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The New Chemical Weapons Convention and Export Controls: Towards Greater Multilateralism

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THE NEW CHEMICAL WEAPONS CONVENTION AND EXPORT CONTROLS: TOWARDS GREATER MULTILATERALISM?

*Urs A. Cipolat**

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“The goal of widespread participation
in all values throughout the social process
is the fundamental criterion of policy.”

—Myres S. McDougal/Harold D. Lasswell¹

INTRODUCTION

Three years ago, the *Chemical Weapons Convention*² (CWC) entered into force. The treaty, as it has been rightly observed,³ represents the most complex disarmament and nonproliferation treaty in history, not least because of the multitude of national implementation measures it requires.

Although the developments achieved under the new treaty framework may be generally satisfactory,⁴ considerable difficulties persist in the realm of national implementation. A great number of states parties linger behind in enacting national legislation that is suitable to guarantee effective compliance with the CWC obligations.

As the Organization for the Prohibition of Chemical Weapons (OPCW) in The Hague observed in November 1998, only 26 out of the

1. MYRES S. MCDUGAL & HAROLD D. LASSWELL, *THE IDENTIFICATION AND APPRAISAL OF DIVERSE SYSTEMS OF PUBLIC ORDER* (1959), reprinted in *INTERNATIONAL LAW ESSAYS* 15, 41 (Myres S. McDougal & W. Michael Reisman, 1981).

2. *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons*, January 13, 1993, 32 I.L.M. 800 [hereinafter CWC].

3. See Charles Flowerree, *National Implementation Measures*, in *THE CHEMICAL WEAPONS CONVENTION—IMPLEMENTATION ISSUES* 32, 32 (Brad Roberts ed., Center for Strategic and International Studies Significant Issues Series Vol. XIV No. 13, 1992).

4. For a comprehensive overview of achievements under the CWC, see, for example *The CWC at the Two-Year Mark, An interview with Dr. John Gee*, *ARMS CONTROL TODAY*, Apr.–May 1999, at 3 (1999). The Organization for the Prohibition of Chemical Weapons [hereinafter OPCW] is the body that has been established to oversee the implementation of the CWC. Dr. Gee is the Deputy Director-General of the OPCW.

then-119 states parties had by that time enacted national legislation comprehensive enough to implement the CWC correctly.⁵ Only 18 states parties had adopted extraterritorial penal legislation as required under Article VII.1(c).⁶

Over the course of the past few months, this unsatisfactory situation has not improved significantly. In particular, the implementation of the CWC's various transfer rules continues to cause difficulties.⁷ In spite of efforts in The Hague to achieve greater compliance and harmonization,⁸ observers continue to conclude that "there are serious problems with the practical implementation of the Convention regarding transfers."⁹

In light of these problems, the chief goal of this article is to clarify the export control obligations deriving from the CWC. Their clarification is essential for chemical nonproliferation in general and for the successful implementation of the CWC in particular. Only on the basis of clearly defined international obligations can the highest level of harmonization in the realm of national export controls be achieved. In turn, only on the basis of the highest level of harmonization in matters of national export controls can chemical nonproliferation be attained most effectively.

Clarification shall be accomplished by addressing some of the most pressing questions in the realm of CWC export control obligations. Among the particular issues that have remained largely unanswered are the following:¹⁰

5. *Report of the Director-General*, 3rd session of the Conference of the States Parties to the CWC (16–20 November 1998), reprinted in 42 CHEMICAL AND BIOLOGICAL WEAPONS CONVENTIONS BULL. 14 (1998) (review of Director-General's report by staff writer). Daniel Feakes, *Developments in the Organization for the Prohibition of Chemical Weapons*, 42 CHEM. & BIOLOGICAL WEAPONS CONVENTIONS BULL. 14 (1998) (discussing events at the 3rd session of the Conference of the States Parties to the CWC).

6. *Id.* See also *infra* Part V.A.1 (explaining CWC art. VII.1(c)).

7. For more information concerning the transfer rules of the CWC, see *infra* pp. 22–34.

8. For instance, at its 4th session, the Conference of the States Parties to the CWC developed a procedural framework for the adoption of provisions regarding scheduled chemicals in low concentrations. Accordingly, the Executive Council is requested to prepare recommendations on (a) the applicable concentration limits for declarations under Parts VII and VIII of the VA, and (b) on the application of paras. 31 and 32 of Part VII, and para. 26 of Part VIII VA with respect to mixtures containing Schedule 2 or Schedule 3 chemicals. See OPCW Doc. C-IV/DEC.16 (July 1, 1999) <<http://www.opcw.org>>.

9. Daniel Feakes, *Progress in the Hague: Quarterly Review No. 23*, 41 CHEMICAL AND BIOLOGICAL WEAPONS CONVENTIONS BULL. 6, 10 (1998).

10. Scholarly literature dealing with the question of export controls under the CWC is rare and not very detailed. See, e.g., Ian Anthony & Jean Pascal Zanders, *Multilateral Security-Related Export Controls*, in SIPRI YEARBOOK 373, 373–80 (SIPRI ed., 1998); Michael Bothe, *National Implementation of the CWC*, in THE NEW CHEMICAL WEAPONS CONVENTION—IMPLEMENTATION AND PROSPECTS 543 (M. Bothe et al. eds., 1998) [hereinafter Bothe 1998]; Flowerree, *supra* note 3; WALTER KRUTZSCH & RALF TRAPP, A COMMENTARY ON

- To what extent does the CWC require the establishment of national export controls?
- What exactly is the material scope of the CWC, and how does it relate to export controls? More particularly, is a state party obliged to control the export of unscheduled chemicals, dual-use technology or machinery with possible chemical weapon applications? What about herbicides? Does their export need to be regulated?
- Is a state party required to establish a *catch-all* clause?
- Should a state party extend the extraterritorial application of its penal law to chemical weapon activities undertaken abroad by the branch of a national company even though that branch is incorporated under foreign law?
- Does the CWC set minimum and maximum limits to the establishment of national export controls?
- Do national disparities in the development of domestic chemical industries have an influence on the export control regime to be established?

In addressing these questions, this article serves a second purpose. With the Australia Group (AG), there currently exists a second, older regime in the realm of chemical nonproliferation. The AG is a legally non-binding arrangement between a limited number of mainly Western countries. Contrary to the CWC, it pursues nonproliferation purposes on

THE CHEMICAL WEAPONS CONVENTION (1994); Thilo Marauhn, *National Regulations on Export Controls and the Chemical Weapons Convention*, in THE NEW CHEMICAL WEAPONS CONVENTION—IMPLEMENTATION AND PROSPECTS 487 (M. Bothe et al. eds., 1998); Djamchid Momtaz, *Le Régime de Transfert des Substances Chimiques dans la Convention sur l'Interdiction des Armes Chimiques*, in THE CONVENTION ON THE PROHIBITION AND ELIMINATION OF CHEMICAL WEAPONS: A BREAKTHROUGH IN MULTILATERAL DISARMAMENT 409, 409–18 (Daniel Bardonnet ed., 1995); Julian Perry Robinson, *Chemical and Biological Weapons Proliferation and Control*, PROLIFERATION AND EXPORT CONTROLS 29 (Elizabeth Clegg et al. eds., 1995) [hereinafter Perry Robinson (1995)]; Julian Perry Robinson, *Implementing the Chemical Weapons Convention*, 72 INT'L AFF. 73 (1996) [hereinafter Perry Robinson (1996)]; THE CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES, SIGNIFICANT ISSUES SERIES VOL. XIV, NO. 13, THE CHEMICAL WEAPONS CONVENTION—IMPLEMENTATION ISSUES (Brad Roberts ed., 1992); Natalino Ronzitti, *La convention sur l'interdiction de la mise au point, de la fabrication, du stockage et de l'emploi des armes chimiques et sur leur destruction*, 4 REVUE GÉNÉRALE DE DROIT INTERNATIONAL PUBLIC 881 (1995); AMY E. SMITHSON, SEPARATING FACT FROM FICTION: THE AUSTRALIA GROUP AND THE CHEMICAL WEAPONS CONVENTION, (Henry L. Stimson Ctr., Occasional Paper No. 34, 1997); Thomas Stock & Anna De Geer, *Chemical trade control and Article XI of the CWC*, (last modified Sept. 16, 1997) <<http://www.sipri.se/cbw/research/ssf-cwc-paper4.html>>; Rex J. Zedalis, *New Export Controls for Chemicals on the Horizon?*, 30 INT'L LAW. 141 (1996).

the basis of selectivity rather than universality. Over the past decade, the developing countries have therefore repeatedly required the abolishment of the AG, viewing it “as a Northern instrument of coercive trade policy, even of underdevelopment.”¹¹ The AG member states, however, have traditionally rejected such claims, arguing that in the absence of a valid multilateral alternative, the AG represents an indispensable nonproliferation mechanism.

With the entry into force of the CWC, such a multilateral alternative now exists. The CWC stipulates—implicitly, if not explicitly—that the AG be dismantled.¹² The following evaluation of the precise contents of the CWC export control obligations shall thus help to assess whether the CWC represents an adequate legal framework to supplant the AG in the realm of chemical nonproliferation, thereby allowing for progress toward greater multilateralism.

