Handbook on
Critical Use Nominations
for Methyl Bromide

Prepared by the
Technology and Economic Assessment Panel
and
Methyl Bromide Technical Options Committee

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Acronyms

CFC	-	Chlorofluorocarbon
CUE	-	Critical Use Exemption for Methyl Bromide
CUN	-	Critical Use Nomination
MBTOC	-	Methyl Bromide Technical Options Committee
ODS	-	Ozone-Depleting Substance
OEWG	-	Open-Ended Working Group
QPS	-	Quarantine and Pre-Shipment
TEAP	-	Technology and Economic Assessment Panel
TOC	-	Technical Options Committee
UNEP	-	United Nations Environment Programme

Chapter 1 - Introduction

1.1 Genesis and Purpose of Handbook

At the Fourth Meeting of the Parties, methyl bromide was listed as a controlled substance in Annex E of the Protocol. Control measures for methyl bromide are set out in Article 2H of the Protocol. These control measures include allowance for a level of production and consumption of methyl bromide to continue after production phaseout where this material is necessary to satisfy uses agreed by the Parties to be critical uses (Appendix A). At the Seventh Meeting of the Parties, it was decided to review the applicability of existing essential use criteria and process with regards to evaluating critical uses of methyl bromide in the agricultural sector.

The process agreed by the Parties in Decision IX/6[1] for nomination for critical uses of methyl bromide is similar to that for essential use nominations for other controlled substances (Annexes A-C of the Protocol) set out in Decision IV/25, with modifications to reflect the particular uses of methyl bromide.

Noting the need for the non-Article 5(1) Parties to have adequate guidance to enable them to submit nominations for critical use exemptions for consideration at the 15th Meeting of the Parties in 2003, Decision XIII/11 of the Thirteenth Meeting of the Parties called upon the Technology and Economic Assessment Panel (TEAP) to:

"...prepare a handbook on critical-use nomination procedures which provides this information, and the schedule for submission which reflects that currently employed in the essential-use nomination procedure..."

TEAP, with the assistance of its Methyl Bromide Technical Options Committee (MBTOC) developed the "Handbook on Critical Use Nominations for Methyl Bromide" in response to this request. It is intended to assist the Parties in the preparation of critical use nominations for methyl bromide. The arrangement of that handbook follows that of the June 2001 version of the "Handbook on Essential Use Nominations".

This Handbook describes the nomination process for critical use exemptions. It builds on the process for essential use exemptions as it has evolved through Articles of the Protocol and Decisions of the Parties, the procedures followed under the Protocol, and the experience of TEAP and its Technical Options Committees in managing the essential use process to date.

[1] Text of relevant Decisions is given in Appendix B

This second version of the Handbook is revised in response to the experience gained during the consideration of Critical Use Nominations (CUNs) submitted by the Parties during in early 2003. A significant improvement is the inclusion of suggested forms for use with nominations. The forms are designed to guide Parties in providing the information necessary for evaluation of CUNs in the light of Decision IX/6, and to give consistency between Parties in nominations.

1.2 Content and Structure

The Handbook contains three sections: 1) an outline of the critical use process, 2) suggested forms and notes for the submission of critical use nominations, and 3) appendices. The appendices contain provisions of the Montreal Protocol relating to critical use exemptions for methyl bromide, relevant other decisions of the Parties to the Protocol and extracts from meeting reports of the Parties relevant to critical uses.

1.3 Handbook Updates

TEAP may revise and update this Handbook as circumstances require. Please consult the Ozone Secretariat for updated handbooks to ensure use of the latest version.

Note particularly that Decision XI/6 requires that alternatives must be both technically and economically feasible. The interpretation of what is meant by 'economic feasibility' in this context is still being discussed. The outcome of these discussions may require changes to be made to the suggested submission forms contained in this version of the Handbook

This version was posted on the web in August 2003.

Chapter 2 – Critical Uses for Methyl Bromide

2.1 Introduction

Prior to production phase-out of methyl bromide, Parties may nominate uses for a critical use exemption to allow continued use of methyl bromide after it has been phased out and where alternatives are not available. For Parties not operating under Article 5(1) production phase-out for non-exempt uses is by 1 January 2005 (Article 2H, as amended). Parties operating under Article 5(1) do not nominate for years prior to their production phase-out (currently scheduled for 2015).

Montreal Protocol provisions relate to the phase-out of production and do not control the use of substances manufactured prior to the phase-out. Thus, Parties do not need to submit nominations to allow the continuing use of such stockpiled methyl bromide. However, Parties seeking Critical Use Exemptions are expected to first exhaust stockpiled methyl bromide prior to application of quantities authorised under a CUE. Furthermore, Article 2H, paragraph 5, exempts production and consumption of methyl bromide used or authorised by a Party for quarantine and pre-shipment (QPS) purposes. Thus, nominations for critical use exemptions are not necessary for methyl bromide uses that fall under this QPS exemption.

Only Parties to the Protocol can submit nominations. Thus, companies, other organisations and individuals must submit applications to their national governments for their consideration and possible forwarding to the ozone secretariat.

Nominations received by 31 January in a given year will be decided by the Parties at their annual meeting of that year. Nominations received after 31 January will be decided the next year.

In an emergency, Parties may notify the Secretariat that they will consume quantities of methyl bromide not exceeding 20 tonnes without prior exemption. The secretariat and the Technology and Economic Assessment Panel will evaluate this use according to "critical methyl bromide use" criteria and present this information for review and guidance at the next Meeting of the Parties under Decision IX/7 (Appendix B).

2.2 Framework

The nomination and review process for critical use exemptions for methyl bromide (Annex E of the Protocol) follows that which has evolved for essential use exemptions for substances in Annexes A-C of the Protocol. The steps in this process are summarised below.

Article 2 of the Montreal Protocol mandates the phase-out of production and "consumption" of substances that deplete the ozone layer. "Consumption" is defined as production plus imports minus exports. Please note that the Parties are allowed to use stockpiled or recycled substances for as long as they are available after the production phaseout, unless restricted by national regulations. Article 2H authorises the Parties by decision to permit production and consumption for those uses decided by the Parties to satisfy the critical use criteria for methyl bromide.

Article 6 of the Montreal Protocol mandates the creation of expert panels to assist the Parties in assessing the control measures provided for in Article 2. This provision led to the formation of the Technology and Economic Assessment Panel (TEAP) and its Technical Options Committees (TOCs), including the Methyl Bromide Technical Options Committee. TEAP is chaired by Dr Stephen O. Andersen (United States), Dr Lambert Kuijpers (Netherlands) and Mr José Pons Pons (Venezuela). MBTOC is chaired by Dr Jonathan Banks (Australia) and Dr Nahum Marban Mendoza (Mexico). All current members of the TEAP, the Technical Options Committees and Task Forces may be found at: http://www.teap.org/

Excerpts from Articles 2 and 6 of the Montreal Protocol relating to critical and essential use exemptions are attached as Appendix A.

At the Ninth Meeting, the Parties set out criteria and procedures for assessing a critical methyl bromide use for the purposes of control measures and exemptions in Article 2 of the Protocol. These Decisions are given in full in Appendix B.

The substantive criteria for a critical use exemption as given in Decision IX/6 are:

"That a use of methyl bromide should qualify as "critical" only if the nominating Party determines that:

(i) The specific use is critical because the lack of availability of methyl bromide for that use would result in a significant market disruption; and
(ii) There are no technically and economically feasible alternatives or substitutes available to the user that are acceptable from the standpoint of environment and health and are suitable to the crops and circumstances of the nomination;"

In addition, for Parties not operating under Article 5(1), "that production and consumption, if any, of methyl bromide for critical uses should be permitted only if:

(i) All technically and economically feasible steps have been taken to minimise the critical use and any associated emission of methyl bromide;
(ii) Methyl bromide is not available in sufficient quantity and quality from existing stocks of banked or recycled methyl bromide; also bearing in mind the developing countries' need for methyl bromide;

(iii) It is demonstrated that an appropriate effort is being made to evaluate, commercialise and secure national regulatory approval of alternatives and substitutes, taking into consideration the circumstances of the particular nomination…. Non-Article 5 Parties must demonstrate that research programmes are in place to develop and deploy alternatives and substitutes…."

