# Classification and storage of nitrates

Posted by Anonymous on Thu, 2015-10-29 13:21

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

The recent SDS has iron (III) nitrate listed as Transport Hazard Class 8, and not as previously listed as Dangerous Goods Class 5.1. Magnesium nitrate also no longer has an oxidising listing for transport. Calcium nitrate doesn't either.

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

**Voting:**
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**Year Level:**
7
8
9
10
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**Laboratory Technicians:**
Laboratory Technicians

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## Iron(III) Nitrate storage

Submitted by sat on 30 October 2015

Answer reviewed 2 March 2023

You are correct that the classifications for some nitrates have been changed according to some manufacturers. Manufacturers may assign a different classification based upon the concentration and form of their particular chemical or the classification criteria that they use.

We surveyed the SDSs for the nitrates that you mentioned found that Calcium nitrate was the only one classified as DG Class 5.1 (oxidising agent), iron nitrate as DG Class 8 (corrosive) and magnesium nitrate was not classified as a Dangerous Good for transport regulations.

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.

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.

Therefore, we advise that the nitrates mentioned should be stored according to their DG Class given in the SDS. If they are not classified as Dangerous Goods, then they can be stored with general inorganic chemicals, in a cool, dry, well-ventilated place.

## References


[1] Science ASSIST, 2018, Chemical Management Handbook for Australian Schools – Edition 3, Science ASSIST website, https://assist.asta.edu.au/resource/4193/chemical-management-handbook-australian-schools-edition-3

ChemSupply Australia, (2020), *Safety Data Sheet: Iron nitrate nonahydrate, Chemsupply website.* Please search the product information page on the website for the current SDS for Iron nitrate nonahydrate https://shop.chemsupply.com.au/

ChemSupply Australia, (2020), *Safety Data Sheet: Calcium nitrate tetrahydrate, Chemsupply website.* Please search the product information page on the website for the current SDS for Calcium nitrate tetrahydrate https://shop.chemsupply.com.au/

ChemSupply Australia, (2020), *Safety Data Sheet: Magnesium nitrate, Chemsupply website.* Please search the product information page on the website for the current SDS for Magnesium nitrate https://shop.chemsupply.com.au/

Sigma Aldrich Australia, 2020, *Safety Data Sheet: Calcium nitrate hydrate*, Sigma-Aldrich website. Please search the product information page on the website for the current SDS for Calcium nitrate hydrate https://www.sigmaaldrich.com/catalog/search?term=Calcium+nitrate+hydrate...

Sigma Aldrich Australia, 2022, Safety Data Sheet: Iron(III) nitrate nonahydrate', Sigma-Aldrich website. Please search the product information page on the website for the current SDS for Iron(III) nitrate nonahydrate https://www.sigmaaldrich.com/AU/en

Sigma Aldrich Australia, 2022, Safety Data Sheet: Magnesium nitrate, Sigma-Aldrich website. Please search the product information page on the website for the current SDS for Magnesium nitrate https://www.sigmaaldrich.com/AU/en