The article is structured in five parts. Section I gives an overview of the history of the CWC. Section II focuses on the CWC’s material scope. This discussion is important in order to determine the items that will fall under an eventual export control obligation. Section III presents the main obligations under the CWC, while Section IV deals exclusively with the specific obligations pertaining to export controls. The implementation of these specific obligations—which, for the purposes of this article, are referred to as transfer rules—is the focus of Section V.

I. HISTORY¹³

On September 3, 1992, after more than two decades of negotiations,¹⁴ the Conference on Disarmament (CD) adopted the final report of

11. Perry Robinson (1995), *supra* note 10, at 45.

12. *See infra* note 151.

13. For a more detailed overview of the CWC negotiations history, see Julian Perry Robinson, *The negotiations on the Chemical Weapons Convention: a historical overview*, in *THE NEW CHEMICAL WEAPONS CONVENTION—IMPLEMENTATION AND PROSPECTS* 17–36 (M. Bothe et al. eds., 1998); Ronzitti, *supra* note 10, at 883–85.

14. From a historic viewpoint, it is important to note that the ideas of prohibiting chemical weapons, on the one hand, and biological weapons, on the other, have always been closely intertwined. A first milestone towards their complete prohibition was set in 1925, with the adoption of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571. Due to WW II and the emergence of the Cold War, it was however only in the second half of the 1960s that the project of a comprehensive treaty framework prohibiting chemical and biological weapons activities gained new momentum. Initial attempts to create a convention covering both weapons types were soon abandoned, mainly due to U.S. and British resistance. Nevertheless, the adoption of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, April 10, 1972, 26 U.S.T. 583 [hereinafter: BTWC] was regarded as a “first possible step

its *Ad-Hoc* Committee on Chemical Weapons¹⁵ and transmitted the report to the United Nations General Assembly (U.N.G.A.). The report contained, in its Appendix, the finalized text of the CWC. On November 30, 1992, the U.N.G.A. adopted resolution 47/39 without a vote, commending the CWC and calling upon all states to sign it and become parties at the earliest possible date.¹⁶

The CWC opened for signature in Paris on January 13, 1993. It entered into force on April 29, 1997, 180 days after the date of deposition of the 65th instrument of ratification.¹⁷

II. MATERIAL SCOPE

In order to determine the items covered by an eventual export control obligation under the CWC, the CWC's material scope must be defined.¹⁸ An initial hint as to its contents can be found in the CWC's title, which indicates that it deals with materials falling within the general category of chemical weapons.

The term "chemical weapons" is defined in Article II.1. The provision reads:

For the purposes of this Convention, "Chemical Weapons" means the following, together or separately:

- (a) Toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes;
- (b) Munitions and devices, specifically designed to cause death or other harm through the toxic properties of those toxic chemicals specified in subparagraph (a), which would be released as a result of the employment of such munitions and devices;

towards the achievement of agreement on effective measures also for the prohibition of the development, production and stockpiling of chemical weapons" BTWC Preamble ¶ 8.

15. See *Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament*, U.N. Doc. CD/1170 (26 August 1992).

16. See G.A. Res. 39, U.N. GAOR, 47th Sess., Supp. No. 49, at 54, U.N. Doc. A/47/49 (30 November 1992).

17. See CWC, *supra* note 22, art. XXI.1, 32 I.L.M. at 821. Hungary deposited the 65th instrument of ratification on October 31, 1996. For states depositing their instruments of ratification after April 29, 1997, the Convention enters into force on the 30th day following the date of deposit. See *id.* at art. XXI.2.

18. The term "material scope," as it is used in this article, refers to the (tangible and intangible) materials covered by the CWC.

(c) Any equipment specifically designed for use directly in connection with the employment of munitions and devices specified in subparagraph (b).¹⁹

The wording and structure of Article II.1 allow for three introductory observations. First, the CWC subjects *three categories* of materials to the definition of “chemical weapons”:

- (1) toxic chemicals and their precursors (hereinafter: TCPs);
- (2) specifically designed munitions and devices; and
- (3) specifically designed equipment.²⁰

Second, the provision stipulates that any *combination* of materials falling under the three categories also constitutes a chemical weapon.²¹ This is emphasized by the expression “*together or separately*” in the introductory sentence of Article II.1.²²

Third, the text of Article II.1 allows for the determination of a hierarchy between the three categories of materials. Given the fact that subparagraph (c) elaborates on the materials referred to in subparagraph (b), while subparagraph (b) builds upon the materials mentioned in subparagraph (a), it can be concluded that the materials mentioned in subparagraph (a)—that is, TCPs—represent the core of the definition of chemical weapons. The materials mentioned in subparagraphs (b) and (c), on the other hand, must be understood as expanding the notion of chemical weapons in two steps: first into the realm of munitions and devices, and from there into the realm of equipment.²³

These three introductory observations allow for the better understanding of the term “chemical weapons” as used in the CWC. However, they do not illustrate how the term relates to the CWC’s material scope. In particular, they leave unanswered the following four questions:

- (1) To what extent do the three categories of materials listed in the definition of chemical weapons fall under the material scope of the CWC?
- (2) Is their inclusion in the material scope of the CWC contingent upon their being defined as chemical weapons?

19. CWC, *supra* note 2, art. II.1, 32 I.L.M. at 804.

20. *See id.*

21. *See id.*

22. *Id.*

23. The hierarchical order is somewhat mitigated by the fact that each of the materials—*together or separately*—qualify as chemical weapons.

- (3) Is it correct to say that the material scope of the CWC covers chemical weapons?
- (4) Is it possible that the material scope of the CWC covers materials other than those explicitly listed in the definition of chemical weapons?

The present section intends to answer these questions. For this purpose, it is divided into three sub-sections. Sub-section A examines the extent to which TCPs fall under the CWC's material scope. Sub-section B does so in regard to munitions, devices, and equipment. Finally, Sub-section C addresses the question of whether other materials mentioned in the definition of chemical weapons are also covered by the CWC's material scope.

A. Toxic Chemicals and Their Precursors (TCPs)

The terms "toxic chemicals" and "precursors" represent, as has been indicated, the core components of the definition of chemical weapons. The following analysis therefore first examines the materials that fall under these two terms. Second, it explores whether the CWC's scope covers these materials under any circumstance, or only in situations that allow for their qualification as chemical weapons. It is the exception mentioned in sub-paragraph (a) of Article II.1 that makes this second inquiry necessary. According to the wording of this clause, TCPs are excluded from being defined as chemical weapons when "intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes."²⁴ Therefore, materials falling under the category of "toxic chemicals and their precursors" may or may not qualify as chemical weapons. This raises the question of whether they are included in the CWC's material scope even if they are not defined as chemical weapons. Finally, it elaborates on the notion of "purposes not prohibited under this Convention."

1. Toxic Chemicals

According to Article II.2, the term "toxic chemical" means "[a]ny chemical which through its chemical action on life processes *can* cause death, temporary incapacitation or permanent harm to humans or animals."²⁵

24. CWC, *supra* note 2, art. II.1(a), 32 I.L.M. at 804.

25. CWC, *supra* note 2, art. II.2, 32 I.L.M. at 805 (emphasis added).

On the basis of this definition, a chemical must be considered toxic when fulfilling, cumulatively, three conditions. It must have:

- (1) the ability (expressed by the word “can”), through its chemical action on life forms,
- (2) to cause temporary incapacitation, permanent harm or death
- (3) to humans or animals.²⁶

Given the fact that any chemical—provided that its quantity is high enough—*can* cause harm or death to humans or animals, it must be concluded that the term “toxic chemical” as used in Article II.1(a) covers virtually *all* chemicals.²⁷ From a contextual viewpoint, one can even argue that anti-*plant* agents such as herbicides are covered, in spite of the fact that Article II.2 merely refers to humans or animals. Indeed, there is little doubt that herbicides, if applied in a sufficiently high quantity, can cause death or harm to humans or animals.²⁸

26. *Id.*

27. See also Perry Robinson (1995), *supra* note 10, at 2.

28. Whether anti-plant agents fall under the CWC’s material scope is, however, debated. From a *textual* viewpoint, one could indeed argue in favor of exclusion. CWC art. II.2 lacks an explicit reference to plants. CWC, *supra* note 2, art. II.1, 32 I.L.M. 804–5. Also, the wording of Paragraph 7 of the Convention’s Preamble refers to the prohibition under *other* international instruments of the use of herbicides as a “method of warfare.” (These instruments are listed *infra*.) CWC, *supra* note 2, Preamble, 32 I.L.M. at 804. In so doing, it suggests that the CWC—due to the exclusion of herbicides from its material scope—cannot serve as legal basis for such a prohibition. However, a *contextual* analysis of the CWC supports the inclusion of herbicides in the Convention’s material scope, for three reasons. First, accounts of the CWC negotiations indicate that the proposals made by some countries to exclude herbicides remained undecided throughout the negotiations due to the strong opposition by others. See KRUTZSCH & TRAPP, *supra* note 10, at 31 n.25. Second, the exclusion lacks a convincing rationale. Commonly, it is argued that an exclusion would facilitate the use of toxic chemicals for *permitted* military purposes (including, for instance, the clearing of airfields or perimeters along military facilities). However, this argument is untenable in light of CWC art. II.9(c). CWC, *supra* note 2, art. II.9(c), 32 I.L.M. 806. This provision explicitly permits chemical activities for military purposes if such activities are not aimed at harming or killing humans or animals by means of a chemical’s *toxic* qualities. See *id.* Third, and most importantly, any special treatment of herbicides in the realm of prohibited activities would clearly violate the spirit of the CWC and is therefore inadmissible in accordance with art. 19(c) in conjunction with art. 31.1 of the Vienna Convention on the Law of Treaties, May 23, 1969, 8 I.L.M. 679. Inadmissibility is further underscored by CWC art. XXII, which excludes reservations to the Convention’s prohibitions. CWC, *supra* note 2, art. XXII, 32 I.L.M. at 801. Therefore, if a military activity, though officially *not* aimed at chemical weapon purposes, nevertheless may have side-effects allowing for its qualification as chemical weapon activity (such as causing harm or death to humans or animals), the spirit of the CWC clearly asks for its prohibition. In the realm of military activities, therefore, the principle *in dubio pro prohibitione* prevails over the principle *in dubio pro libertate*. This conclusion, in turn, requires that herbicides be covered by the CWC’s material scope. The use of Agent Orange by the United States during the Vietnam War illustrates the need to regard herbicides as included in the Convention’s material scope. From a military standpoint, it seems in fact plausible to

