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Oxidising Chemicals

Posted by Anonymous on Tue, 2015-08-25 14:38

Oxidising Chemicals: While updating Safety Data Sheets (SDSs), I found some confusing changes in the listing of some nitrates.

Magnesium nitrate no longer has an oxidising listing for transport (ChemSupply and Sigma).

Calcium nitrate doesn't either (Sigma).

Why is this? This listings confuse me for storage requirements of the chemicals too.

Voting:



No votes yet

Year Level:

7

8

9

10

Senior Secondary

Laboratory Technicians:

Laboratory Technicians

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Oxidising Chemicals

Submitted by sat on 21 September 2015

You are correct that the classifications for some nitrates have been changed according to some manufacturers. It is perplexing when different manufacturers have different information seemingly for the same item. Sometimes different manufacturers assign a different classification based upon the concentration and form of their particular chemical or the classification criteria that they use.

Chemicals should be stored so that incompatible chemicals are segregated or isolated from each other to avoid hazardous reactions from occurring. Generally, chemicals should be separated and stored according to their Dangerous Goods classification giving consideration to further incompatibilities within their dangerous goods class.

Regarding the classification of nitrates that you mentioned (plus iron nitrate) we found the following.

- Iron(III) nitrate nonahydrate: out of 4 SDSs, 2 were classified as 5.1 and 2 as 8
- Calcium nitrate tetrahydrate: out of 3 SDSs, 2 were classified as 5.1 and 1 as none
- Magnesium nitrate hexahydrate: out of 3 SDSs, 1 was classified as 5.1 and 2 as none

All SDSs stated that the chemicals should be stored in a cool place, with the container tightly closed in a dry and well-ventilated place. All noted incompatibilities with combustibles and most noted incompatibilities with acids, organics and reducing agents.

Therefore, as an interim measure until we have all of our storage guidelines in place, we think it would be reasonable—in view of the information contained within the SDSs regarding incompatibilities—that these nitrates should continue to be stored with the oxidising agents, subject to checking that there are no further incompatibilities within the oxidising group.

Science ASSIST will be developing more specific guidelines for chemical storage in the coming months for chemicals included in our List of recommended chemicals for science in Australian schools.

References

'Safety Data Sheet: Calcium nitrate tetrahydrate', Dec 2010. Chem-Supply website.
<https://www.chemsupply.com.au/documents/CL0151CH1N.pdf>

'Safety Data Sheet: Calcium nitrate hydrate', Mar 2015. Sigma-Aldrich website.
<https://www.sigmaaldrich.com/catalog/search?term=Calcium+nitrate+hydrate...>

'Safety Data Sheet: Iron(III) nitrate nonahydrate', April 2014. Merck website.
http://www.merckmillipore.com/INTERSHOP/web/WFS/Merck-AU-Site/en_US/-/US... (Link updated, October 2018).

'Safety Data Sheet: Iron(III) nitrate nonahydrate', Mar 2015. Sigma-Aldrich website.
<https://www.sigmaaldrich.com/catalog/search?term=Iron%28III%29+nitrate+n...>

'Safety Data Sheet: Iron(III) nitrate nonahydrate', May 2015. Chem-Supply website.
<https://www.chemsupply.com.au/documents/FA0061CH3D.pdf>

'Safety Data Sheet: Magnesium nitrate', October 2012. Sigma-Aldrich website.
<https://www.sigmaaldrich.com/catalog/search?term=Magnesium+nitrate&inter...>

'Safety Data Sheet: Magnesium nitrate', July 2015. Chem-Supply website.
<https://www.chemsupply.com.au/documents/ML0411CH42.pdf>

Science ASSIST. 2015 *List of Recommended Chemicals*. Science ASSIST website.
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