2.3 Process for nomination for critical use exemption

Following precedent established for nomination, reviews and acceptance of essential use nominations (Decision IV/25), critical use nominations are considered for exemptions on an annual basis. Exemptions granted for more than one year (if any) are subject to the annual review provisions described in paragraph 5 of Decision IV/25. A Party that submits a nomination for multiple year exemptions may be requested to annually update their nomination for ongoing review.

Decision IX/6(2) tasked TEAP to review nominations for critical use exemptions submitted by the Parties, and to make recommendations based on the criticality criteria given above.

Note that Decision IX/6 in paragraph 2 specifically assigns the nominating Party responsibility for determining significant market disruption specified in paragraph 1 (a) (i).

Review by TEAP is conducted initially through its Methyl Bromide Technical Options Committee. Members of MBTOC evaluate each nomination and report their review to the MBTOC co-chairs. The draft text of the responses to nominations is discussed via meetings, email, telephone, fax and mail, as appropriate. The results of these reviews are discussed at full meeting(s) of MBTOC. Clarifications may be sought via the Ozone Secretariat from the nominating Party, as necessary. A draft recommendation is prepared and agreed. This is forwarded to TEAP by the MBTOC co-chairs for further review.

TEAP develops recommendations on the nominations and submits its report through the Secretariat by 30 April of that year, which is at least two months prior to the Meeting of the Open-Ended Working Group (OEWG). The OEWG may also choose to comment on the nominations and to recommend to the meeting of the Parties. The Parties take decisions on the nominations at their annual meeting during the last quarter of the year.

A critical use exemption is granted to the nominating Party for a specific quantity of methyl bromide for a specific time period and use where, under the circumstances of the nomination, there are no economically and technically feasible alternatives. A Party granted a critical use exemption may produce and/or import the specified methyl bromide quantity to meet the needs of those users within its territory that are licensed to use methyl bromide. Any methyl bromide production and

consumption to meet the authorised critical uses, and also quantities authorised but not actually consumed, should be identified in the annual data reporting to the Ozone Secretariat.

Parties are urged to consolidate similar nominations to minimise the need to include confidential information that can be easily traced to one producer or organisation. In rare instances, confidential information may be a key element of a nomination. Such confidential information should be clearly indicated in a nomination.

2.4. Steps Leading to a Critical Use Exemption

The critical use process consists of the following nine steps:

1. **Application:** An organisation or other entity in a non-Article 5(1) Party to the Protocol makes a specific application for a critical use exemption to the relevant government authority. The government reviews the application and submits the nomination only if technically and economically feasible alternatives are not available and significant market disruption would result from the lack of methyl bromide.

2. **Nomination:** Government authorities submit Critical Use Nomination(s) to the Montreal Protocol Ozone Secretariat for any future year or years. Nominations for any future year received by 31 January will be considered at the Meeting of the Parties in that year. The Party should name person(s) in its country who are authorised to provide any clarifications sought on the nominations by the Technology and Economic Assessment Panel and its MBTOC. Early submission of nominations is encouraged.

3. **Assignment:** The Ozone Secretariat forwards notice of the nomination to TEAP and its MBTOC. Copies of the complete nomination are forwarded to TEAP and its MBTOC.

4. **Review:** MBTOC reviews the nomination to determine whether it satisfies the criteria for a critical use established by Decision IX/6 after obtaining clarifications, if needed, from the person(s) designated by the nominating Party. TEAP then reviews the report of MBTOC and either recommends the nomination to the OEWG or reports that it is unable to recommend a nomination as an alternative for a particular use is technically and economically feasible, or that there is insufficient information on which to make a recommendation. In the latter case, the Party may be requested via the Ozone Secretariat to submit further information. Nominations submitted to the Secretariat by 31 January will be evaluated in the TEAP report to the OEWG, which is prepared by 30 April of each year.

5. **Evaluation:** The OEWG meeting reviews the Panel report and recommends a decision for consideration by the Parties.

6. **Decision:** The Meeting of the Parties decides whether to authorise production for critical use in accordance with the Montreal Protocol. The Parties may attach conditions to their approval for the critical use.

7. **National Authorisation:** The Party in possession of a critical use exemption authorises the applicant to acquire the controlled substance (methyl bromide) according to the terms of the decision.

8. **Procurement and use:** The Applicant acquires a quantity less-than or equal-to the amount of methyl bromide authorised by the national authority. Please note that the Protocol and national authorities authorise, but do not mandate, production and/or import: each applicant must locate a supplier and negotiate supply.

9. **Reporting:** Users provide the national authority with all information necessary for subsequent auditing and reporting of the authorised use to the Ozone Secretariat, including quantities applied and unused or stored for subsequent authorised use.

2.5 Information Requirements

Information requirements for methyl bromide Critical Use Nominations (CUNs) are different for soil fumigation and postharvest and structural fumigation. Suggested submission forms for CUNs are given in Sections 3.1.1 (Soils) and 3.1.2 (Commodities, Structures and Objects). These forms include detailed instructions and notes on what information is requested by TEAP and MBTOC in order to fulfil its mandate to evaluate CUNs in the light of Decision IX/6. Discussion on information requirements for critical use nominations for soil fumigation (pre-plant) purposes can also be found in the Meeting Report for the Thirteenth Meeting of the Parties, Colombo, November 2001 (see Appendix B).

When considering availability of alternatives to a methyl bromide use for which an exemption is being considered, Parties may be guided by those listed in the 'Index to Methyl Bromide Alternatives'. This index is available at www.teap.org. It is an index to alternatives cited in the MBTOC Assessments and TEAP Annual Progress Reports. It is to be updated annually.

Chapter 3 - Instructions

Nominations must fully satisfy the criteria in Decision IX/6. All Parties are encouraged to exercise the utmost diligence in their assessment of a use as a critical use in the light of this Decision and to provide detailed rationale for all nominations.

Nominations to the Ozone Secretariat received by 31 January will be reviewed by TEAP for consideration by the Parties in that same year, i.e. nominations for use in 2005 must be received by 31 January 2004. A detailed time line for nominations is given in Section 3.2.

3.1 Critical Use Nomination

Information required for Critical Use Nominations include material in the following areas:

- alternatives to the proposed methyl bromide use;
- steps to minimise use;
- steps to minimise emissions;
- recycling and stockpiling;
- efforts made to secure alternatives;
- quantity of controlled substances requested;

It is the responsibility of the nominating Party to verify that all economical options have been undertaken to reduce use and emissions, and that lack of availability of methyl bromide for the nominated use would lead to significant market disruption.

3.2 Schedule for Submissions

The *minimum* schedule for submission and consideration of CUNs is as follows:

Prior to January 31 in the year that critical use authorisation is requested:

	Applicant organisations prepare and submit critical use applications to national governments.
	Governments review applications and prepare critical use nominations, following guidance contained in this "Handbook on Critical Use Nominations for Methyl Bromide".
January 31:[2]	Deadline for critical use nominations to the Ozone Secretariat.
April 30:[2]	TEAP submits its evaluation of the nominations to the Ozone Secretariat for communication to the Parties.
June - July:	OEWG meets and considers the recommendations for critical uses put forward by TEAP.
September - December:	The Parties meet and decide whether to allow production for nominated uses. Parties may specify conditions for a particular exemption.

Please note that the annual Meeting of the Parties is typically in September or later. Therefore nominating Parties and their potential methyl bromide users may wish to apply two or more years before the critical use is needed in order to allow adequate time for national governments to complete notification of applicants, and for applicants to either procure necessary methyl bromide, if authorised, or to make appropriate arrangements to proceed without methyl bromide, if the nomination was not successful.

[2] These dates are deadlines established by the Parties.

3.3 Recommended Forms and Procedure for Nominations for Critical Use

PLEASE NOTE: The Technology and Economic Assessment Panel and its TOCs may be unable to recommend critical use nominations that fail to comply with instructions from Parties.