The second sentence of Article II.2 underscores the universal coverage of chemicals by the notion "toxic chemicals." It makes clear that the definition of a chemical as toxic does not depend on questions of origin, method or place of production. Accordingly, it can be concluded that the term "toxic chemical" as referred to in Article II.1(a) covers the totality of chemicals, regardless of whether:

- they have been produced synthetically or by living organisms such as *toxins*;²⁹ or
- they have been produced in and disseminated by any novel weapon types such as binary or multicomponent weapons.³⁰

Before proceeding to the definition of the term "precursor," it should be noted that the CWC lists a number of toxic chemicals in its Annex on Chemicals.³¹ The chemicals are contained in three lists, referred to as Schedules 1, 2, and 3.³² These lists can be modified at any time in accordance with a special, simplified amendment procedure.³³

argue that the toxic properties of Agent Orange were not used to harm or kill humans or animals. However, in light of the recent evaluations showing that roughly one million Vietnamese, including 100,000 children born after the war, still suffer from negative long-term effects caused by Agent Orange, it would be perverse to qualify the use of Agent Orange as permitted military activity. (Note: The international instruments explicitly prohibiting the use of herbicides as method of warfare include the Protocol Additional to the Geneva Conventions of August 12, 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), June 8, 1977, 16 I.L.M. 1391, by means of its arts. 35.3 and 55; the BTWC, *supra* note 14, by means of interpretative remarks concerning art. I in the Final Declaration of the Third Review Conference of the Parties to the BTWC, U.N. Doc. BWC/Conf. III/23 (1991) at 2, and in the Final Declaration of the Fourth Review Conference of the Parties to the BTWC, U.N. Doc. BWC/Conf. IV/9 (1996) at 14–15; and the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, May 18, 1979, 31 U.S.T. 333, by means of art. I and the annexed Understanding Relating to Article I.)

29. See also KRUTZSCH & TRAPP, *supra* note 10, at 31. Toxins equally fall under the material scope of the BTWC. The resulting overlap between CWC and BTWC is however to be welcomed in light of the increasing overlap between organic and non-organic production methods of chemicals. In fact, an increasing number of toxins today can be synthesized in laboratories without resorting to natural organisms. Simultaneously, certain chemicals traditionally produced in chemical synthesis today are manufactured by means of micro-biological methods.

30. CWC art. II, paragraphs 1 and 2, even covers chemicals produced in weapon types yet unknown. See KRUTZSCH & TRAPP, *supra* note 10, at 31.

31. See CWC, *supra* note 2, Annex on Chemicals, 32 I.L.M. at 822.

32. For an insightful discussion of the Schedules as well as of the AG list of chemical weapon precursors, see Robert J. Mathews, *A Comparison of the Australia Group List of Chemical Weapon Precursors and the CWC Schedules of Chemicals*, 21 CHEMICAL WEAPONS CONVENTION BULL. 1–3 (1993).

33. See CWC, *supra* note 2, art. XV.4, in connection with art. XV.5, 32 I.L.M. at 820.

As shown in greater detail below, the Schedules do not serve as the basis for a definition of the term "chemical weapons."³⁴ Rather, they must be understood as listing certain sensitive chemicals for verification purposes. In fact, while the CWC completely prohibits the transfer of chemical weapons, the transfer of scheduled chemicals remains permitted within the regulatory framework of specific transfer rules.³⁵ Given the fact that different transfer rules apply to each of the three Schedules, the Schedules are of particular importance for the verification of transfer activities with such chemicals. A parenthetical note to Article II.2 stresses this fact, stating that the toxic chemicals are listed in the Schedules "for the application of verification measures."³⁶ Further evincing the verification purpose of the Schedules, the *chapeau* of Part B to the Annex on Chemicals states, "For the purpose of implementing this Convention, these Schedules identify chemicals for the application of verification measures according to the provisions of the Verification Annex."³⁷ The provision further stipulates that "[p]ursuant to Article II, subparagraph 1 (a), these Schedules do not constitute a definition of chemical weapons."³⁸

2. Precursors

The term "precursor" is defined in Article II.3 as "[a]ny chemical reactant which takes part at any stage in the production by whatever method of a toxic chemical. This includes any key component of a binary or multicomponent chemical system."³⁹

Article II.3 affirms, though in a way that creates more confusion than clarity, the all-inclusive character of the phrase "toxic chemicals and their precursors" used in Article II.1(a). According to its wording, any chemical reactant used at any time in the process of manufacturing a toxic chemical must be regarded as a precursor.

Confusion arises due to the fact that the provision introduces the distinction between "toxic chemicals" and "precursors" in an obvious attempt to differentiate between two groups of chemicals: those that are "toxic" and those that are *not* toxic, but can be used for the production of

34. See *infra* pp. 27–51.

35. The transfer rules applicable to scheduled chemicals are listed *infra* pp. 27–51. Regarding the prohibition of chemical weapon transfers, see *infra* pp. 24–47.

36. CWC, *supra* note 2, art. II.2, 32 I.L.M. at 805.

37. CWC, *supra* note 2, Annex on Chemicals, pt. B, Schedule of Chemicals, 32 I.L.M. at 822.

38. Regarding the distinction between the term "chemical weapon" and the term "toxic chemical," see *infra* Part II.A.3.

39. CWC, *supra* note 2, art. II.3, 32 I.L.M. at 805.

toxic chemicals. In light of the before-mentioned, all-inclusive coverage of the term "toxic chemicals," this distinction is troublesome. Indeed, the question arises why the CWC subjects all chemicals to the definition of "toxic chemicals" only to exclude the so-called precursor chemicals from that very definition.

Only one plausible answer can be given to this question. The separate mentioning of precursors in the CWC makes sense insofar as it stresses that *any* chemical falls under the notion of "toxic chemicals and their precursors." However, insofar as it attempts to establish a difference between toxic and non-toxic chemicals, it appears redundant and contradictory. Redundant, because precursor chemicals are already covered by the all-inclusive notion of "toxic chemicals." Contradictory, because their coverage by the notion "toxic chemicals" does not allow for their qualification as non-toxic.

As in the case of toxic chemicals, a number of precursors is listed in the three Schedules in the Convention's Annex on Chemicals. Again, it must be emphasized that these lists must be regarded as verification guidelines rather than definitions of chemical weapons. It is the following analysis that clarifies the extent to which the definition of chemical weapons differs from both the notions of "toxic chemicals" and "precursors."

3. Relationship between TCPs and the Definition of Chemical Weapons

The preceding discussion aimed to define the materials falling under the phrase "toxic chemicals and their precursors" as used in Article II.1(a). It concluded that the totality of chemicals is covered by this phrase. What remains to be examined is the relationship between the totality of chemicals and the definition of chemical weapons.

On the basis of what has been said so far, three observations can be made in regard to this relationship. First, the CWC defines the totality of chemicals as chemical weapons. This conclusion is supported by the fact that Article II.2 and 3 subject all chemicals to the notion of "toxic chemicals and their precursors," while Article II.1(a) subjects all toxic chemicals and their precursors to the definition of chemical weapons.⁴⁰

40. CWC, *supra* note 2, art. II, 32 I.L.M. at 804–05. Rather than limiting the freedom of action by means of a partial prohibition, the CWC incorporates a general prohibition as point of departure. This approach reflects the interesting tendency in the realm of nonproliferation to emphasize the principle *in dubio pro prohibitione* rather than the principle *in dubio pro libertate*. For further reflections on the principle *in dubio pro prohibitione*, see *supra* note 28; ULRICH KARPENSTEIN, *EUROPÄISCHES EXPORTKONTROLLRECHT FÜR DUAL-USE-GÜTER* 246–47, 256–57 (1998). See also *Interim Guidelines Related to Weapons of Mass Destruction*

However, the definition of all chemicals as chemical weapons is only of an *a priori* character. Due to their essential dual-use nature, most chemicals indeed have legitimate commercial applications.⁴¹ It is precisely for this reason that Article II.1(a), by means of its middle sentence, excludes from the definition of chemical weapons those TCPs that are “intended for purposes not prohibited under this Convention.”⁴²

This leads to the second observation. It is important to note that according to Article II.1(a), the principal criterion determining whether TCPs qualify or not as chemical weapons is the intended end-use (end-use criterion).⁴³ Although the totality of chemicals is *a priori* subject to the definition of chemical weapons and thus to the wide range of prohibitions applicable to these weapons, TCPs indeed remain qualified as chemical weapons only if their intended end-use is prohibited under the Convention.⁴⁴

The end-use criterion is, however, not the only criterion in the definition of a TCP as chemical weapon. As indicated by the phrase “as long as the types and quantities are consistent with such purposes”⁴⁵ in Article II.1(a), a TCP can be excluded from being considered a chemical weapon only if a second criterion is fulfilled. This second criterion—which may be called the “consistency criterion”—stipulates that in addition to being intended for “purposes not prohibited,” the type and quantity of the concerned chemical must not put into question its use for such purposes.

