

FS No. 029-0124

Disposal of Dilute (0.01%) Sodium Azide Solution

What is sodium azide solution?

Sodium azide is a chemical solution that is used to prevent certain bacteria from growing in bulk reagents and stock solutions. This solution is commonly used in hospitals and laboratories. A dilute concentration (0.01% or less) of sodium azide is a component in medical and veterinary laboratory kits, such as the VITROS™ Signal Reagent packs and some COVID-19 rapid test kits (see Figure 1 for examples).

U.S. Environmental Protection Agency (EPA) classification

Sodium azide is an acutely toxic P-listed waste (P105) when it is the sole active ingredient in commercial chemical products. In laboratory kits, the dilute sodium azide solution is used as a preservative and is not the sole active ingredient. Therefore, the dilute sodium azide solution is not an EPA P-listed waste.



Figure 1. Examples of Reagents Containing a Dilute (0.01%) Sodium Azide Solution

Dilute sodium azide solution is not reactive as defined by the EPA Resource Conservation and Recovery Act (RCRA) reactivity characteristics. For example, the solution is stable at standard temperature and pressure. Therefore, these solutions are not federally regulated by RCRA for disposal.

Disposal of dilute sodium azide solution

Risks of disposing dilute sodium azide solution

Proper disposal of dilute sodium azide solution is important to prevent reactions with other substances. Ensure to always read the Safety Data Sheet (SDS). Even though the solution is stable, explosive lead azide or copper azide can form if sodium azide mixes with certain metals such as lead, copper, and/or their salts.

How to safely dispose of dilute sodium azide solution

Dilute sodium azide solution may be poured down a drain with plenty of running water. Use a drain that is used regularly for other laboratory tasks to make sure enough water is present. It is unlikely that a dilute sodium azide solution that is poured into a sink drain and flushed with water will form the explosive lead and/or copper azide.

How to collect dilute (0.01% or less) sodium azide solution

Collect the dilute sodium azide solution waste if the installation environmental office does not allow to pour it down the drain. Expired dilute sodium azide solutions may need to be collected. Make sure that non-metallic waste containers are used for collection to avoid the possibility of explosive azides forming over time. Note that the waste should be classified as a non-RCRA regulated waste.

References

Code of Federal Regulations, "Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.," Title 40, Part 261.33.

Sigma-Aldrich. 2021. Safety Data Sheet Product Number 08591, *Sodium azide 0.1 M solution*.
<https://www.sigmaaldrich.com/US/en/sds/sial/08591?userType=anonymous>

This Fact Sheet supersedes USAPHC FS No. 37-065-0514, dated May 2014.

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