3.3.1 Instructions:

1. To assure timely review, please submit nominations and supporting documentation in English. Abstracts of original supporting documents in English should be given where original documents are in another language and translations are not available.
2. Forms for submission of nominations are given below. They are also available as individual documents at www.teap.org/reports. Different forms are required for CUNs for preplant use or for structures, commodities and objects.
3. In addition to the forms, detailed information to support the nomination should be provided addressing requirements in Decision IX/6. This can be submitted as appendices to the forms.
4. A separate nomination should be submitted for each proposed critical use. Provide separate nominations where growing or storage conditions are substantially different (e.g. separate CUNs if the same product is produced in open field and protected environments). Where feasible alternatives and conditions are likely to be identical (e.g. many commodities), the nominations should be combined.
5. Incorporate, by reference, information from the prior nominations, as appropriate.
6. An electronic version of the nomination in addition to a paper copy should be submitted. The content of the paper and electronic information submitted must be identical. To assist handling, if possible, keep documents less than 650 Kb per nomination. If more than 650 kb is submitted for a particular nomination, the document should be split into parts of less than 650 Kb and these should be labeled 01, 02 etc as appropriate.

3.3.2 Naming convention for documents:

Each electronic file name should follow a consistent nomenclature. It is suggested that this consists of five parts:

- Critical use nomination with the year of nomination- 7 spaces e.g. *CUN2004*
- Category - 4 spaces e.g. *Soil*, *Struc*ture, *Comm*odity, *Obje*ct
- Nominating Party abbreviation - 3 spaces e.g. *USA, BEL*
- Document series number - 2 spaces e.g. *01,02, etc*
- Description within the category of use - up to 24 spaces e.g. *Ornamentals Open field, Melons Protected, Flour Mills*

Completed Example: CUN2004 Soil USA 01 Melons Protected

3.3.3 Naming convention for citations:

Limit the citations to those that are relevant to the exemption application. The following format for citations is suggested:

1. Becker J.O., Ohr H.D., Grech N.M., McGiffen M.E. and Sims J.J. 1998. Evaluations of methyl iodide as a soil fumigant in container and small field plot studies. *Pesticide Science* 52: 58-62.

2. Jacobi K.K., MacRae E.A. and Heatherington. S.E. 2001. Postharvest heat disinfestation treatments of mango fruit. *Scientia Horticulturae* 89: 171 –193.

3. Kawakami F. 1999. Current research of alternatives to methyl bromide and its reduction in Japanese Plant Quarantine. *Res. Bull. Pl. Prot. Japan* 35: 109-120.

4. Porter I.J., Mattner S.W., Brett R.W., Nicholls J.W., Rae J. and Bianco V. 2000. Plant-back, IGR and soil health influences the selection of MB alternatives in Australia. *Proc. 2000 Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions*, Orlando, Florida. Paper 23.

3.3.4 Address for submitting nominations

All nominations should be forwarded to:

The Secretariat for the Vienna Convention and the Montreal Protocol
Ozone Secretariat
United Nations Environment Programme (UNEP)
P.O. Box 30552
Nairobi
Kenya

Telephone +254-2 62-1234 or 62-3850
Fax +254-2 62-3601 / 62-3913 / 62-3532
E-mail: ozoneinfo@unep.org

Copies of each nomination should also be sent to:

Cochair, Methyl Bromide Technical Options Committee
10 Beltana Rd
Pialligo
ACT 2609
Australia

Telephone +61-2-6248-9228
E-mail: apples3@bigpond.com

Here follow suggested forms for Critical Use Nominations for preplant applications, and for commodities, structures and objects. These forms are also available separately in www.teap.org/reports in the MBTOC section or by fax or mail from the Ozone Secretariat.

COVER SHEETS

For Administrative Purposes only:
Date received by Ozone Secretariat:
YEAR: CUN:

METHYL BROMIDE CRITICAL USE NOMINATION FOR PREPLANT SOIL USE (OPEN FIELD OR PROTECTED ENVIRONMENT)

NOMINATING PARTY:

BRIEF DESCRIPTIVE TITLE OF NOMINATION:

NOMINATING PARTY CONTACT DETAILS:

Contact Person: _____

Title: _____

Address (include

city/code numbers): _____

_____

_____

Telephone: _____

Fax: _____

E-mail: _____

Following the requirements of Decision IX/6 paragraph (a)(1) [*insert name of Party*] has determined that the specific use detailed in this Critical Use Nomination is critical because the lack of availability of methyl bromide for this use would result in a significant market disruption.

☐ Yes ☐ No

_____ _____ _____

COVER SHEETS

Signature Name Date

Title: _____

CONTACT OR EXPERT(S) FOR FURTHER TECHNICAL DETAILS

Contact/Expert Person: _____

Title: _____

Address (include

city/code numbers): _____

_____

_____

_____

Telephone: _____

Fax: _____

E-mail: _____

LIST OF DOCUMENTS SENT TO THE OZONE SECRETARIAT IN OFFICIAL NOMINATION PACKAGE

List all paper and electronic documents submitted by the Nominating Party to the Ozone Secretariat.

1. PAPER DOCUMENTS: Title of paper documents and appendices	**No. of pages**	**Date sent to Ozone Secretatiat**
2. ELECTRONIC COPIES OF ALL PAPER DOCUMENTS: *Title of each electronic file (for	**No. of kilobytes**	**Date sent to Ozone**

COVER SHEETS

naming convention see notes above)		Secretatiat

* Identical to paper documents

Part A: SUMMARY

1. **NOMINATING PARTY:**

2. **DESCRIPTIVE TITLE OF NOMINATION:**

3. **CROP AND SUMMARY OF CROP SYSTEM (***e.g. open field (including tunnels added after treatment), permanent glasshouses (enclosed), open ended polyhouses, others (describe)***):**

4. **METHYL BROMIDE NOMINATED (***give quantity requested and years of nomination***):**

5. **BRIEF SUMMARY OF THE NEED FOR METHYL BROMIDE AS A CRITICAL USE (***e.g. no registered pesticides or alternative processes for the particular circumstance, certification to meet specified disease tolerance, plantback period too long, lack of accessibility to glasshouse, unusual pests***):**

6. **SUMMARISE WHY KEY ALTERNATIVES ARE NOT FEASIBLE (***< 200 words***):**

7. (i) PROPORTION OF CROP GROWN USING METHYL BROMIDE (*if particular agricultural or political regions only use MB, provide local data as well as national figures***):**

Region where MB use is requested	**Total crop area in 2002 (ha)**	**Proportion of total crop area treated with methyl bromide in 2002 (%)**
A		
B		
C		
National Total:		

Add more rows if necessary

(ii) If only part of the crop area is treated with MB, indicate the reason why methyl bromide is not used in the other area, and identify what alternative strategies are used to control the target pathogens and weeds without methyl bromide there.

(iii) Would it be feasible to expand the use of these methods to cover at least part of the crop that has requested use of MB? What changes would be necessary to enable this?

8. AMOUNT OF METHYL BROMIDE REQUESTED FOR CRITICAL USE (*Duplicate table if a number of different MB formulations are being requested and/or the request is for more than one specified region***):**

REGION…….

Year of exemption request	**(**Insert Year**)**		
Kilograms of MB			
Use: broadacre or strip/bed treatment			
Formulation (ratio of MB/Pic mixture) to be used for the CUE			
Total area to be treated with the MB or MB/Pic formulation (m^2 or ha)			
Application rate* (kg/ha) for the **formulation**			
Dosage rate* (g/m^2) of **formulation** used to calculate requested kg of MB			

Note: For broadacre treatment application rate and dosage rate may be the same

9. SUMMARISE ASSUMPTIONS USE TO CALCULATE MB QUANTITY NOMINATED FOR EACH REGION:

Part B: CROP CHARACTERISTICS AND MB USE

10. KEY DISEASES AND WEEDS FOR WHICH MB IS REQUESTED AND SPECIFIC REASON FOR THIS REQUEST IN EACH REGION (*List only those target weeds and pests for which methyl bromide is the only feasible alternative and for which CUE is being requested***):**

Region where MB use is requested	**Key disease(s) and weed(s) to genus and, if known, to species level**	**Specific reasons why MB needed (**eg. Effective herbicide available, but not registered for this crop; mandatory requirement to meet certification for disease tolerance**)**
A		
B		
C		

Add extra rows if necessary

11. (i) CHARACTERISTICS OF CROPPING SYSTEM AND CLIMATE (Place major attention on the key characteristics that affect the uptake of alternatives):

CHARACTERISTICS	**Region where MB is requested**			
	A	B	C	D
Crop type, e.g. transplants, bulbs, trees or cuttings				
Annual or perennial crop (state number of years between replanting)				
Typical crop rotation (if any) and use of MB for other crops in the rotation (if any)				
Soil types: (Sand loam, clay, etc.)				
Typical dates of planting and harvest				
Typical dates of MB fumigation				
Frequency of MB fumigation (e.g. every two years)				
Typical soil temperature range during MB				

CHARACTERISTICS	Region where MB is requested			
	A	B	C	D
fumigation (e.g. 15-20°C)				
Climatic zone (e.g. temperate, tropical)				
Annual and seasonal rainfall (mm)				
Range in average temperature variations in mid winter and mid summer (eg. min/max °C) (e.g. Jan 5-15°C, July 10-30°C				
Other relevant factors:				

(ii) Indicate if any of the above characteristics in 11(i) prevent the uptake of any relevant alternatives?

12. HISTORIC PATTERN OF USE OF METHYL BROMIDE, AND/OR MIXTURES CONTAINING METHYL BROMIDE, FOR WHICH AN EXEMPTION IS REQUESTED (*Add separate table for each major region specified in Question 8***):**

For as many years as possible as shown specify:	1995	1998	1999	2000	2001	2002
Area treated (hectares)						
Ratio of broadacre MB use to strip/bed use if strip treatment is used						
Amount of MB active ingredient used (total kg)						
Formulations of MB. (e.g. MB 98:2; MB/Pic 70:30)						
Method by which MB applied (e.g. injected at 25cm depth, hot gas)						
Application rate of formulations in kg/ha*						

For as many years as possible as shown specify:	1995	1998	1999	2000	2001	2002
Actual dosage rate of formulations (g/m^2)*						

*For broadacre treatment application rate and dosage rate may be the same

Part C: TECHNICAL VALIDATION

13. REASON FOR ALTERNATIVES NOT BEING FEASIBLE (*Give list of all relevant chemical and non chemical alternatives, and their combinations (for assistance refer to MBTOC Assessment reports, available at www.teap.org, and other published literature on MB alternatives***):**

Name of alternative	Technical and regulatory* reasons for the alternative not being feasible or available	**Citations	Is the alternative considered cost effective?
Chemical Alternatives			
Non chemical alternatives			
Combinations of alternatives			

Add more rows if necessary

* Regulatory reasons include local restrictions (e.g. occupational health and safety, local environmental regulations) and lack of registration.
** Citations should be recorded by a number only, to indicate citations listed in Question 26

14. LIST AND DISCUSS WHY REGISTERED (AND POTENTIAL) PESTICIDES AND HERBICIDES ARE CONSIDERED NOT EFFECTIVE AS TECHNICAL ALTERNATIVES TO MB:

15. LIST PRESENT (AND POSSIBLE FUTURE) REGISTRATION STATUS OF ANY CURRENT AND POTENTIAL ALTERNATIVES:

Name of alternative	**Present Registration Status** State if registered for crop, registered for crop but use restricted, registered for other crops but not target crop, or not registered	**Registration being considered by national authorities?**	**Date of possible future registration**
		Y/N	

Add more rows if required

16. STATE RELATIVE EFFECTIVENESS OF RELEVANT ALTERNATIVES COMPARED TO METHYL BROMIDE FOR THE SPECIFIC KEY TARGET PESTS AND WEEDS FOR WHICH IT IS BEING REQUESTED (*Use same groups as in Question 10 and provide a separate table for each target group for which MB is considered essential. Omit pathogen and/or weed tables if these are not the reason why critical use is requested***):**

A: KEY PATHOGEN or KEY PATHOGEN GROUP: ……

MB AND ALTERNATIVES (include dosage rates and application method)	**AVERAGE DISEASE % or RATING AND YIELDS IN PAST 3-5 YEARS**				
	No of trials	**Disease (% or rating)**	**No of trials**	**Actual yields (t/ha)**	**Citation number (see Question 26)**
See example in APPENDIX 1					

Add more rows if necessary

B: WEED: ……

MB AND ALTERNATIVES (include dosage rates and application method)	**AVERAGE WEED NUMBER, % or RATING (or other) AND YIELDS IN PAST 3-5 YEARS**				
	No of trials	Control of target weed **(No. per m^2)**	**No of trials**	**Actual yields**	**Citation number (see Question 26)**
See example in Appendix 1					

MB AND ALTERNATIVES (include dosage rates and application method)	**AVERAGE WEED NUMBER, % or RATING (or other) AND YIELDS IN PAST 3-5 YEARS**				
	No of trials	Control of target weed **(No. per m^2)**	**No of trials**	**Actual yields**	**Citation number (see Question 26)**

Add more rows if necessary

17. ARE THERE ANY OTHER POTENTIAL ALTERNATIVES UNDER DEVELOPMENT WHICH ARE BEING CONSIDERED TO REPLACE METHYL BROMIDE? (*If so, please specify***):**

18. ARE THERE TECHNOLOGIES BEING USED TO PRODUCE THE CROP WHICH AVOID THE NEED FOR METHYL BROMIDE? (*e.g. soilless systems, plug plants, containerized plants. State proportion of crop already grown in such systems nationally and if any constraints exist to adoption of these systems to replace MB use. State whether such technologies could replace a proportion of proposed MB use***):**

Part D: EMISSION CONTROL

19. TECHNIQUES THAT HAVE AND WILL BE USED TO MINIMISE METHYL BROMIDE USE AND EMISSIONS IN THE PARTICULAR USE (*State % adoption or describe change***):**

Technique or step taken	VIF or High barrier films	MB dosage reduction	Increased % chloropicrin in MB formulation	Less frequent application
What use/emission reduction methods are presently adopted?				
What further use/emission reduction steps will be taken for the MB used for critical uses?				
Other measures (please describe)				

20. IF METHYL BROMIDE EMISSION REDUCTION TECHNIQUES ARE NOT BEING USED, OR ARE NOT PLANNED FOR THE CIRCUMSTANCES OF THE NOMINATION, STATE REASONS:

PART F: ECONOMIC ASSESSMENT

21. COSTS OF ALTERNATIVES COMPARED TO METHYL BROMIDE OVER 3-YEAR PERIOD:

Alternative	Yield*	Cost in year 1 (US$/ha)	Cost in year 2 (US$/ha)	Cost in year 3 (US$/ha)
Methyl bromide				

*As percentage of typical or 3-year average yield, compared to MB e.g. 10% more yield, write 110. Add more rows if necessary

22. GROSS AND NET REVENUE:

YEAR 1		
Alternative(s) (as shown in Question 21)	**Gross revenue for last reported year (US$/ha)**	**Net Revenue for last reported year (US$/ha)**
Methyl bromide		

Add more rows if necessary

YEAR 2		
Alternative(s) (as shown in Question 21)	**Gross revenue for last reported year (US$/ha)**	**Net Revenue for last reported year (US$/ha)**
Methyl bromide		

Add more rows if necessary

YEAR 3		
Alternative(s) (as shown in Question 21)	**Gross revenue for last reported year (US$/ha)**	**Net Revenue for last reported year (US$/ha)**
Methyl bromide		

Add more rows if necessary

Part E: FUTURE PLANS

23. WHAT ACTIONS WILL BE TAKEN TO RAPIDLY DEVELOP AND DEPLOY ALTERNATIVES FOR THIS CROP? (*Based on responses to Question 13, the answer should include activities that would be undertaken to overcome the difficulties that resulted in the alternatives being considered unsuitable. Include a timetable for completion of key activities***):**

24. HOW DO YOU PLAN TO MINIMISE THE USE OF MB FOR THE CRITICAL USE IN THE FUTURE? (*Include a plan of the stepwise reduction schedule for methyl bromide as alternatives are phased in and/or additional emission controls are implemented***):**

25. ADDITIONAL COMMENTS ON THE NOMINATION? (< *500 words***):**

26. CITATIONS (*allocate a number to each reference, and use this number in the text***):**

Appendix 1. (i) Example of format for presentation of comparative data on alternatives tested for control of a pathogen or pathogen group (and corresponding yields)