This leads to the third and final observation. Whether a TCP qualifies as a chemical weapon under Article II.1(a) thus depends not only on

(May 29, 1992) <http://projects.sipri.se/expcon/unp5_washington92.htm> [hereinafter Interim Guidelines]. According to Points 5 and 7 of the Interim Guidelines, which were issued by the five permanent members of the U.N. Security Council, the five states shall not export equipment, material, services or technology which could be used in the manufacture of chemicals and biological weapons (CBWs) “except when satisfied, for example, by recipient country guarantees or confirmation by the recipient, that such exports would not contribute to the development or acquisition of chemical weapons.” *Id.*

41. The most recent U.N. report concerning the state of the world chemical industry reflects well the importance of chemicals in the realm of legitimate commercial activities. According to the report, the world chemical production in 1998 rose by 2.4 per cent to nearly \$1,500 billion. See Lye Ching Lam, *International Economics and Politics*, FIN. TIMES, July 16, 1999, at 6.

42. See CWC, *supra* note 2, art. II.1(a), II.9, 32 I.L.M. 804–06 for “purposes not prohibited under this Convention.” A thorough discussion of these purposes takes place further below. See *infra* Part II.A.3.

43. Similarly, Krutzsch & Trapp conclude that “Article II sets as the ultimate criterion for defining a chemical as a chemical weapon its intended *purpose* . . .” See KRUTZSCH & TRAPP, *supra* note 10, at 31 (emphasis added). Due to this emphasis on the purpose, the criterion is also referred to as “general purpose criterion.”

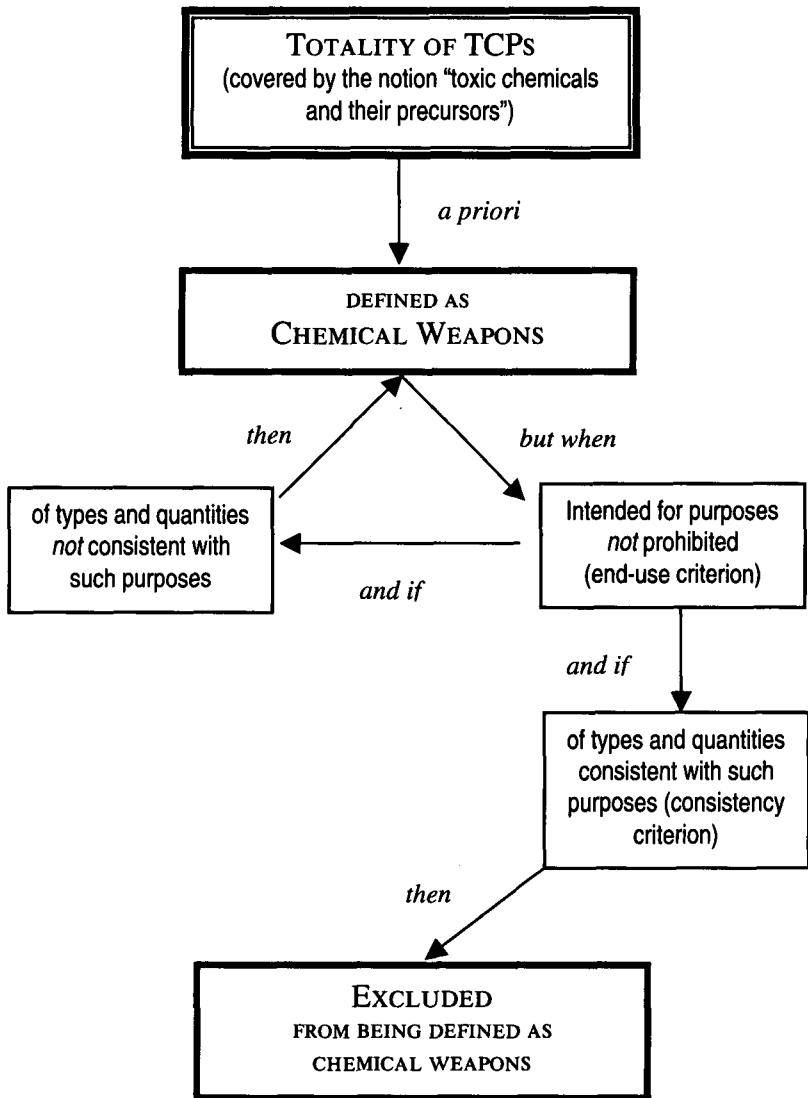
44. CWC, *supra* note 2, art. II.1(a), 32 I.L.M. at 804.

45. *Id.*

the *subjective* criterion concerning its intended end-use (end-use criterion), but also on an *objective* criterion concerning the consistency of its type and quantity with the intended end-use (consistency criterion).

Figure 1 illustrates the complex relationship between the chemicals falling within the category of “toxic chemicals and their precursors,” on the one hand, and the definition of chemical weapons, on the other.

FIGURE 1: RELATION BETWEEN TCPs AND THE DEFINITION OF CHEMICAL WEAPONS



With a determination of the relationship between TCPs and the definition of chemical weapons, it is now possible to give some preliminary answers to the first three of the four questions listed in the introduction to this section.⁴⁶ The first question asked to what extent the materials listed in Article II.1 fall under the CWC's material scope. As far as TCPs are concerned, the right answer is "completely." As has been demonstrated, the CWC includes the totality of chemicals in its material scope.

This finding makes it possible to answer the second of the initial questions, whether the inclusion of the materials listed in Article II.1 in the CWC's material scope is contingent upon their being defined as chemical weapons. In regard to TCPs, this is obviously not the case. TCPs remain at all times covered by the material scope of the CWC, even though they may be excluded from being defined as chemical weapons if used for "purposes not prohibited."⁴⁷

On the basis of this conclusion, the third of the four initial questions can be addressed. This question concerned the issue of whether the CWC's material scope can be said to cover chemical weapons. For the following reason, such terminology is untenable. The observation that the CWC's material scope covers chemical weapons is wrong because TCPs, although always subject to the material scope, may under certain specific circumstances *not* qualify as chemical weapons. The definition of "chemical weapons" therefore must be understood as a specific, additional *qualification* of the goods that fall under the CWC's material scope. It cannot be said to represent the definition of the material scope itself.

4. The Notion of "Purposes Not Prohibited"

The preceding analysis has shown that the totality of chemicals—subject to the notion of TCPs—is at any time covered by the CWC's material scope. Furthermore, it has demonstrated that although all chemicals fall *a priori* under the definition of chemical weapons in Article II.1(a), they may be excluded from that definition when intended "for purposes not prohibited under this Convention."⁴⁸ That their exclusion eventually depends on their types and quantities—i.e., the consistency criterion—has also been stressed.

The present discussion focuses on the definition of the phrase "for purposes not prohibited." As will be shown below, this phrase plays an important role in connection with transfer control obligations deriving

46. See *supra* Part II.A.1.

47. CWC, *supra* note 2, art. II.1(a), 32 I.L.M. at 804.

48. *Id.*

from the CWC. Given the fact that the CWC prohibits any activities with chemical weapons (including their transfer),⁴⁹ TCPs may be transferred only if they qualify for exclusion from the chemical weapons definition in Article II.1(a).⁵⁰ Since they may qualify for such exclusion only “when intended for purposes not prohibited under this Convention,”⁵¹ their transfer directly depends on how the term “for purposes not prohibited” is interpreted.

The term “for purposes not prohibited” is defined in Article II.9 of the CWC. According to this provision, the term covers activities for:

- (a) Industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes;
- (b) Protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons;
- (c) Military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare;
- (d) Law enforcement including domestic riot control purposes.⁵²

According to sub-paragraph (a), all activities for “peaceful purposes” must be considered activities “for purposes not prohibited.” As indicated by the provision’s wording, such activities include, but are not limited to, industrial, agricultural, research, medical and pharmaceutical activities. The words “or other peaceful purposes” at the end of the provision indeed clarify that the enumeration of these five activities is non-exhaustive.⁵³ The word “peaceful,” on the other hand, makes clear that an activity, in order to qualify as activity “for peaceful purposes,” always must be of a *non-military* character.⁵⁴

Given the essential dual-use character of chemicals, the distinction between permitted peaceful and prohibited military activities at times is difficult. Activities with chemicals may easily fall into a gray zone.

49. CWC, *supra* note 2, art. I.1, 32 I.L.M. at 804.

50. CWC, *supra* note 2, art. II.1(a), 32 I.L.M. at 804.

51. *Id.*

52. CWC, *supra* note 2, art. II.9, 32 I.L.M. at 805–06 (emphasis added).

53. See also KRUTZSCH & TRAPP, *supra* note 10, at 41.

54. Legitimate *military* activities with chemicals are dealt with under sub-paragraph (c) rather than sub-paragraph (a) of CWC art. II.9. CWC, *supra* note 2, art. II.9, 32 I.L.M. at 805–06.

Sub-paragraphs (b)–(d) qualify a limited number of such gray zone activities as activities “for purposes not prohibited.”⁵⁵

Sub-paragraph (b) allows states parties to engage in activities for *protective* purposes. The term “protective purposes” must be understood in the broadest possible sense, including civilian measures against industrial poisoning and the like, as well as *military* measures against the use of chemical weapons by other countries.⁵⁶ Protective military measures, however, must be of a purely defensive character.⁵⁷

Sub-paragraph (c) includes among the activities “for purposes not prohibited” any activity with chemicals for “military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare.”⁵⁸ Accordingly, the CWC permits chemical activities for military purposes, provided (1) that the chemicals involved are not used for chemical weapon purposes, and (2) that it is not the *toxic* property of the chemicals that leads to the harming or killing of enemy humans or animals.⁵⁹ Thus, permitted military purposes pertain to the use of chemicals for *conventional* weapons purposes, such as the production of rocket fuels, explosives, incendiaries or smoke-generating ammunitions.⁶⁰ Furthermore, as already indicated, the use of defoliators to clear the perimeters of military facilities may also be regarded as a military purpose permitted under the CWC.⁶¹

Finally, sub-paragraph (d) allows for chemical activities used for law enforcement and domestic riot control.⁶² Though a harming impact on humans or animals cannot be denied, activities involving tear gases

55. CWC, *supra* note 2, art. II.9, 32 I.L.M. at 805–06.

56. See KRUTZSCH & TRAPP, *supra* note 10, at 41.

57. In this context, the question arises whether the stockpiling of chemicals for military deterrence purposes can be regarded as serving a legitimate protective military purpose. The question must be answered in the negative. As means of deterrence, chemicals are aimed at a retaliatory rather than defensive purpose. Correspondingly, they fall under the CWC’s definition of chemical weapons the use and stockpiling of which is prohibited according to CWC art. I.1(a). CWC, *supra* note 394, art. I.1(a), 32 I.L.M. at 804.

58. CWC, *supra* note 2, art. II.9(c), 32 I.L.M. at 806.

59. *Id.*; see also CWC, *supra* note 2, art. II.2, 32 I.L.M. at 805.

60. See KRUTZSCH & TRAPP, *supra* note 10, at 42.

61. See *supra* note 28. However, as soon as defoliators risk to kill or harm enemy humans or animals, their toxic properties—regardless of the intention of the applying state—can be associated with chemical warfare. According to the previously mentioned principle *in dubio pro prohibitione*, the CWC prohibits their use in such situations. See *supra* note 40.

62. See KRUTZSCH & TRAPP, *supra* note 10, at 42. Article II.7 defines riot control agents as follows: “Any chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure.” CWC, *supra* note 2, art. II.7, at 32 I.L.M. 805.

and the like are generally permitted.⁶³ According to Article I.5, each state party is, however, barred from using riot control agents “as a method of warfare.”⁶⁴

In sum, it must be kept in mind that although the CWC excludes—by means of the phrase “for purposes not prohibited”—certain *activities* with chemicals from being considered chemical weapon activities, this exclusion does not mean that the chemicals involved in these permitted activities no longer fall under the material scope of the CWC. Regardless of the activities for which they are used, chemicals always remain subject to the CWC’s material scope. The expression “for purposes not prohibited” does not play a role regarding the definition of the material scope. It is relevant only for the distinction between chemicals and chemical weapons, and thus for the determination of permitted and prohibited transfer activities. As has already been indicated, the CWC prohibits the transfer of chemical weapons, while allowing for the transfer of chemicals for purposes not prohibited within the regulatory framework of specific transfer rules.⁶⁵

B. Munitions, Devices, and Equipment

The previous paragraph has shown that TCPs, covered by the phrase “toxic chemicals and their precursors” in Article II.1(a), may or may not qualify as chemical weapons. As described, chemicals are excluded from being defined as chemical weapons when fulfilling two specific criteria. However, it has also been stressed that their possible exclusion from being considered as chemical weapons does not change the fact that they always remain subject to the CWC’s material scope.

The situation is similar with regard to munitions, devices, and equipment. According to sub-paragraphs (b) and (c) of Article II.1, these items fall under the definition of chemical weapons only when they are “specifically designed to cause death or other harm” by releasing toxic chemicals.⁶⁶ Conversely, they do *not* qualify as chemical weapons when

63. The term “law enforcement,” as it is used here, implies that the use of riot control agents by U.N. peace-keeping troops is legitimate. However, it is important to note that any use of such agents is at any time subject to the consistency criterion mentioned in CWC, *supra* note 394, art. II.1(a), 32 I.L.M. at 804.

64. CWC, *supra* note 2, art. I.5, 32 I.L.M. at 804.

65. About these transfer rules, see *infra* Part IV.B.

66. The Chairman of the *Ad-Hoc* Committee on Chemical Weapons stressed this point in the Committee’s final report, by placing the following explanation on record: “With regard to Article II: The definition of the term ‘chemical weapons’ in Article II is formulated broadly to cover not only toxic chemicals and their precursors, but also *specifically-designed* means of delivery. The term ‘munitions’ refers to items that utilize directly or indirectly an explosive to disseminate a toxic chemical on the battlefield. The term ‘devices’ refers to items that use

no such specific design is given. However, regardless of whether they are "specifically designed" or not, they always fall under the CWC's material scope. Therefore, their inclusion in the material scope of the CWC is not contingent upon their being defined as chemical weapons.⁶⁷

This finding allows for the final assessment of the first three questions mentioned in the introduction to this section. First, it can be concluded that TCPs, as well as munitions, devices, and equipment, are *always* and *completely* covered by the CWC's material scope. Second, their coverage is not contingent upon their being defined as chemical weapons. TCPs, munitions, devices, and equipment are subject to the material scope of the CWC regardless of whether they qualify as chemical weapons or not. Third, it is therefore mistaken to say that the material scope of the CWC covers chemical weapons. Rather, it is more accurate to conclude that certain items falling under the material scope of the CWC may under specific conditions qualify as chemical weapons.

The fourth question concerns the issue of whether materials other than the three categories of materials mentioned in the definition of chemical weapons may also fall under the material scope of the CWC.

C. Other Materials

As indicated in the previous discussion, certain products fall under the material scope of the CWC in spite of the fact that they do not qualify as chemical weapons. Aiming at the best possible prevention of chemical proliferation, the drafters strove to have the CWC's material scope cover not only those materials effectively representing chemical

non-explosive means to disseminate a toxic chemical on the battlefield. The term 'equipment' refers to, *inter alia*, items that are part of a chemical weapons delivery system but do not actually contain toxic chemicals or precursors. It does not refer to general purpose delivery systems that are common in all modern armed forces that can be used to deliver different types of ammunition containing, *inter alia*, conventional explosives, but which do not contain any special features *designed specifically* for the delivery of chemical munitions or devices." U.N. Doc. CD/1170 (26 August 1992), ¶ 36 (emphasis added). It should be noted that paragraph 36 was negotiated among interested delegations before being placed on record. It commanded consensus.

67. It is on the basis of this observation that one may call the situation concerning munitions, devices, and equipment *similar* to that regarding chemicals. However, it has certainly not escaped the attentive reader that there also exists a major conceptual difference between the treatment of these two groups of materials in the CWC. This difference, which concerns the qualification of the particular goods as "chemical weapons," shall not go unmentioned. As previously shown, chemicals qualify *a priori* as chemical weapons, may however be excluded from the definition when end-use and consistency criteria are fulfilled. Contrary to this, munitions, devices, and equipment are *a priori* excluded from being qualified as chemical weapons. Only when these materials fulfil the criterion of being "specifically designed" (specificity criterion) are they included in the definition. The principle *in dubio pro prohibitione* thus does not apply in the realm of munitions, devices and equipment. See *supra* note 40.

weapons, but also those possessing an inherent *potential* to contribute to the proliferation of chemical weapons.

Given this goal, the question arises whether the three categories of goods encountered so far—that is, TCPs, munitions and devices, and equipment—are sufficient to cover the totality of goods that have a potential to contribute to chemical proliferation. Obviously, this is not the case. For instance, the following *dual-use* goods do not fall within the three categories even though they are apt to serve chemical weapon purposes:

- machines, in particular chemical manufacturing equipment (valves, pipes, control devices, specially coated vessels, etc.);
- financial resources; and
- intangible goods such as technology.⁶⁸

The CWC refrains from explicitly referring to these types of goods that, although apt to serve chemical weapon purposes, may never qualify as chemical weapons. However, it does *implicitly* include these goods in its material scope, by means of prohibiting its states parties to *assist* in the development, production, and transfer of chemical weapons. As shown in greater detail below, the prohibition *on* assisting in chemical weapon production, anchored in Article I.1(d), indeed includes in the material scope of the CWC all those materials, machines, financial resources and intangible goods that are apt to assist in the proliferation of chemical weapons.⁶⁹

D. Summary

In sum, it can be concluded that the material scope of the CWC covers two categories of materials. The first category are the items that qualify as chemical weapons under specific circumstances (that is, if intended for prohibited purposes, inconsistent with permitted purposes,

68. The term “technology” is commonly defined as specific information necessary for the development, production or use of a product. As such, it covers the terms “technical data” and “technical assistance.” Technical data includes blueprints, plans, diagrams, models, formulae, tables, engineering designs and specifications, manuals and instructions written or recorded on devices such as disks, tapes or read-only memories. Technical assistance, on the other hand, may take the form of instruction, training, consulting services or any other form of transmission of skills and working knowledge. Furthermore, it covers the *transfer* of technical data. For similar definitions of technology, see the AGs *Control List of Dual-Use Chemical Manufacturing Facilities and Equipment, and Related Technology* (last updated Aug. 18, 1998) <<http://projects.sipri.se/cbw/research/AG-cw-equipment.html>>; Wassenaar Arrangement, July 1996 (last modified Dec. 3, 1999) <<http://www.wassenaar.org/list/Def%20-%2099.pdf>> [hereinafter WA].

69. See *infra* pp. 25–7.

or specifically designed). These items include TCPs, munitions and devices, and equipment. The second category are those materials, financial resources and intangible goods that, without qualifying as chemical weapons, may serve chemical weapon purposes.

III. MAIN OBLIGATIONS

The CWC contains three main disarmament obligations. First, it prohibits the use of chemical weapons (non-use obligation). Second, it requires states parties to eliminate existing chemical weapons stockpiles and production facilities (elimination obligation). Third, and most important for current purposes, it aims at preventing the proliferation of chemical weapons (nonproliferation obligation).

Article I.1(b) and (c), in conjunction with Paragraph 6 of the Preamble, set forth the non-use obligation. Accordingly, states parties are required to abstain not only from the immediate use of chemical weapons, but also from engaging in any sort of military preparation directed toward the future use of such weapons.

Articles I.2–I.4, IV, and V impose the elimination obligation. These provisions require states parties to destroy the totality of their chemical weapons stockpiles and production facilities.⁷⁰

Finally, the nonproliferation obligation concerning chemical weapons finds expression in Article I.1(a) and (d) and Article VI. Article I.1(a) and (d) are aimed at the *immediate* nonproliferation of chemical weapons. While sub-paragraph (a) *prohibits* states parties *from* developing, producing, acquiring, stockpiling or *transferring, directly or indirectly*, chemical weapons, sub-paragraph (d) *forbids* states parties to *assist* in any chemical weapon activity. Article VI, on the other hand, contains several sub-paragraphs that foster chemical nonproliferation in an indirect way.⁷¹ Given the fact that the clause is primarily directed at regulating chemical activities *not* prohibited under the CWC, its nonproliferation concern may be termed “auxiliary.” Indeed, Article VI pertains to chemical nonproliferation only insofar as it contains certain rules aimed at ensuring that the materials whose transfer is permitted under the CWC will not be abused for chemical weapon purposes.

The following analysis focuses exclusively on the nonproliferation obligation. It is furthermore limited to those nonproliferation obligations

70. The elimination of all chemical weapons and chemical weapon production facilities must be concluded on April 29, 2007. See CWC, *supra* note 2, arts. IV.6, V.8, 32 I.L.M. 807, 809.

71. CWC, *supra* note 2, art. VI.3–5, 7–8, 32 I.L.M. at 809–10.

that pertain to export controls. This specific set of nonproliferation obligations is referred to as “CWC transfer rules.” The discussion of the CWC transfer rules is integral for present purposes, because—as further discussed below—the obligation to implement the CWC transfer rules requires states parties *implicitly* to establish national export controls.⁷²

IV. SPECIFIC OBLIGATIONS PERTAINING TO EXPORT CONTROLS: CWC TRANSFER RULES

As already indicated, the CWC transfer rules are contained in Article I.1(a) and (d) and Article VI of the CWC. The latter provision also refers to the CWC’s Verification Annex (VA), which elaborates on the Article VI transfer rules.⁷³ Table 1 gives an overview of the CWC transfer rules.

TABLE I
CWC TRANSFER RULES

<i>Immediate Nonproliferation of CWs</i>	<i>Auxiliary Nonproliferation of CWs</i>
ARTICLE I CWC	ARTICLE VI CWC & VA
<p>PARA. 1(A): Transfer prohibition for chemical weapons</p> <p>PARA. 1(D): Prohibition on assisting in proliferation activities such as chemical weapons development, production or transfer</p>	<p>PARA. 3: Transfer rules for Schedule 1 chemicals → VA PART VI</p> <p>PARA. 4: Transfer rules for Schedule 2 chemicals → VA PART VII</p> <p>PARA. 5: Transfer rules for Schedule 3 chemicals → VA PART VIII</p> <p>PARA. 7: Initial declaration duty regarding transfers of Schedule 2 & 3 chemicals → VA PARTS VII AND VIII</p> <p>PARA. 8: Annual declaration duty regarding transfers of Schedule 1-3 chemicals → VA PARTS VI-VIII</p>

72. See *infra* Part V.B.

73. According to CWC art. XVII, the Verification Annex [hereinafter VA] must be considered an “integral part” of the Convention. Its provisions thus have a legal effect identical to that of the CWC’s twenty-four articles. See Zedalis, *supra* note 10, at 145.

The focus of the inquiry first lies on the two transfer rules established under Article I.1. Subsequently, the transfer rules contained in Article VI are examined, in conjunction with the relevant parts of the VA. Questions regarding the implementation of the CWC transfer rules are further addressed below.⁷⁴

A. Transfer Rules in Article I.1

In accordance with the two transfer rules contained in Article I.1, this sub-section has a twofold division. The initial discussion is dedicated to the *transfer* prohibition anchored in sub-paragraph (a). Then, the *assistance* prohibition mentioned in Sub-paragraph (d) is elaborated.

1. Article I.1(a)

Article I.1(a) *inter alia* stipulates that “each State Party” undertake “never under any circumstances” to “*transfer*, directly or indirectly,” “chemical weapons” to “anyone.”⁷⁵ The textual analysis of this clause indicates, first of all, that the CWC establishes a general *transfer prohibition* for chemical weapons.

The term “transfer” is not defined in the CWC. On the basis of Black’s Law Dictionary, it must however be assumed that its meaning is broader than that of the term “export.” While stating that *export* means “[t]o transport merchandise or goods from one country to another in the course of trade,”⁷⁶ the dictionary defines *transfer* as

[t]he sale and *every other method*, direct or indirect, of disposing of or parting with *property* or with an interest therein, or with the *possession* thereof . . . absolutely or conditionally, voluntarily or involuntarily, by or without judicial proceedings, as a conveyance, sale payment, pledge, mortgage, lien, encumbrance, gift, security or otherwise.⁷⁷

Based on these two definitions, the following three differences between the two terms can be identified (see also *infra*, Table 2):

74. See *infra* Part V.

75. The entire provision reads: “Each State Party to this Convention undertakes never under any circumstances: (a) To develop, produce, otherwise acquire, stockpile or retain chemical weapons, or *transfer*, directly or indirectly, chemical weapons to anyone.” CWC, *supra* note 2, art. I.1.(a), at 32 I.L.M. 804 (Emphasis added).

76. BLACK’S LAW DICTIONARY 579 (6th ed. 1990).

77. *Id.* at 1497. Emphasis added.

- (a) While an export needs to be a *transboundary* movement, a transfer can be *any* movement, either domestic or transboundary;
- (b) While an export represents a commercial transaction of property from the previous to the new owner, a transfer includes *any* kind of transaction of property *or possession* between *any parties*.
- (c) While an export concerns only transactions of tangible goods, a transfer covers transactions of tangible *and* intangible goods.

TABLE 2
DIFFERENCE BETWEEN EXPORT AND TRANSFER

<i>Dimension \ Term</i>	<i>Export</i>	<i>Transfer</i>
GEOGRAPHICAL	Transboundary movement	Any movement
SUBSTANTIVE	Commercial transaction of property	Any kind of transaction of property <i>or</i> possession
MATERIAL	Tangible goods	Tangible <i>and</i> intangible goods

That Article I.1(a) uses the term “transfer” rather than “export” is not accidental.⁷⁸ The wording of the provision indeed shows that the drafters intended to subject the broadest possible range of activities, actors and goods to the prohibition. This is underscored by the terms “directly or indirectly” and “to anyone.” The former term is used to express that all possible ways of transferring chemical weapons are prohibited (including, for instance, a transfer via an intermediary).⁷⁹ The latter term indicates that the provision prohibits the transfer of chemical weapons not only to countries, but also to organizations, corporations, and natural persons.⁸⁰ In light of this analysis, interpretations that con-

78. The French text of the CWC uses the term “transférer.”

79. See KRUTZSCH & TRAPP, *supra* note 10, at 13–14. It is important to note in this context that brokerage is not covered by CWC art. I.1(a), but by the prohibition “to assist” in CWC art. I.1(d). CWC, *supra* note 2, art. I.1.(d), 32 I.L.M. at 804. Regarding brokerage, see *infra* Part IV.A.2.

80. See KRUTZSCH & TRAPP, *supra* note 10, at 13–14.

sider the term “transfer” as it is used in the CWC to be synonymous to the term “export” must be rejected.⁸¹

2. Article I.1(d)

Article I.1(d) expands the scope of the general transfer prohibition contained in Article I.1(a) to any material, financial resource, or intangible good suitable for chemical weapon purposes.⁸² It does so by requiring that “[e]ach State Party . . . undertakes never under any circumstances . . . to assist . . . in any way anyone to engage in any activity prohibited” under the CWC.⁸³

The term “assistance” is not defined in the CWC. However, the wording of Article I.1(d) suggests that the notion be interpreted broadly, covering *any* kind of assistance given to *anyone* in the realm of prohibited activities. Prohibited activities include, as has been shown, the development, production, acquisition, stockpiling and transfer of chemical weapons.⁸⁴ Taking the vastness of the resulting *champ d’application* of Article I.1(d) into account, it can be assumed that the CWC outlaws any type of *domestic* and *transboundary* assistance in prohibited activities. This interpretation leads to the conclusion that prohibited activities under Article I.1(d) include the transboundary movement of *any* material, financial resource, or intangible good that—provided it is apt for such purposes—is intended to assist in the development, production, acquisition, stockpiling or transfer of chemical weapons.

Article I.1(d) thus represents a kind of *catch-all* clause that expands the CWC’s nonproliferation obligation from the core prohibition of activities with chemical weapons to *any* activity that is *apt for and aimed*

81. Such misleading interpretations of the term “transfer” can *inter alia* be found in *id.* at 418 n. 4; Marauhn, *supra* note 10, at 490; Zedalis, *supra* note 10, at 146–47. That the Convention differentiates between transfer and export is further supported by the specific use of the term “export” in VA Part VII, A.1, and VA Part VIII, A.1. See *infra* Part IV.B.2.

82. Marauhn mistakenly attributes the expansion of the CWC’s transfer prohibition to CWC art.I.1(c). See Marauhn, *supra* note 10, at 493. It is however important to note that this provision does *not* concern the question of transfers or transboundary assistance.

83. The entire provision reads: “Each State Party to this Convention undertakes never under any circumstances: . . . (d) To assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention.” CWC, *supra* note 2, art. I.1(a), 32 I.L.M. at 804 (Emphasis added).

84. In this context, it is important to note that the prohibited *development* of chemical weapons pertains to “the preparation of the production of chemical weapons . . .” KRUTZSCH & TRAPP, *supra* note 10, at 13. As such, it is to be distinguished from research for purposes not prohibited under the CWC.

at chemical proliferation.⁸⁵ Such activities may include but are not limited to:

- any kind of brokerage activity;
- any financial transaction;
- the offering of any transportation service;
- any type of military research cooperation;
- any concession of rights; and
- any movement of personnel, technical data or machines/chemical manufacturing equipment.

An expansion of the CWC's material scope occurs simultaneously with the expansion of prohibited activities. As has already been indicated, the material scope of the CWC thus cannot be defined as including merely those materials that may qualify as chemical weapons. Rather, it must be understood as incorporating *any* materials, financial resources, or intangible goods apt for chemical weapon purposes.⁸⁶

B. Transfer Rules in Article VI and the VA

Like Article I, Article VI and the VA contain transfer rules furthering efforts toward chemical nonproliferation. However, the latter differ from the former in three respects. First, it was already indicated that the transfer rules in Article I.1 are *immediately* directed against the proliferation of chemical weapons, while the transfer rules in Article VI and the VA are *auxiliary*.⁸⁷ Unlike Article I, Article VI deals with activities *not* prohibited under the CWC. Insofar as the clause establishes transfer rules, it does so without the primary intent to prohibit chemical weapon transfers. Rather, its transfer rules aim to ensure that the materials whose transfer is permitted under the CWC will not be abused for chemical weapon purposes.

The second difference lies in the materials subject to the two provisions. The transfer rules in Article I cover TCPs, munitions, devices, and equipment, as well as any materials, financial resources, or intangible goods with a potential to be used for chemical weapon purposes. The transfer rules in Article VI, on the other hand, refer only to "toxic

85. Accordingly, we argue further below that aptitude *and* intent/negligence should represent the criteria on the basis of which national authorities determine whether the *assistance* prohibition anchored in CWC art. I.1(d) has been violated, and whether penal or administrative sanctions should be imposed as consequence of a particular transfer. *See infra* Part V.C.

86. *See supra* Part II.C.

87. *See supra* Part III and Table I.

chemicals and their precursors.” Materials other than TCPs are therefore excluded from the scope of these provisions.

Third, the transfer rules in Article VI and the corresponding parts of the VA differ from those in Article I in that not all of them cover both the transnational *and* domestic dimension of transfer. As will be shown below, the transfer rules regarding Schedules 2 and 3 only concern transboundary transfers. In two specific cases, their scope is even more restricted, pertaining only to exports.⁸⁸

Article VI is structured in eleven paragraphs. Five of its paragraphs (Paragraphs 3–5, 7 and 8) refer to transfer rules. Paragraphs 3, 4 and 5 refer to transfer rules in the VA that *prohibit* or *restrict* the legitimate transfer of TCPs.⁸⁹ For this purpose, the three paragraphs distinguish between three categories of TCPs, namely Schedule 1, 2, and 3 chemicals. However, only Paragraph 3 indicates that the provisions in the VA establish transfer rules. The clause *inter alia* stipulates that “[e]ach State Party shall subject chemicals listed in Schedule 1 to the prohibitions on . . . transfer . . . as specified in Part VI of the Verification Annex.”⁹⁰ Paragraphs 4 and 5, dealing with Schedule 2 and 3 chemicals, refer to Parts VII and VIII of the VA without explicit mention of transfer prohibitions or restrictions. This lacuna surprises, but is of no importance.

Paragraphs 7 and 8 of Article VI establish an initial and annual *declaration* obligation for signatory countries, respectively. Though neither the word “transfer” nor the word “export” are explicitly mentioned in these paragraphs, analysis of the corresponding VA parts shows that the declaration obligations pertain to both transfer and export activities.

The following analysis focuses on the contents of the transfer rules listed in the VA that elaborate on Article VI. For this purpose, Table 3 gives an initial summary overview. Then, the VA transfer rules are discussed individually and in greater detail.

88. See VA pt. VII.A.1, 32 I.L.M. at 853; VA pt. VIII.A.1, 32 I.L.M. at 853. Regarding the difference between “transfer” and “export”, see *supra* Part IV.A.1.

89. Regarding the paradox of imposing transfer prohibitions on transfers “for purposes not prohibited,” see *infra* Part V.A.2.

90. CWC, *supra* note 2, art. VI.3, 32 I.L.M. at 810.

TABLE 3
VA TRANSFER RULES BASED ON ARTICLE VI CWC

	<i>Schedule 1 Chemicals</i>	<i>Schedule 2 Chemicals</i>	<i>Schedule 3 Chemicals</i>
PERMITTED PURPOSES	Only research, medical, pharmaceutical or protective purposes	Any purpose not prohibited under the CWC (Article II.9)	Any purpose not prohibited under the CWC (Article II.9)
TRANSFER TO NON-STATE PARTY	Prohibited	- Before April 29, 2000: only if end-use certificate is provided - After April 29, 2000: prohibited	- Only if end-use certificate is provided - Possible prohibition after April 29, 2002
TRANSFER TO STATE PARTY	Prohibited, unless: - for allowed purposes; - type/quantity consistent with indicated purposes; - aggregate amount of Schedule 1 chemicals in country of destination less than or equal to 1 metric ton	(Permitted for allowed purposes)	(Permitted for allowed purposes)
RE-TRANSFER	All recipient states (i.e. states parties) must not be allowed to re-transfer	Non-states parties must not be allowed to re-transfer	Non-states parties must not be allowed to re-transfer

TABLE 3 (CONTINUED)

REPORTING REQUIREMENTS FOR STATE PARTIES	Both countries involved in the transfer must report to the Technical Secretariat in advance	(No reporting requirement)	(No reporting requirement)
DECLARATION REQUIREMENTS FOR STATE PARTIES	Detailed annual declarations on each <i>transferred</i> Schedule 1 chemical, its destination and its purpose must be submitted to the Technical Secretariat	Detailed annual declarations on each <i>exported</i> Schedule 2 chemical, its destination and its purpose must be submitted to the Technical Secretariat	Detailed annual declarations on each <i>exported</i> Schedule 3 chemical, its destination and its purpose must be submitted to the Technical Secretariat

1. Part VI of the VA

Part VI of the VA contains the rules applicable to the transfer of Schedule 1 chemicals. The relevant provisions are listed in Sections A (General Provisions) and B (Transfers) of Part VI, and establish the following obligations:

- (I) Transfers of Schedule 1 chemicals to non-states parties must be prohibited.⁹¹
- (II) Transfers of Schedule 1 chemicals to states parties must in general be prohibited, unless:
 - the chemicals to be transferred are used for research, medical, pharmaceutical or protective purposes;
 - the types and quantities of the chemicals to be transferred are strictly limited to those which can be justified for such purposes;⁹² and
 - the annual aggregate amount of such chemicals already acquired and/or used for such purposes in the state party of destination is equal to or less than one metric ton.⁹³

91. CWC, *supra* note 2, VA pt. VI.A.1, 32 I.L.M. at 853.

92. This requirement represents a restatement of the consistency criterion listed in CWC art. I.1(a). CWC, *supra* note 2, art. I.1(a), 32 I.L.M. at 84; *supra* Part II.A.3.

