

# Sing the Solubility Song



Directions: If you sing the solubility song (lyrics are posted below) and post it on youtube you will receive extra credit. 10 points will be given for completing the assignment. Videos can receive an extra 1-5 points (5 points total) for creativity and effort. The top videos will get an additional 2 points and will be showed in class.

## Solubility Song

(Sung to the tune of 99 Bottles of Beer on the Wall)

Potassium, sodium, and ammonium  
salts, Whatever they may be,  
Can always be depended  
on for solubility.

**Rule 2:** Most salts of  $\text{Na}^+$ ,  $\text{K}^+$ ,  
and  $\text{NH}_4^+$  are soluble

When asked about the nitrates  
The answer is always clear,  
They each and all are soluble,  
is all we want to hear.

**Rule 1:** Most nitrate( $\text{NO}_3^-$ )  
salts are soluble

Most every chloride's soluble  
At least we've always read  
Except silver, mercurous mercury  
And (slightly) chloride of lead.

**Rule 3:** Most chlorides are  
soluble. Notable exceptions  
are  $\text{AgCl}$ ,  $\text{PbCl}_2$ , and  $\text{Hg}_2\text{Cl}_2$

Every single sulfate  
Is soluble, tis said,  
'Cept barium and strontium and  
calcium and lead.

**Rule 4:** Most sulfate salts are  
soluble. Notable exceptions  
are  $\text{BaSO}_4$ ,  $\text{SrSO}_4$ ,  $\text{PbSO}_4$ ,  
and  $\text{CaSO}_4$ .

Hydroxides of metals won't dissolve  
That is, all but three.  
Potassium, sodium, and  
ammonium dissolve quite readily.

**Rule 5:** Most hydroxide salts  
are only slightly soluble. The  
important soluble  
hydroxides are  $\text{NaOH}$ ,  $\text{KOH}$ ,  
and  $\text{Ca}(\text{OH})_2$  (marginally  
soluble)

And then you must remember  
That you must not "forget"  
Calcium, barium, strontium  
dissolve a little bit.

The carbonates are insoluble,  
It's lucky that it's so,  
Or else, our marble buildings  
would melt away like snow.

**Rule 6:** Most sulfide( $\text{S}^{2-}$ ),  
carbonate( $\text{CO}_3^{2-}$ ), and  
phosphate ( $\text{PO}_4^{3-}$ ) salts are  
only slightly soluble.