

**AD HOC GROUP OF THE STATES PARTIES
TO THE CONVENTION ON THE PROHIBITION
OF THE DEVELOPMENT, PRODUCTION AND
STOCKPILING OF BACTERIOLOGICAL
(BIOLOGICAL) AND TOXIN WEAPONS
AND ON THEIR DESTRUCTION**

BWC/AD HOC GROUP/L.72/Add.2
10 December 1999

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Geneva, 22 November - 10 December 1999

**Outcome of discussions by the Friend of the Chair
on Definitions of Terms and Objective Criteria**

Addendum

II. LIST OF EQUIPMENT¹

The following list of equipment shall be a component of the reporting format for facilities declared pursuant to Article III, section D [and as an illustrative list of equipment in the context of a facility investigation].

[1. Dynamic, static and explosive aerosol chambers designed or used for the dissemination of aerosols of microorganisms [or toxins of particles mass median diameter not exceeding 10 micrometres].

(a) Total chamber working volume range which applies to equipment present:

up to [0.2] m ³	Yes / No
[0.2 - 1.9] m ³	Yes / No
[2 - 4.9] m ³	Yes / No
[5 - 10] m ³	Yes / No
over [10] m ³	Yes / No

(b) Have any been operated at any time during the year

under high biological containment	under maximum biological containment
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Yes / No

Yes / No

]

1. A list of equipment may also have utility in the context of [any] guidelines on [all] transfers of dual-use items.

[1 *bis* Aerosol chambers designed or used for the dissemination of aerosols of microorganisms or toxins [and simulants].

(a) Are dynamic aerosol chambers present:

Yes / No

If Yes, complete the following:

(i) Specify volume(s) of chamber(s) present:

less than 0.2 m ³	Yes / No
0.2 - 5 m ³	Yes / No
5 - 30 m ³	Yes / No
over 30 m ³	Yes / No

(ii) Were any of the aerosol chambers used at any time during the previous calendar year:

under high biological containment	under maximum biological containment
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Yes / No

Yes / No

(b) Are static aerosol chambers present:

Yes / No

If Yes, complete the following:

(i) Specify volume(s) of chamber(s) present:

up to 0.2 m ³	Yes / No
0.2 - 1.9 m ³	Yes / No
2 - 4.9 m ³	Yes / No
5 - 10 m ³	Yes / No
over 10 m ³	Yes / No

- (ii) Were any of the aerosol chambers used at any time during the previous calendar year:

under high biological containment	under maximum biological containment
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Yes / No

Yes / No

- (c) Are explosive aerosol chambers present:

Yes / No

If Yes, complete the following:

- (i) Specify volume(s) of chamber(s) present:

less than 0.2 m ³	Yes / No
0.2 - 5 m ³	Yes / No
5 - 30 m ³	Yes / No
[30 - 100 m ³	Yes / No
over 100 m ³	Yes / No]

- (ii) Were any of the aerosol chambers used at any time during the previous calendar year:

under high biological containment	under maximum biological containment
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Yes / No

Yes / No

[1 *ter* Did any declared activities of the declared facility involve aerobiological work?²]

2. Paragraphs 1 *ter*, 4 *bis* and 5 *bis* were proposed at the sixteenth session of the Ad Hoc Group but were not fully discussed.

Yes ____ No ____

- (a) Were declared activities at the declared facility supported by a fixed outdoor site or grid that is designed, intended and used for outdoor studies of biological aerosols?

Yes ___ No ___

- (b) If yes, specify the name and geographic coordinates, to the nearest second, for each site or grid.

- (c) Did declared activities at the declared facility involve the use of aerosol systems or chambers (either static, dynamic, or explosive) designed, intended or used for the deliberate generation or dissemination of microorganism or toxin aerosol particles below [20] [30] micrometres in diameter?

Yes ___ No ___

- (d) Aerosol chambers (either static, dynamic, or explosive)

- ___ Present
___ Utilized
___ Used in BL3 equivalent or higher
___ Not present

If present or utilized, respond to the following questions:

- (i) Indicate the type(s) of activities conducted by or in these aerosol systems or chambers.

- ___ Static tests (*Study of aerosol properties*)
___ Dynamic tests (*Study using aerosol flows*)
___ Explosive tests (*Explosive/shock wave dissemination of aerosols*)
___ Other (specify)

- (ii) What is the volume of the largest chamber used?

Static

- ___ Equal to or less than 10 cubic metres
___ More than 10 cubic metres
___ Not applicable, no static chambers used

Explosive

- Equal to or less than 10 cubic metres
- More than 10 cubic metres
- Not applicable, no explosive chambers used

Dynamic

- Equal to or less than 10 cubic metres
- More than 10 cubic metres
- Not applicable, no dynamic chambers used]

2. Equipment designed or used to generate aerosols of microorganisms or toxins [and simulants].

(a) Form of source material used to generate aerosol(s) (check all that apply):

- liquid
- solid
- not applicable

(b) Mass median diameter of aerosol particles generated (check all that apply):

- less than 10 microns
- 10 - 20 microns
- over 20 microns

(c) For which purpose was the equipment used:

- | | |
|---------------------------|----------|
| Aerosol chambers | Yes / No |
| Open-air release | Yes / No |
| With experimental animals | Yes / No |
| Not applicable | |

3. Aerosol analytical equipment to determine the size of particles up to 20 micrometers in diameter.

Present: Yes / No

[4. Aggregate fermenters/bioreactors capacity.

(a) Volume range.

Specify which range applies:

up to 100 litres	Yes / No
101-1,000 litres	Yes / No
1,001-10,000 litres	Yes / No
10,001-100,000 litres	Yes / No
over 100,000 litres	Yes / No

(b) Specify the volume of the largest fermenter/bioreactor.]

