EVERYTHING YOU RESEARCH NEEDS TO BE REFERENCED.

* An introduction to the assignment, what you will be looking at in your report (use assignment brief context).
* What is aspirin, what is it used for?
* Risk assessment for all methods and chemicals used
* Method used step by step making sure to use the words recrystilisation, vacuum filtration, filtration through a filter paper, solvent extraction, use diagrams/pictures of your set up.
* Explain why each step was taken, what happened at each stage
* What steps did you do in your method and testing that were skillful?
* Results of melting point of your sample, a pure sample and a mixture of both.
* Are your results accurate? Compare your results to other groups (numbers) and literature values Is your sample pure?
* IR spectroscopy, how does it work, what peaks are you looking for in your results? Comment on your purity.
* Thin layer chromatography of your sample, add in images, what can be seen? Is your sample pure?
* How can you tell if your substance is pure, what might have caused errors?
* What is yield and how did you try and produce the highest yield? How did you try and get a pure substance?
* How is aspirin made in industry (not into tablet forms but the actual active ingredient) describe the scale, equipment, raw materials and tests for purity used.
* How is your method similar and different to the industrial method? How is the equipment similar and different?
* How is the equilibrium shifted to increase the yield in industy?
* Are TLC, melting point and IR effective in determining purity, what other ways do they test for purity in industry?

For distinction standard, learners will analyse the factors to give thorough explanations of how they affect the yield and purity of an organic solid prepared by reaction and by extraction. This should be in the context of the practical work that they have carried out rather than in the industrial process. However, learners must analyse how those factors will be relevant in the industrial context to ensure scalability. Learners will comment on the reliability of the techniques used in terms of whether melting-point measurement, mixed-melting-point measurement and thin-layer chromatography (TLC) are effective ways to assess whether the solid is pure and explain the effectiveness of alternative testing methods used industrially.

For merit standard, learners will demonstrate skilful application of techniques and procedures to prepare and test their organic solid. Learners will independently assemble equipment safely. Learners will be able to draw detailed scientific conclusions about how pure the samples are based on the tests that been carried out. Learners will reference their sources of information and explain the principles behind the techniques to support their conclusions. Learners will research the industrial production and testing of an organic solid and compare the similarities and differences in terms of the scale, the equipment, the testing and the raw materials used to produce the organic solid, with the techniques and methods used to prepare and test their sample.

For pass standard, learners will correctly and competently follow given techniques and procedures to prepare and test their organic solid. Learners will use the techniques of vacuum filtration, filtration through filter paper, solvent extraction and recrystallisation. They will measure the melting point of the organic solid prepared from reaction and extraction, and carry out a mixed-meltingpoint measurement on the two samples, using a pure sample as a comparison. It is expected that at pass standard learners will be given support to assemble the equipment associated with these techniques safely. Learners will draw simple conclusions about the purity of the samples based on the tests carried out. Learners will research the industrial production and testing of the solid and describe the scale, equipment, testing and the raw materials used to produce the solid. The information should be in learners’ own words and all reference sources should be acknowledged.