

## [Select Agent Toxin Inactivation & Destruction](#)

All inactivated and destructed toxins must be disposed of as hazardous chemical waste following proper labeling “deactivated toxin” on the red tag.

Chemical Abbreviations: NaOCl = Sodium hypochlorite NaOH = Sodium hydroxide

Toxin	Chemical Inactivation Allow at least <b>30 mins</b> for the inactivation of the toxin				Autoclave	Dry Heat (°F) Inactivation of toxin by <b>10-minute</b> exposure to various temperatures of dry heat			
	2.5% NaOCl + 0.25N NaOH	2.5% NaOCl	1.0% NaOCl	0.1% NaOCl	121°C for 1 hour, liquid cycle, slow exhaust	200	500	1000	1500
Abrin	YES	YES	YES	YES	YES	YES	YES	YES	YES
Botulinum neurotoxins A-G <sup>(2)(3)</sup> (2 protein chain, multimeric)	YES	YES	YES	YES	YES	YES	YES	YES	YES
Conotoxins	YES	YES	YES	YES	NOT RECOMMENDED	YES	YES	YES	YES
Diacetoxyscirpenol (DAS)	YES	NO	NO	NO	NO	NO	NO	NO	YES
Ricin <sup>(2)(3)</sup> (2 protein chain, multimeric)	YES	YES	YES	YES	YES	YES	YES	YES	YES
Saxitoxin <sup>(2)</sup>	YES	YES	YES	YES	NO	NO	YES	YES	YES
Staphylococcal enterotoxins <sup>(2)(3)</sup>	YES	YES	YES	YES	YES	YES	YES	YES	YES
Tetrodotoxin <sup>(2)</sup>	YES	YES	YES	NO	NO	NO	YES	YES	YES
T-2 Toxin <sup>(1)</sup>	YES	NO	NO	NO	NO	NO	NO	NO	YES

### **Recommendations from references on table:**

- <sup>(1)</sup> For complete inactivation of T-2 mycotoxins, all liquid samples, accidental spills, and non-burnable waste be soaked in 2.5% sodium hypochlorite with 0.25N sodium hydroxide for 4 hours.<sup>1</sup>
- <sup>(2)</sup> Inactivation for Saxitoxin, Tetrodotoxin, Ricin, Botulinum toxin, or Staphylococcal Enterotoxins B (SEB), exposure of 30 minutes to 1% sodium hypochlorite is an effective procedure for working solutions, equipment, working area and spills.<sup>1</sup>
- <sup>(3)</sup> Autoclaving can be used for protein toxins, i.e. Ricin, Botulinum toxin, and Staphylococcus Enterotoxin B (SEB), but should not be used with any of the low molecular toxins.

This table can also be found in the [Select Agent Toxin Standard Operating Procedure – Appendix C](#).