Example only

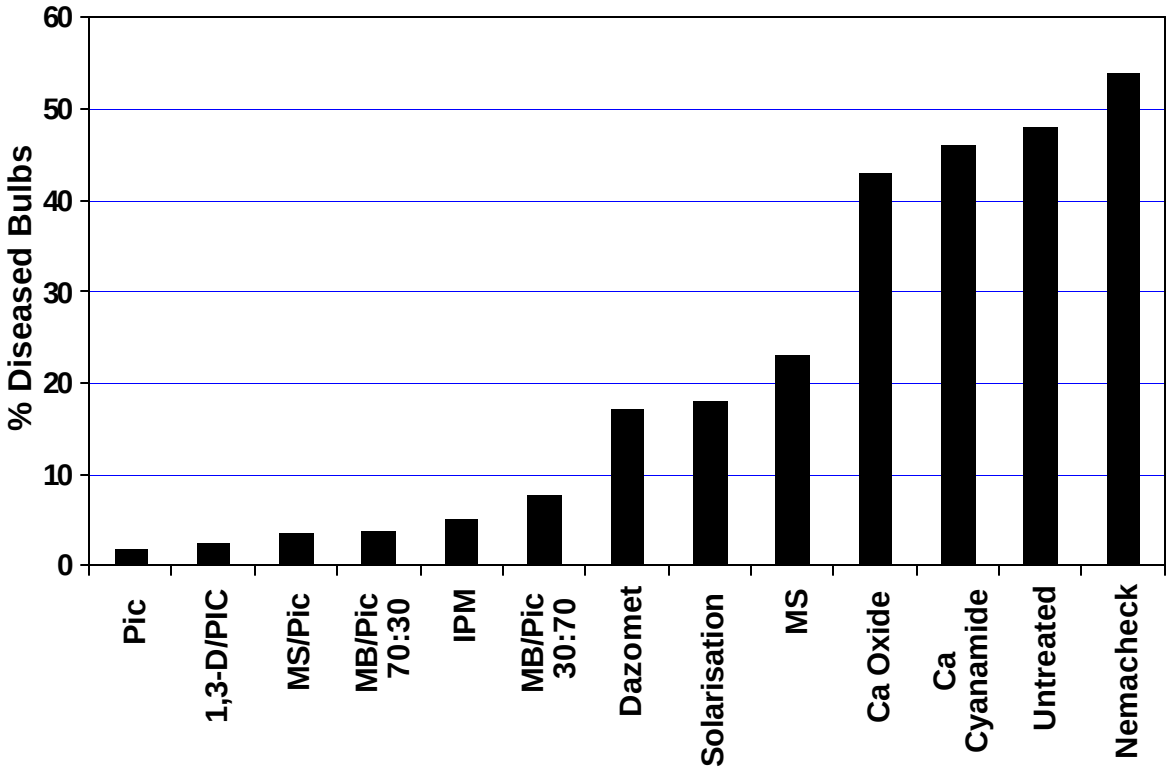
MB FORMULATIONS* AND ALTERNATIVES (include dosage rates and application method)	AVERAGE DISEASE RATINGS AND YIELDS IN PAST 3 YEARS						
	No of trials	Pathogen No. or % Disease or Disease rating or other	Indicate significance at P=0.05 in trials compared to MB standard*	No of trials	Actual yields (t/ha)	Indicate significance at P=0.05 in trials compared to MB standard*	Citation number (see Q26)
*Commercial standard: MB/Pic (98:2) (60g/m^2 injected at x cm depth)	3	3- 4%	-	3	23-25	-	Disease: 1,7 Yields: 1,16, 25
Untreated Control	4	15-25%	4 (Sig)	4	18-22.0	3 (Sig) 1 (NS)	Diseases: 1, 7 Yield: 1,7, 16, 25
MB/Pic (50:50) (32-50 g/m^2 injected at x cm depth)	5	2- 4%	5 (NS)	3	23-25.0	3 (NS)	Diseases: 1, 7 Yield: 1,16, 25
1,3D/Pic (65:35) (32-50 g/m^2 via drip irrigation)	5	3- 5%	4 (NS) 1 (Sig)	5	23-24.8	4 (NS) 1(Sig)	Diseases: 1, 7 Yield: 1,7,16, 25
Solarisation (achieved 40°C for x days at depth of x cm)	2	5-6%	1 (NS, 1 (Sig)	2	21-24.5	1 (NS) 1 (Sig)	Diseases 1 Yield 1

*Indicate MB/Pic formulation used in trials: 100%, 98:2, 70:30, 67:33, 50:50; other (specify)
NS = Not significant at P=0.05, Sig = Significant at P<0.05

(ii) Additional format. Note: Discuss levels of significance of the respective treatments in trials

Example only.

Relative Efficacy of Alternative Soil Disinfestation Treatments to MB for Control of S. rolfsii in Flower Bulbs from 1992-1999. ***(Fumigants applied at 500 kg ai/ha, Ca Oxide 1t/ha, etc.) Pic=chloropicrin, MS=Metham sodium, etc.) (Citations 3,7 9,34, etc.)***



COVER SHEETS

For Administrative Purposes only:
Date received by Ozone Secretariat:
YEAR: CUN:

METHYL BROMIDE CRITICAL USE NOMINATION FOR STRUCTURES, COMMODITIES OR OBJECTS

NOMINATING PARTY:

BRIEF DESCRIPTIVE TITLE OF NOMINATION:

NOMINATING PARTY CONTACT DETAILS:

Contact Person: _____

Title: _____

Address (include

city/code numbers): _____

_____

_____

Telephone: _____

Fax: _____

E-mail: _____

Following the requirements of Decision IX/6 paragraph (a)(1) [*insert name of Party*] has determined that the specific use detailed in this Critical Use Nomination is critical because the lack of availability of methyl bromide for this use would result in a significant market disruption.

☐ Yes ☐ No

_____ _____ _____

Signature Name Date

Title: _____

CONTACT OR EXPERT/S FOR FURTHER TECHNICAL DETAILS

Contact Person: _____

Title: _____

Address (include

city/code numbers): _____

_____

_____

_____

Telephone: _____

Fax: _____

E-mail: _____

LIST OF DOCUMENTS SENT TO THE OZONE SECRETARIAT IN OFFICIAL NOMINATION PACKAGE

List all paper and electronic documents submitted by the Nominating Party to the Ozone Secretariat.

1. PAPER DOCUMENTS: Title of paper documents and appendices	**No. of pages**	**Date sent to Ozone Secretatiat**
2. ELECTRONIC COPIES OF ALL PAPER DOCUMENTS: *Title of each electronic file (for naming convention see notes above)	**No. of kilobytes**	**Date sent to Ozone Secretatiat**

* Identical to paper documents

Part A: SUMMARY

1. **NOMINATING PARTY:**

2. **DESCRIPTIVE TITLE OF NOMINATION (< *15 words*):**

3. **SITUATION OF NOMINATED METHYL BROMIDE USE (***e.g. food processing structure, commodity (specify)***):**

4. **METHYL BROMIDE NOMINATED (***Give quantity requested and years of nomination***):**

5. **BRIEF SUMMARY OF THE NEED FOR METHYL BROMIDE AS A CRITICAL USE** (*Describe the particular aspects of the nominated use that make methyl bromide use critical, e.g. lack of economic alternatives, unacceptable corrosion risk, lack of efficacy of alternatives under the particular circumstances of the nomination*):

6. **METHYL BROMIDE CONSUMPTION FOR PAST 5 YEARS AND AMOUNT REQUIRED IN THE YEAR(S) NOMINATED:**

	Year	Kg	Actual (A) or estimate (E)
Previous years			
Year(s) of nomination			

7. LOCATION OF THE FACILITY OR FACILITIES WHERE THE PROPOSED CRITICAL USE OF METHYL BROMIDE WILL TAKE PLACE (*Give name and physical address. Continue on separate sheet(s) as annex to this form if necessary. Number each address from one onwards***):**

Part B: SITUATION CHARACTERISTICS AND MB USE

8. KEY PESTS FOR WHICH METHYL BROMIDE IS REQUESTED:

No	Genus and species for which the use of methyl bromide is critical	Common name	Indicate if common or minor pest
1			
2			
3			

Add more rows if required

9. SUMMARY OF THE CIRCUMSTANCES IN WHICH THE METHYL BROMIDE IS CURRENTLY BEING USED (*Give ranges of dosage, exposure or temperatures, if appropriate***):**

(a) Commodities

No	Methyl bromide dosage ($g\ m^{-3}$)	Exposure time (hours)	Temp. (°C)	Number of fumigations per year	Proportion of product treated at this dose	Fixed (F), mobile (M) or stack (S)
1						
2						
3						
4						

Add more rows if required

(b) Fixed facilities

	Type of construction and approximate age in years	**Vol (m^3) or range**	**Number of facilities e.g. 5 silos**	**Gastightness estimate***
1				
2				
3				
4				

Add more rows if required

*Give gastightness estimates where possible according to the following scale: **good** - less than 25% gas loss within 24 hours or half loss time of pressure difference (e.g. 20 to 10 Pa ($t_{1/2}$)) greater than 1 minute; **medium** – 25-50% gas loss within 24 hours or half loss time of pressure difference greater than 10 seconds; **poor** – 50-90% gas loss within 24 hours or half loss time of pressure difference 1-10 second: **very poor** – more than 90% gas loss within 24 hours or a pressure half loss time of less than 1 second.

