

## Answer on Question #42130, Chemistry, Other

### Question:

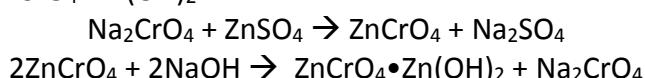
Dear Sir,

I have a question about what are the applications of double displacement reaction in paint & pharmaceutical industry?? 3 or 4 points?

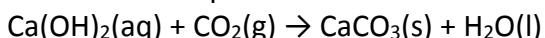
### Answer:

#### Applications of double displacement reactions in paint:

Zinc chrome yellow is an yellow pigment. It is formally basic zinc chromate,  $\text{ZnCrO}_4 \bullet \text{Zn}(\text{OH})_2$ . It can be obtained by mixing potassium chromate  $\text{K}_2\text{CrO}_4$  and zinc chloride  $\text{ZnCl}_2$  solutions to produce Zinc chromate through a double displacement reaction and then adding  $\text{NaOH}$  to make the solution basic. The result is solid yellow  $\text{ZnCrO}_4 \bullet \text{Zn}(\text{OH})_2$ .



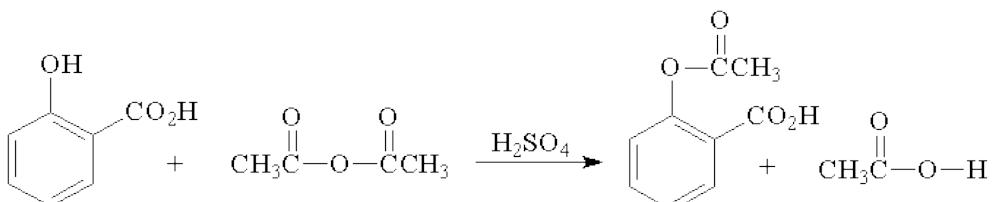
A solution of slaked lime is used for white washing walls. Calcium hydroxide reacts slowly with the carbon dioxide in air to form a thin layer of calcium carbonate on the walls. Calcium carbonate is formed after two to three days of white washing and gives a shiny finish to the walls. The formation of calcium carbonate is an example of double displacement reaction.



In this way, different colored pigments can be prepared by double displacement reactions.

#### Applications of double displacement reactions in pharmaceutical industry:

Aspirin, also known as acetylsalicylic acid, is a salicylate drug, often used as an analgesic. It is produced by acylation of salicilic acid by a double displacement reaction.



Diphenhydramine is a first-generation antihistamine possessing anticholinergic, antitussive, antiemetic, and sedative properties. Diphenhydramine can be synthesized by a double displacement reaction between bromodiphenylmethane and 2-dimethylaminoethanol:

