

# GUIDE TO CHEMICAL GRADES



Grades indicate the purity and quality of a chemical.



It is important to know what grade you need so you do not make costly mistakes or non-compliant products

There are a variety of chemical grades including industry-wide standards and some specialized for specific scientific applications. Some key grades are:



## TECHNICAL GRADE



Used for commercial and industrial purposes



Not pure enough to be used in any food, drug, or medicinal applications



Suitable for demonstration purposes



## FCC (FOOD) GRADE



Meet standards outlined in the Food Chemicals Codex (FCC)



Applies specifically for food ingredients



Includes special tests for toxicity and ensure suitability for human consumption



FCC standards are incorporated into hundreds of FDA food regulations



## PHARMACEUTICAL GRADE (USP)



Meet or exceed requirements of a national pharmacopeia such as USP, British, Japanese, European, and other pharmacopeias



## ACS / REAGENT GRADE



Meet or exceed standards set forth by the American Chemical Society



This is the most stringent grade and requires high purity



Acceptable for use in food, drug, aerospace, or medicinal use

If you need to substitute for cost or availability reasons, it is important to understand these grades as well as the following considerations:

✔ **What is the minimum grade required?**

→ ✔ **Can I use a lower quality grade?**

✔ **What are the differences and similarities of the grades considered?**

✔ **What are the regulatory and economic consequences of the higher or lower grade?**



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