

CH10: titrations

ACTIVITY 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 $V=15\text{mL}$
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 maîtriser
- APP	- Connaître le vocabulaire lié au titrage
- ANA - APP	- Savoir écrire une réaction de dosage - Comprendre les espèces mises en jeu
- COM	- Savoir présenter un titrage