10. LIST ALTERNATIVE TECHNIQUES THAT ARE BEING USED TO CONTROL KEY TARGET PEST SPECIES IN THIS SECTOR (*Include main alternative techniques for situations similar to the nomination such as given in MBTOC and TEAP reports (www.teap.org)***):**

Part C: TECHNICAL VALIDATION

11. SUMMARISE THE ALTERNATIVE(S) TESTED, STARTING WITH THE MOST PROMISING ALTERNATIVE(S):

No.	Methyl bromide alternative	Month/Year project started and finished (e.g. Nov 99 – Oct 04)	Premises for which the CUN is requested where alternatives have been tested±	Organisation(s) undertaking the research	Summary of key results (maximum of 20 words per entry)	Comparison of efficacy of alternative with methyl bromide	Citation number*
1							
2							
3							
4							
5							
6							
7							
8							
9							

Add more rows or attach additional results as necessary.

± Place address number from Question 7 next to treatment e.g. 1-9 heat; 10 SF. This means heat was tested at address locations 1-9 and sulfuryl fluoride at location 10.

* Use numbering of citations as given in Question 19.

If necessary, any additional comments:

12. SUMMARISE TECHNICAL REASONS, IF ANY, FOR EACH ALTERNATIVE NOT BEING FEASIBLE OR AVAILABLE FOR YOUR CIRCUMSTANCES (*For economic constraints, see Question 15***):**

No.	Methyl bromide alternative (as shown in Q10)	Technical reason (if any) for the alternative not being feasible	Estimated month/year when the technical constraint could be solved
1			
2			
3			
4			
5			
6			

If necessary, add further details on why an alternative was not technically feasible:

Part D: EMISSION CONTROL

13. HOW HAS THIS SECTOR REDUCED THE USE AND EMISSIONS OF METHYL BROMIDE IN THE SITUATION OF THE NOMINATION? (*Describe procedures used to determine optimum methyl bromide dosages and exposures, improved sealing processes, monitoring systems and other activities that are in place to minimise dosage and emissions***):**

PART E: ECONOMIC ASSESSMENT

14. COSTS OF ALTERNATIVES COMPARED TO METHYL BROMIDE OVER 3-YEAR PERIOD (*Provide an analysis of how these costs were estimated as a separate attachment***):**

MB and alternatives	**Cost in current year (US$)**	**Cost one year ago (US$)**	**Cost 2 years ago (US$)**
Methyl bromide			

*As percentage compared to MB e.g. 10% less cost, write '0.90'. Add more rows if necessary.

15. SUMMARISE ECONOMIC REASONS, IF ANY, FOR EACH ALTERNATIVE <u>NOT</u> BEING FEASIBLE OR AVAILABLE FOR YOUR CIRCUMSTANCES:

No	**Methyl bromide alternative**	**Economic reason (if any) for the alternative not being feasible**	**Estimated month/year when the economic constraint <u>could</u> be solved**
1			
2			
3			
4			
5			
6			

If necessary, add further details on why an alternative was not <u>economically</u> feasible:

Part F: FUTURE PLANS

16. PROVIDE A DETAILED PLAN DESCRIBING HOW THE USE AND EMISSIONS OF METHYL BROMIDE WILL BE MINIMISED IN FUTURE FOR THE NOMINATED USE?

17. PROVIDE A DETAILED PLAN DESCRIBING WHAT ACTIONS WILL BE UNDERTAKEN TO RAPIDLY DEVELOP AND DEPLOY ALTERNATIVES FOR THIS USE:

18. ADDITIONAL COMMENTS (*Add here any other information that may help clarify why a critical use is needed for the use being considered***):**

19. CITATIONS (*Number each citation*):

Appendix A – Excerpts from Protocol Provisions[1]

ARTICLE 2: CONTROL MEASURES

Article 2H: Methyl Bromide

1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, its calculated level of consumption in 1991. Each Party producing the substance shall, for the same period, ensure that its calculated level of production of the substance does not exceed, annually, its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1999, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, seventy-five per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, seventy-five per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2001, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, fifty per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, fifty per cent of its calculated level of production in 1991. However, in order to

[1] For a consolidated description of Protocol provisions see "Handbook for the International Treaties for the Protection of the Ozone Layer", Sixth Edition, 2003, Ozone Secretariat.

satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2003, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, thirty per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, thirty per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

5. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed zero. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1991. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be critical uses.

5 *bis*. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005, and in each twelve-month period thereafter, its calculated level of production of the controlled substance in Annex E for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed eighty percent of the annual average of its production of the substance for basic domestic needs for the period 1995 to 1998 inclusive.

5 *ter*. Each Party shall ensure that for the twelve-month period commencing on 1 January 2015, and in each twelve-month period thereafter, its calculated level of production of the controlled substance in Annex E for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed zero.

6. The calculated levels of production and consumption under this Article shall not include the amounts used by the Party for quarantine and pre-shipment applications.

Adjustments[2] relating to the controlled substance in Annex E (Annex IV of the 11th Meeting of the Parties, Beijing)

Article 2H: Methyl bromide

1. The third sentence of paragraph 5 of Article 2H of the Protocol shall be replaced by the following sentence:

> However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may, until 1 January 2002 exceed that limit by up to fifteen per cent of its calculated level of production in 1991; thereafter, it may exceed that limit by a quantity equal to the annual average of its production of the controlled substance in Annex E for basic domestic needs for the period 1995 to 1998 inclusive.

2. The following paragraphs shall be added after paragraph 5 of Article 2H of the Protocol:

> 5 *bis*. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005 and in each twelve-month period thereafter, its calculated level of production of the controlled substance in Annex E for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed eighty per cent of the annual average of its production of the substance for basic domestic needs for the period 1995 to 1998 inclusive.
>
> 5 *ter*. Each Party shall ensure that for the twelve-month period commencing on 1 January 2015 and in each twelve-month period thereafter, its calculated level of production of the controlled substance in Annex E for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed zero.

Article 6: Assessment and Review of Control Measures

Beginning in 1990, and at least every four years thereafter, the Parties shall assess the control measures provided for in Article 2 and Articles 2A to 2E, and the situation regarding production, imports and exports of the transitional substances in Group I of Annex C (Articles 2A to 2H) on the

[2] Decision XII/1 addresses a correction to this adjustment.

basis of available scientific, environmental, technical and economic information. At least one year before each assessment, the Parties shall convene appropriate panels of experts qualified in the fields mentioned and determine the composition and terms of reference of any such panels. Within one year of being convened, the panels will report their conclusions, through the Secretariat, to the Parties.

Appendix B – Extracts from Meeting Reports and Decisions of the Parties to the Montreal Protocol Relevant to Critical Uses of Methyl Bromide[3]

1. Extract from: The Report of the Thirteenth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer

"VI. OTHER MATTERS

A. Nominations for critical-use exemptions for applications of methyl bromide

110. The representative of Australia introduced a conference room paper containing a draft decision on critical-use submissions for methyl bromide applications, representing the outcome of discussions by a contact group of Parties. She explained that the decision arose out of concerns previously expressed by the Technology and Economic Assessment Panel about the timing and content of critical-use submissions following the adoption of decision IX/6 at the Ninth Meeting of the Parties. Parties feared that in the absence of near-term guidance, different countries could submit different information, leading to difficulties in ensuring a fair and equitable review of exemption requests, and agreed that it would be desirable to establish a schedule for submission mirroring that already in place for essential-use exemptions.

