



ASSIST

AUSTRALIAN SCHOOL SCIENCE
INFORMATION SUPPORT FOR
TEACHERS AND TECHNICIANS

Published on ASSIST (<https://assist.asta.edu.au>)

[Home](#) > Recommended Chemicals for secondary Schools

Recommended Chemicals for secondary Schools

Posted by Anonymous on Thu, 2017-08-24 10:54

Recommended Chemicals for secondary Schools: I have to order new chemicals for our school in QLD, but the following chemicals are not in the list "List_of_recommended_chemicals-18March-2016.

Iron (III) chloride Anhydrous, Iron (III) chloride hexahydrate, Iron (III) nitrate, Iron Sulfate powder, Lead (II) chloride, Lithium carbonate.

Does this mean that these chemicals are prohibited?

Also, Potassium Chlorate is listed as prohibited in your Science Assist Chemical Management handbook 2017 but it is in the list mention above.

Could you please clarify this for me?

Voting:



No votes yet

Year Level:

7
8
9
10

Senior Secondary

Laboratory Technicians:

Laboratory Technicians

Recommended Chemicals for secondary Schools

Submitted by sat on 14 September 2017

In brief:

The inclusion of a chemical in the List of recommended chemicals¹ or in the Chemical Management Handbook² indicates that the chemical is suitable for use in schools. We have not published a list of prohibited chemicals.

The absence of a chemical from the List of recommended chemicals or from the Chemical Management Handbook, does not mean that the chemical is prohibited from use in schools. However, some jurisdictions have banned the use of certain chemicals and we have taken this into consideration in the development of the List. Schools are required to follow the policies and directives of their educational jurisdiction.

The List of recommended chemicals is an evolving document and will be updated in response to feedback, changes to safety data and changes to practices in school science.

Regarding the specific chemicals that you mention:

- **Iron (III) chloride Anhydrous and Iron (III) chloride hexahydrate:** You are correct that these have not been included. We will include Iron (III) chloride hexahydrate as this form is not classified as a Dangerous Good.
- **Iron (III) nitrate:** is already included in the List of recommended chemicals
- **Iron Sulfate powder:** Iron (II) sulfate heptahydrate is included in the List of recommended chemicals.
- **Lead (II) chloride:** We are not aware of a specific curriculum requirement for this chemical. It is important to limit the amount and concentration of lead substances stored and used due to their toxicity. We have included three lead-containing substances in the List: lead metal, lead (II) nitrate and lead (II) oxide. These are included because we consider that they allow for some worthwhile demonstrations and activities and that their associated hazards can be reduced to an acceptable level with safe practices. Lead (II) nitrate is included because it is a soluble lead salt; we recommend that it is only used by

students as a solution of concentration 0.5M or less. See an earlier Q&A for more detailed information <https://assist.asta.edu.au/question/3288/lead-and-lead-salts>

- **Lithium carbonate:** We are not aware of a specific curriculum requirement for this chemical and have not included this because it is not very soluble. The more soluble salts have greater application and therefore, we have included lithium chloride, due to its solubility in water.
- **Potassium chlorate:** is not included in the List of recommended chemicals and we note that it is banned in Queensland Department of Education schools.³

Regarding ordering chemicals for your school:

Prior to purchasing chemicals for your school, it is important to conduct a risk assessment and research whether the chemical is suitable for use in your school. Aspects to consider include:

- If the chemical is prohibited or restricted in your jurisdiction
- the hazards of the chemical
- if a less hazardous chemical can be used
- safe handling procedures, how it will be used and if any hazardous by-products will be produced
- requirements for safe and secure storage especially if it is a toxic chemical, a chemical of a security concern or a chemical that may be used in the illicit drug manufacture
- licensing/purchasing requirements or restrictions
- disposal considerations and costs

The Queensland Department of Education and Training have a good checklist in Appendix 4A of their publication 'Guideline for managing risks with chemicals in DETE workplaces'³, see <http://education.qld.gov.au/health/pdfs/healthsafety/guideline-managing-...>

References:

¹ Science ASSIST. 2016. List of Recommended Chemicals for Science in Australian Schools. <https://assist.asta.edu.au/question/4230/recommended-chemicals-secondary...>

² Science ASSIST. 2017. Chemical management Handbook. Edition 1.
<https://assist.asta.edu.au/resource/4193/chemical-management-handbook-au...>

³ Department of Education, Training and Employment. 2013. 'Guideline for managing risks with chemicals in DETE workplaces' DETE Website.
<http://education.qld.gov.au/health/pdfs/healthsafety/guideline-managing-...>

"Iron (III) chloride anhydrous" Safety Data Sheet. 2014. Merckmillipore website.
http://www.merckmillipore.com/INTERSHOP/web/WFS/Merck-AU-Site/en_US/-/US... (Fixed broken link, October 2018).

"Iron (III) chloride hexahydrate" Safety Data Sheet. 2015. Chem-Supply website.
<https://www.chemsupply.com.au/documents/FL0231CH3C.pdf>

Source URL: <https://assist.asta.edu.au/question/4230/recommended-chemicals-secondary-schools>