5. Fermenters/bioreactors for batch operation with a volume over [300] litres.

(a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

primary production containment	under high biological containment	under maximum biological containment
Yes / No	Yes / No	Yes / No

[5 *bis* Indicate the presence, utilization, and containment usage of the following equipment at the declared facility (check where applicable):

(a) Fermenter(s) with total/internal volume exceeding [50] litres:

Present
 Utilized
 Used in BL3 equivalent or higher
 Not present

(b) Bioreactor(s) with total/internal volume exceeding [50] litres:

Present
 Utilized
 Used in BL3 equivalent or higher
 Not present

(c) Chemical reactors:

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present]

6. Equipment for continuous or perfusion growth of microorganisms with a volume over ... litres.

(a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

primary production containment	under high biological containment	under maximum biological containment
Yes / No	Yes / No	Yes / No

7. Self-sterilizable centrifuges for continuous or semi-continuous operation with a throughput capacity of over 100 litres per hour.

(a) Present: Yes / No

(b) Have any been operated at any time during the previous calendar year

primary production containment	under high biological containment	under maximum biological containment
Yes / No	Yes / No	Yes / No

[7 bis Continuous centrifuge(s) that are self-sterilizable, with throughput capacity greater than 100 litres per hour:

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present]

8. Cross-flow or tangential filtration equipment with a filter area of over 2.5 m².

(a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

[primary
production
containment]

under high
biological
containment

under maximum
biological
containment

Yes / No

Yes / No

Yes / No

[8 *bis* Cross-flow filtration equipment with filter area of over 5 square metres:

Present

Utilized

Used in BL3 equivalent or higher

Not present]

[8 *ter* Tangential filtration equipment with filter area of over 5 square metres:

Present

Utilized

Used in BL3 equivalent or higher

Not present]

9. Freeze-drying equipment with a condenser capacity of over 5 kg of ice in 24 hours.

(a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

[primary
production
containment]

under high
biological
containment

under maximum
biological
containment

Yes / No

Yes / No

Yes / No

(c) With steam sterilization: Yes / No

[9 *bis* Freeze dryer(s) with condenser capacity of over 5 kg of ice in 24 hours:

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present]

10. Cell disruption equipment capable of continuous operation without the release of aerosols with a flow rate greater than 10 litres per hour.

- (a) Present: Yes / No
- (b) Has any been operated at any time during the previous calendar year

[primary production containment]	under high biological containment	under maximum biological containment
Yes / No	Yes / No	Yes / No

11. Spray drying equipment.

- (a) Present: Yes / No
- (b) Has any been operated at any time during the previous calendar year

[primary production containment]	under high biological containment	under maximum biological containment
Yes / No	Yes / No	Yes / No

[11 *bis* Spray dryer(s):

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present]

[12. Drum drying equipment.

(a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

[primary
production
containment]

under high
biological
containment

under maximum
biological
containment

Yes / No

Yes / No

Yes / No

]

[12 bis Drum dryer(s):

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present]

13. Biological safety cabinets Class III or Class I with accessories for conversion to Class III.

Present: Yes / No

14. Flexible film isolators or other cabinets with air handling characteristics equivalent to Class III and anaerobic boxes.

Present: Yes / No

[15. Biological safety cabinets Class II.

Present: Yes / No]

16. Equipment for microencapsulation of microorganisms or toxins.

(a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

[primary

under high

under maximum

production containment]	biological containment	biological containment
Yes / No	Yes / No	Yes / No

[16 *bis* Microencapsulation equipment:

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present]

[17. Automatic DNA sequencing equipment.

- (a) Present: Yes / No
- (b) Has any been operated at any time during the previous calendar year

[primary production containment]	under high biological containment	under maximum biological containment
Yes / No	Yes / No	Yes / No

[18. Automatic DNA synthesizer.]

- (a) Present: Yes / No
- (b) Has any been operated at any time during the previous calendar year

[primary production containment]	under high biological containment	under maximum biological containment
Yes / No	Yes / No	Yes / No

[19. Automatic peptide sequencing equipment.

- (a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

[primary production containment]	under high biological containment	under maximum biological containment
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Yes / No	Yes / No	Yes / No
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[20. Automatic peptide synthesizer.

(a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

[primary production containment]	under high biological containment	under maximum biological containment
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Yes / No	Yes / No	Yes / No
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21. Milling equipment having a capacity of milling grain with mass median diameter less than 10 micrometres.

(a) Present: Yes / No

(b) Has any been operated at any time during the previous calendar year

[primary production containment]	under high biological containment	under maximum biological containment
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Yes / No	Yes / No	Yes / No
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[21 *bis* Milling equipment with grain size capacity of less than 10 micrometres:

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present]

22. Plant inoculation cabinets/chambers providing quarantine.

Total cabinet/chamber working volume range which applies to equipment present:

- | | |
|------------------------|----------|
| up to 1 m ³ | Yes / No |
| 1-3 m ³ | Yes / No |
| over 3 m ³ | Yes / No |

23. Cabinets/chambers designed or used for rearing insects.

(a) Total cabinet/chamber working volume range which applies to equipment present:

- | | |
|------------------------|----------|
| up to 3 m ³ | Yes / No |
| over 3 m ³ | Yes / No |

(b) Have any been operated at any time during the previous calendar year under quarantine?

Yes / No

[24. Indicate the presence, utilization, and containment usage of the following equipment at the declared facility (check where applicable):

(a) Incubator(s):

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present

(b) Autoclave(s):

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present

(c) Self-contained breathing apparatus for other than fire-fighting purposes:

- Present
- Utilized
- Used in BL3 equivalent or higher
- Not present]