111. The group had accepted the suggestion of the Methyl Bromide Technical Options Committee that essential components of a critical-use exemption request should include the following: name of crop/use for which the exemption was being requested; location of the use; basic information on related soil type and climate associated with areas where the exemption was being requested (if relevant); the pests or problems which methyl bromide was being used to control; historic use of methyl bromide in total kilograms, kilograms/hectare (or acre) and total hectares (or acres) covered; kilograms of methyl bromide requested in the exemption and the duration of the exemption requested; techniques used to minimize emissions (e.g. tarpaulins or methyl bromide injection techniques); cost of methyl bromide per hectare (or acre) and cost of alternatives tried; cost of application of methyl bromide and alternatives; cost of fixed and variable inputs; gross and net revenue; price received by the user and in major markets; and historic yield information with methyl bromide and alternatives (if available). The Technology and Economic Assessment Panel should make adjustments to the list to cover non-soil uses.

112. In addition, the provision of information demonstrating that appropriate efforts were being made to evaluate, commercialize and secure regulatory approval of alternatives and substitutes was required under decision IX/6. In that regard, the fullest information available should be provided on trials with alternatives and their results. Regarding alternatives, Parties should seek to ensure that users had tried the alternatives listed in past TEAP reports as available, or included an explanation showing that alternative was not feasible in the given situation, or what plans the applicant had to test or put in place the alternative. In any event, under decision IX/6 Parties must present a plan to test and switch to alternatives in the near term. Also under decision IX/6, Parties must provide information indicating that methyl bromide was not available from banked or recycled supplies.

113. The group had also felt that it would be useful for Parties submitting applications to consider possible ways to consolidate national applications in order to make review by the Technology and Economic Assessment Panel and the Parties more manageable. The group agreed that it would be useful for the Panel to make available, as soon as possible, a methyl bromide critical uses handbook, including the key application information requirements outlined above, and a consolidated list of alternatives that had been included in past reports of the Panel and the Methyl Bromide Technical Options Committee. The group also agreed that as issues relating to application of the economic criteria contained in decision IX/6 were likely to be difficult for the Committee to review, it would be useful to ask the Panel and the Committee to consider how to add agricultural economists to the membership of the Committee to assist it in the review of critical-use nominations.

114. Following a discussion, the preparatory segment decided to forward the draft decision, as amended, to the high-level segment for approval."

2. Decisions on critical uses of methyl bromide.

Decision IX/6: Critical-use exemptions for methyl bromide

1. To apply the following criteria and procedure in assessing a critical methyl bromide use for the purposes of control measures in Article 2 of the Protocol:

   (a) That a use of methyl bromide should qualify as "critical" only if the nominating Party determines that:

      (i) The specific use is critical because the lack of availability of methyl bromide for that use would result in a significant market disruption; and

(ii) There are no technically and economically feasible alternatives or substitutes available to the user that are acceptable from the standpoint of environment and health and are suitable to the crops and circumstances of the nomination;

(b) That production and consumption, if any, of methyl bromide for critical uses should be permitted only if:

(i) All technically and economically feasible steps have been taken to minimize the critical use and any associated emission of methyl bromide;

(ii) Methyl bromide is not available in sufficient quantity and quality from existing stocks of banked or recycled methyl bromide, also bearing in mind the developing countries' need for methyl bromide;

(iii) It is demonstrated that an appropriate effort is being made to evaluate, commercialize and secure national regulatory approval of alternatives and substitutes, taking into consideration the circumstances of the particular nomination and the special needs of Article 5 Parties, including lack of financial and expert resources, institutional capacity, and information. Non-Article 5 Parties must demonstrate that research programmes are in place to develop and deploy alternatives and substitutes. Article 5 Parties must demonstrate that feasible alternatives shall be adopted as soon as they are confirmed as suitable to the Party's specific conditions and/or that they have applied to the Multilateral Fund or other sources for assistance in identifying, evaluating, adapting and demonstrating such options;

2. To request the Technology and Economic Assessment Panel to review nominations and make recommendations based on the criteria established in paragraphs 1 (a) (ii) and 1 (b) of the present decision;

3. That the present decision will apply to Parties operating under Article 5 and Parties not so operating only after the phase-out date applicable to those Parties;

Decision IX/7: Emergency methyl-bromide use

To allow a Party, upon notification to the Secretariat, to use, in response to an emergency event, consumption of quantities not exceeding 20 tonnes of methyl bromide. The Secretariat and the Technology and Economic Assessment Panel will evaluate the use according to the "critical methyl bromide use" criteria and present this information to the next meeting of the Parties for review and appropriate guidance on future such emergencies, including whether or not the figure of 20 tonnes is appropriate.

Decision XIII/11: Procedures for applying for a critical use exemption for methyl-bromide.

Noting that Parties not operating under paragraph 1 of Article 5 must cease production and consumption of methyl bromide for other than quarantine and pre-shipment applications from 1 January 2005, except for consumption and production that meet the levels agreed by the Parties for critical uses,

Noting the importance of providing the Parties not operating under paragraph 1 of Article 5 with early guidance on arrangements for implementing decision IX/6, which provides criteria and procedures for assessing a critical methyl bromide use,

Noting the need for the Parties to have adequate guidance to enable them to submit nominations for critical-use exemptions for consideration at the 15th Meeting of the Parties in 2003,

1. To note with appreciation the work of the Methyl Bromide Technical Options Committee (MBTOC) in presenting the information required in order adequately to assess nominations submitted in pursuance of decision IX/6 for critical-use exemptions and the ongoing work of the Technology and Economic Assessment Panel in preparing a consolidated list of alternatives to methyl bromide that had been included in past Technical and Economic Assessment Panel and MBTOC reports;

2. To request the Technology and Economic Assessment Panel to prepare a handbook on critical-use nomination procedures which provides this information, and the schedule for submission which reflects that currently employed in the essential-use nomination procedure;

3. To request the Technology and Economic Assessment Panel to finalize the consolidated list of alternatives to methyl bromide referred to in paragraph 1 and post it on its Website as soon as possible;

4. To request the Technology and Economic Assessment Panel to finalise the "Handbook on Critical Use Nominations for Methyl Bromide" by January 2002, and the Secretariat to post this Handbook on its Website as soon as possible;

5. To request the Technology and Economic Assessment Panel to engage suitably qualified agricultural economists to assist it in reviewing critical-use nominations.

3. Decisions on essential uses:

Decision IV/25: Essential uses

1. To apply the following criteria and procedure in assessing an essential use for the purposes of control measures in Article 2 of the Protocol:

   (a) that a use of a controlled substance should qualify as "essential" only if:

      (i) it is necessary for the health, safety or is critical for the functioning of society (encompassing cultural and intellectual aspects); and
      (ii) there are no available technically and economically feasible alternatives or substitutes that are acceptable from the standpoint of environment and health;

   (b) that production and consumption, if any, of a controlled substance for essential uses should be permitted only if:

      (i) all economically feasible steps have been taken to minimise the essential use and any associated emission of the controlled substance; and
      (ii) the controlled substance is not available in sufficient quantity and quality from existing stocks of banked or recycled controlled substances, also bearing in mind the developing countries' need for controlled substances;

   (c) that production, if any, for essential use, will be in addition to production to supply the basic domestic needs of the Parties operating under paragraph 1 of Article 5 of the Protocol prior to the phase-out of the controlled substances in those countries;

2. To request each of the Parties to nominate, in accordance with the criteria approved in paragraph 1 (a) of the present decision, any use it considers "essential", to the Secretariat at least six months for halons and nine months for other substances prior to each Meeting of the Parties that is to decide on this issue;

3. To request the Technology and Economic Assessment Panel and its Technical and Economic Options Committee to develop, in accordance with the criteria in paragraphs 1

(a) and 1 (b) of the present decision, recommendations on the nominations, after consultations with experts as necessary, regarding:

(a) the essential use (substance, quantity, quality, expected duration of essential use, duration of production or import necessary to meet such essential use);

(b) economically feasible use and emission controls for the proposed essential use;

(c) sources of already produced controlled substances for the proposed essential use (quantity, quality, timing); and

(d) steps necessary to ensure that alternatives and substitutes are available as soon as possible for the proposed essential use;

4. To request the Technology and Economic Assessment Panel, while making its recommendations to take into account the environmental acceptability, health effects, economic feasibility, availability, and regulatory status of alternatives and substitutes;

5. To request the Technology and Economic Assessment Panel to submit its report, through the Secretariat, at least three months before the Meeting of the Parties in which a decision is to be taken. The subsequent reports will also consider which previously qualified essential uses should no longer qualify as essential;

6. To request the Open-ended Working Group of the Parties to consider the report of the Technology and Economic Assessment Panel and make its recommendations to the Fifth Meeting of the Parties for halons and at the Sixth Meeting for all other substances for which an essential use is proposed;

7. That essential use controls will not be applicable to Parties operating under paragraph 1 of Article 5 of the Protocol until the phase-out dates applicable to those Parties.

