric acid (roughly 1mL at a time) and swirling.
* As the color change lingers longer, switch to adding hydrochloric acid dropwise. Stop adding drops when the color change is permanent.

### Analysing the titration

Using the documents, give the chemical reaction that takes place in the conical flask

### Acquiring vocabulary: filling in the blanks

|  |  |
| --- | --- |
| **English** | **French** |
| conical flask |  |
| bulb |  |
| magnetic rod + stirrer |  |
| zero mark |  |
| to run (liquid) into the flask |  |
| to linger |  |
| to add (liquid) dropwise |  |

### Analysing the set up

Using the documents, give a representation of the set up:

### Presenting

Prepare a 1min presentation of the titration

Activity summary

What you must remember :

* vocabulary associated with acid base titration
* how to titrate an alkali solution using an acid solution

Skills linked to the curriculum :

|  |  |
| --- | --- |
| **Compétences** | **Capacités à maitriser** |
| * APP | |  | | --- | | * Connaître le vocabulaire lié au titrage | |
| * ANA * APP | * Savoir écrire une reaction de dosage * Comprendre les espèces mises en jeu |
| * COM | * Savoir présenter un titrage |