



Security Sensitive Biological Agents Regulatory Scheme

SSBA – Fact sheet 9 – Disposal of SSBA

October 2014

Disposal of a security sensitive biological agent (SSBA) under the *National Health Security Act 2007* (NHS Act) means to either completely **transfer** or **destroy** the agent.

Transfer

For the purposes of disposal, the transfer of the agent must be a transfer of ALL holdings of the SSBA. All transfers must comply with the requirements of the NHS Act, the *National Health Security Regulations 2008* and the SSBA Standards.

Destruction/decontamination

Destruction/decontamination of an agent for the purposes of the SSBA Regulatory Scheme means to kill, remove or render the SSBA non-viable or non-pathogenic. This process does not necessarily result in sterility. For toxins on the SSBA list, destruction is taken to mean inactivation of the toxin.

The methods outlined below are by no means the only way to destroy SSBA. Destruction of SSBA should take into account any risks identified in the risk assessment and the conditions encountered in the facility. Any destruction of an agent must be able to be validated and records produced if requested by the Department of Health (Health).

Common means of destruction

Pressure steam sterilisation

Autoclave sterilisation is the most reliable method of destruction for biological agents. Autoclave is also used for the sterilisation of various other materials, including waste media and equipment. When using an autoclave to destroy SSBA, appropriate monitoring methods for example, thermocouples, spore strips, enzyme indicators or chemical indicators, should be used to ensure that the load reaches the desired temperature and pressure for the required time. Validation records of the effectiveness of the autoclave must be kept as required by the SSBA Standards.

Chemical destruction

AS/NZS 2243.3¹ is a recommended source of information when selecting and using chemical disinfectant agents. SSBA's vary in their susceptibility to chemical agents, therefore the chemical chosen should be based on the effectiveness against the SSBA and the laboratory environment. Any method of chemical destruction used must be able to be validated for the effectiveness of the process and validation records must be kept as required by the SSBA Standards.

Waste treated in an autoclave or by high level chemical disinfection can be further processed by High Temperature Incineration (HTI) or buried in an approved landfill.

High Temperature Incineration (HTI)

Any incinerator used for disposal of SSBA's must be high temperature, high efficiency and approved by the local Environment Protection Agency (EPA). Validation records must be kept as required by the SSBA Standards.

Toxins

The three toxins included on the List of SSBA's are abrin, ricin and botulinum toxin. All these toxins are susceptible to inactivation through heat treatment, such as steam under pressure in an autoclave or incineration.

Rendering an SSBA non-viable/non-pathogenic for use in further research

SSBA's that are rendered non-viable (for example, extraction of DNA for further study), or non-pathogenic (for example, attenuated strains) or, for toxins, inactivated samples, are not considered SSBA's for the purposes of the NHS Act. However, care should be taken when using these agents to ensure that viability or pathogenicity cannot be restored through further manipulation.

Destruction of waste by a waste management company

If a contracted waste management company is used the entity must put in place mechanisms to ensure waste is kept secure until the waste is collected (e.g. locked bins) and is provided with notification when the waste is destroyed.

If an entity uses a contracted waste management company for the destruction of waste, the entity should ensure that contractual arrangements are in place to ensure that the waste is destroyed as soon as possible after arrival in the destruction facility.

Destruction of waste outside a registered facility

Under the SSBA Standards, waste potentially containing SSBA may be transported out of a registered facility to another location for destruction. Procedures to ensure that the waste is securely destroyed must be determined as part of the facility's risk assessment process. Entities should also consider what waste will need to be handled securely and how secure waste can be minimised, for example, by destroying samples prior to disposal in waste bins. Entities will need to keep a track of what waste must be disposed of securely and have the appropriate procedures in place to ensure that this is carried out.

For transport within an entity the waste should be transported by authorised persons, and waste containing SSBA should be destroyed as soon as possible after arrival at the destruction point to reduce the risk of unauthorised access. If possible, the destruction of the waste should be performed by authorised person(s). Records of destruction must be kept as required by the SSBA Standards record keeping requirements (clause 7.4).

Reporting requirements

Confirmed SSBA

The disposal of the entire holdings of an SSBA or in the case of toxins, some of the holding so the remaining holdings fall below the threshold is a reportable event.

Suspected SSBA

The destruction of a suspected SSBA prior to completion of confirmatory testing is a reportable event. Entities must also report the disposal of any holdings confirmed to be SSBA by confirmatory testing or must register to handle the SSBA.

For further information, see:

- Guideline 2. Registered Facility Reporting Requirements
- Guideline 9. Non-Registered Facility Reporting and Requirements.

¹ Australian Standard: AS/NZS 2243.3:2010 Safety in laboratories Part 3: Microbiological aspects and containment facilities.