Decision V/18. Timetable for the submission and consideration of essential use nominations

1. To request the Parties to submit their nominations for each production and consumption exemption for substances other than halon for 1996 in accordance with Decision IV/25, with the presumption that the Meeting of the Parties will be held on 1 September;

2. To modify the timetables in Decision IV/25 for nominations for halon production and consumption exemptions for 1995 and subsequent years, and for nominations for production and consumption exemptions for substances other than halon for 1997 and

subsequent years as follows: to set 1 January of each year as the last date for nominations for decisions taken in that year for any subsequent year;

3. To request the Technology and Economic Assessment Panel and its relevant Technical Options Committees to develop recommendations on the nominations and submit their report through the Secretariat by 31 March of that year;

4. To request the Open-ended Working Group of the Parties to consider the report of the Technology and Economic Assessment Panel and make its recommendations to the subsequent meeting of the Parties;

5. To request the Technology and Economic Assessment Panel to assemble and distribute a handbook on essential uses nominations including copies of relevant decisions, nomination instructions, summaries of past recommendations, and copies of nominations to illustrate possible formats and levels of technical detail.

Decision VI/9. Essential use nominations for controlled substances other than halons for 1996 and beyond

1. To note with appreciation the work done by the Technology and Economic Assessment Panel and its Technical Options Committees pursuant to Decision IV/25 of the Fourth Meeting of the Parties;

2. That, for 1996 and 1997 for Parties not operating under paragraph 1 of Article 5 of the Protocol, levels of production or consumption necessary to satisfy essential uses of chlorofluorocarbons and 1,1,1-trichloroethane for: (i) metered dose inhalers (MDIs) for the treatment of asthma, chronic obstructive pulmonary disease (COPD), and for the delivery of leuprolide to the lungs and (ii) the Space Shuttle, are authorised as specified in Annex I to the report of the Sixth Meeting of the Parties, subject to annual review of quantities;

3. That for 1996 and 1997, for Parties not operating under paragraph 1 of Article 5 of the Protocol, production or consumption necessary to satisfy essential uses of ozone-depleting substances for laboratory and analytical uses are authorised as specified in Annex II to the report of the Sixth Meeting of the Parties;

4. That Parties shall endeavour to minimise use and emissions by all practical steps. In the case of metered does inhalers, these steps include education of physicians and patients about other treatment options and good-faith efforts to eliminate or recapture emissions from filling and testing, consistent with national laws and regulations.

Decision VII/28. Essential use nominations for controlled substances for 1996 and beyond

1. To note with appreciation the work done by the Technology and Economic Assessment Panel and its Technical Options Committees pursuant to Decision IV/25 of the Fourth Meeting of the Parties;

2. That, for 1996, 1997, 1998, 1999, 2000 and 2001 for Parties not operating under paragraph 1 of Article 5 of the Protocol, levels of production and consumption necessary to satisfy essential uses of CFC-11, CFC-12, CFC-113, CFC-114 and methyl chloroform are authorised as specified in Annex VI to the report of the Seventh Meeting of the Parties, for metered-dose inhalers (MDIs) for asthma and chronic obstructive pulmonary disease, nasal dexamethasone, and specific cleaning, bonding and surface activation applications in rocket motor manufacturing for the United States Space Shuttle and Titan, subject to the following conditions:

   (a) The Technology and Economic Assessment Panel will review, annually, the quantity of controlled substances authorised and submit a report to the Meeting of the Parties in that year;

   (b) The Technology and Economic Assessment Panel will review, biennially, whether the applications for which exemption was granted still meets the essential-use criteria and submit a report, through the Secretariat, to the Meeting of the Parties in the year in which the review is made;

   (c) The Parties granted essential use exemptions will reallocate, as decided by the Parties, to other uses the exemptions granted or destroy any surplus ozone-depleting substances authorised for essential use but subsequently rendered unnecessary a result of technical progress and market adjustments;

3. To urge the Parties to collate, co-ordinate and evaluate the individual company nominations for future years before submitting these nominations to the Secretariat.

Decision VIII/9. Essential use nominations for Parties not operating under Article 5 for controlled substances for 1997 through 2002

1. To note with appreciation the work done by the Technology and Economic Assessment Panel and its Technical Options Committees pursuant to Decision IV/25 of the Fourth Meeting of the Parties and Decisions VII/28 and VII/34 of the Seventh Meeting of the Parties;

2. That the levels of production and consumption necessary to satisfy essential uses of CFC-11, CFC-12, CFC-113 and CFC-114, for metered-dose inhalers (MDIs) for asthma and chronic obstructive pulmonary diseases and nasal dexamethasone, and halon 2402 for fire protection are authorised as specified in annex II to this report, subject to the conditions established by the Seventh Meeting of the Parties in paragraph 2 of its Decision VII/23;

3. To correct the errors introduced by the reports of the Technology and Economic Assessment Panel and its Technical Options Committees in the United States MDI nomination of CFC-12 and CFC-114 for the production year 1997 and its nomination of methyl chloroform for the production years 1996, 1997, 1998, 1999, 2000 and 2001 and to adjust the total amounts exempted to take into account the withdrawal of the New Zealand MDI nomination of CFC-11 and CFC-12 for production years 1996 and 1997, as specified in annex III to the report of the Seventh Meeting of the Parties.

4. That for 1998, for Parties not operating under Article 5 of the Protocol, production and consumption necessary to satisfy essential uses of controlled substances in Annexes a and B of the protocol only for laboratory and analytical uses, as listed in annex IV to the report of the Seventh Meeting of the Parties, are authorised and subject to the conditions applied to exemption for laboratory and analytical uses as contained in annex II to the report of the Sixth Meeting of the Parties;

5. To permit the transfer of essential use authorisations for MDIs for 1997 between New Zealand and Australia on a one-time basis only;

6. To request the Technology and Economic Assessment Panel and its relevant Technical Options Committee to investigate the implications of allowing greater flexibility in the transfer of essential use authorisations between Parties;

7. To request the Technology and Economic Assessment Panel and its relevant Technical Options Committee to review and report, by 30 April 1997, on the implications of allowing the production of CFCs for medical applications on a periodic "campaign basis" to satisfy estimated future needs, rather than producing small quantities in each year. Consideration should be given in particular to the economic implications of such an allowance;

8. To revise the timetables in Decision IV/25, as modified by Decision V/18, for nominations for production and consumption exemptions for 1998 and subsequent years, as follows: to set 31 January of each year as the last date for nominations for decisions to be taken in that year for production or consumption in any subsequent year; and to request the Technology and Economic Assessment Panel and its relevant Technical Options Committees to develop recommendations on the nominations and submit their report though the Secretariat by 30 April of that year;

9. To approve the format for reporting quantities and uses of ozone depleting substances produced and consumed for essential uses as set out in annex IV to the report of the Eighth Meeting and beginning in 1998 to request each of the Parties that have had essential use exemptions granted for previous years, to submit their report in the approved format by 31 January of each year;

10. To allow the Secretariat, in consultation with the Technology and Economic Assessment Panel, to authorise, in an emergency situation, if possible by transfer of essential use exemptions, consumption of quantities not exceeding 20 tonnes of ODS for essential uses on application by the Party prior to the next scheduled Meeting of the Parties. The Secretariat should present this information to the next Meeting of the Parties for review and appropriate action by the Parties.