93. CWC, *supra* note 2, VA pt. VI.B.3, 32 I.L.M. at 854. It is in this context important to note that B.3 only applies to transboundary transfers. This is indicated by the words "outside

(III) The re-transfer of Schedule 1 chemicals must not be allowed to the state party of destination.⁹⁴

(IV) Transboundary transfers of Schedule 1 chemicals must be reported to the CWC Technical Secretariat at least 30 days in advance by both countries involved in the transfer;⁹⁵

(V) Each state party has to make a detailed annual declaration regarding transboundary (and domestic) transfers of Schedule 1 chemicals. This declaration must include:

- the chemical name, structural formula and Chemical Abstracts Service registry number (if assigned) of each transferred Schedule 1 chemical; and
- the quantity, recipient and purpose of each transfer.⁹⁶

2. Part VII of the VA

Part VII of the VA specifies the transfer rules applicable to Schedule 2 chemicals. The relevant provisions, listed in subsections A (Declarations) and C (Transfers), require the following:

(I) Three years after the entry into force of the CWC (that is, on 29 April 2000), the transfer of Schedule 2 chemicals to non-states parties must be prohibited;⁹⁷

(II) During the three-year *interim* period, transfers of Schedule 2 chemicals to non-states parties must be accompanied by end-use certificates declaring

- that the transferred chemicals will not be used for purposes contrary to the CWC;
- that the transferred chemicals will not be re-transferred;
- the type, quantity, end-use, and recipient of the transferred chemicals;⁹⁸

its territory.” The conditions applicable to transboundary transfers are however identical with those applicable to domestic transfers, due to the reference in B.3 to A.2. A.2 only applies to domestic transfers of Schedule 1 chemicals. *Id.* at 853–54.

94. CWC, *supra* note 2, VA pt. VI.B.4, 32 I.L.M. at 854.

95. CWC, *supra* note 2, VA pt. VI.B.5, 32 I.L.M. at 854.

96. CWC, *supra* note 2, VA pt. VI.B.5–6, 32 I.L.M. at 854 (describing how the declaration must be submitted to the Technical Secretariat).

97. CWC, *supra* note 2, VA pt. VII.C.31, 32 I.L.M. at 859.

98. CWC, *supra* note 2, VA pt. VII.C.32, 32 I.L.M. at 859. Regarding end-use certificates, see also OPCW Docs. C-III/Dec.6 and C-III/Dec.7 (Nov. 17, 1998). According to these

- (III) Detailed annual declarations concerning Schedule 2 chemicals must contain information on the quantity and recipient of each *export* of such chemicals.⁹⁹

3. Part VIII of the VA

Finally, Part VIII of the VA defines the CWC transfer rules applicable to Schedule 3 chemicals. The relevant provisions, listed in Sections A (Declarations) and C (Transfers) of Part VIII, establish the following obligations:

(I) Transfers of a Schedule 3 chemical to non-states parties must be accompanied by a certificate attesting:

- that the chemical will not be used for purposes contrary to the Convention;
- that the chemical will not be re-transferred;
- the type, quantity, end-use(s), and recipient of the transferred chemical;¹⁰⁰

(II) Detailed annual declarations concerning Schedule 3 chemicals must contain information on the quantity and recipient of each *export* of such chemicals.¹⁰¹

decisions, national transfer control authorities have to require "end-use certificates issued by the competent government authority" in the recipient country. A certificate issued by the importer or end-user does not satisfy the requirement of VA pt. VII.C.32. In cases in which importer and end-user are not identical, end-use certificates must contain the name(s) and address(es) of the end-user(s).

99. CWC, *supra* note 2, VA pt. VII.A.1, 32 I.L.M. at 856. It is interesting to note that this provision refers to "export" rather than "transfer." Accordingly, it can be assumed that merely the transboundary movement of Schedule 2 chemicals from an exporter in country A to an importer in country B must be reported. The limitation of the declaration obligation to exports is regrettable, seems however justified on the basis of practicability considerations. Regarding the difference between transfer and export, see *supra* Part IV.A.1.

100. CWC, *supra* note 2, VA pt. VIII.C.26–27, 32 I.L.M. at 862. According to C.27, the Conference of the signatory states to the CWC shall, five years after the entry into force of the Convention, consider whether transfers of Schedule 3 chemicals to non-states shall also be prohibited.

101. CWC, *supra* note 2, VA pt. VIII.A.1, 32 I.L.M. at 860. As in the case of Schedule 2 chemicals, the Convention applies here the term "export" instead of the term "transfer," thereby indicating that the declaration obligation concerns only transboundary movements of Schedule 3 chemicals from an exporter in country A to an importer in country B. See *supra* note 99.

4. Assessment

The listing of the VA transfer rules based on Article VI allows for the following three observations. First, it is interesting to note that some transfer rules categorically prohibit the transfer of Schedule 1 and 2 chemicals to non-states parties.¹⁰² This prohibition may at first surprise, given the fact that Article VI CWC deals with “activities *not* prohibited” under the CWC. From a textual viewpoint, the transfer prohibitions concerning Schedule 1 and 2 chemicals (in the latter case entering into force on 29 April 2000) indeed represent a paradox, especially in light of Article VI.1, which grants each state party the right to transfer chemicals for legitimate purposes. From a contextual viewpoint, however, the prohibitions are justifiable for two reasons. First, the primary goal of the prohibitions is not so much the fostering of chemical nonproliferation than the creation of an incentive for non-member states to join the CWC.¹⁰³ Second, Schedule 1 and 2 chemicals pose a great risk to the purposes of the Convention.¹⁰⁴ Given the fact that non-states parties are not bound by the CWC obligations, the danger that Schedule 1 and 2 chemicals transferred to these countries will be abused for chemical weapon purposes is high enough to justify a transfer prohibition.

A second important observation concerns the limitation of legitimate purposes in connection with transfers of Schedule 1 chemicals to states parties. According to Paragraph B.3 of Part VI of the VA, Schedule 1 chemicals may be transferred to states parties only if they are intended for research, medical, pharmaceutical, or protective purposes.¹⁰⁵ The enumeration of allowed purposes, in itself exhaustive, prohibits the transfer of Schedule 1 chemicals for other “purposes not prohibited” under Article II.9, such as industrial or law enforcement purposes, or

102. See CWC, *supra* note 2, VA pts. VI.A.1, VII.C.31, 32 I.L.M. at 853, 859.

103. Especially the U.S. delegation to the CWC negotiations lobbied for the establishment of transfer prohibitions against non-states parties. See *Measures to Ensure Universality*, Conference on Disarmament, Ad Hoc Committee on Chemical Weapons, U.N. Doc. CD/CW/WP.357 (1991). That the transfer prohibitions are intended to stimulate universal adherence to the CWC is underscored by a Pentagon Statement to the U.S. Congress in May 1994. In this statement, the Pentagon emphasized that “three quarters of the countries believed to have chemical weapons programmes have signed the [CWC]. The remaining quarter have isolated themselves. Should they remain outside the Convention after it enters into force, they will be subject to the trade restrictions on specific chemicals under the CWC.” 25 CHEM. & BIOLOGICAL WEAPONS CONVENTIONS BULL. 15 (1994).

104. As clarified in the Convention’s Annex on Chemicals, Schedule 1 chemicals pose a *high* risk, while Schedule 2 chemicals pose a *significant* risk. CWC, *supra* note 2, Annex on Chemicals pts. A.1(b), A.2.(a), 32 I.L.M. at 821–22. For an insightful discussion of the characteristics of the various scheduled chemicals, see Matthews, *supra* note 32, at 1–2.

105. The same restriction applies to domestic transfers. See CWC, *supra* note 2, VA pt. VI.A.2(a), 32 I.L.M. at 854.

military purposes not connected with the use of chemical weapons.¹⁰⁶ In doing so, it again raises questions about the grounds of this restriction.

In contrast to the just mentioned transfer prohibitions concerning non-states parties, the prohibition here applies to states parties. Thus, it cannot be directed at the creation of an incentive to join the CWC. It appears that the promotion of chemical nonproliferation is the underlying rationale for the limitation of the "purposes not prohibited" clause in cases of Schedule 1 transfers to states parties. As clarified in the CWC Annex on Chemicals, Schedule 1 chemicals in fact have "little or no use for purposes not prohibited under this Convention."¹⁰⁷ Given the high risk Schedule 1 chemicals pose to the purposes of the CWC, the limitation of legitimate purposes for transfers to other states parties is appropriate.

The third observation focuses on the question of re-transfer.¹⁰⁸ It has been indicated that all scheduled chemicals are subject to re-transfer prohibitions. Interestingly, however, the scope of the three re-transfer prohibitions contained in the VA is not identical. In fact, the states to be subject to such prohibitions differ depending on the chemical to be transferred. In case of Schedule 1 transfers, only a state party can be subject to the re-transfer prohibition.¹⁰⁹ On the other hand, only a non-state party can be subject to the re-transfer prohibition required in connection with Schedule 2 and 3 transfers.¹¹⁰ In other words, states parties transferring Schedule 2 and 3 chemicals are required to subject to re-transfer prohibitions only those transfers intended for non-states parties.

C. Summary

In sum, Section IV has shown that the CWC contains a number of transfer rules that require states parties to *prohibit, restrict* or *declare* the transfer or export of materials subject to the CWC's material scope. Depending on the materials concerned, three categories of transfer rules can be distinguished. Article I.1(a) comprises the first category, applicable only to chemical weapons as defined in Article II.1. Article I.1(d) incorporates the second category of transfer rules. These rules are applicable not only to materials representing chemical weapons, but also to materials with a mere *potential* to be used for chemical weapon purposes

106. CWC, *supra* note 2, art. II.9, 32 I.L.M. at 805-06.

107. CWC, *supra* note 2, Annex on Chemicals pt. A.1(c), 32 I.L.M. at 821-22.

108. For further discussion, see Zedalis, *supra* note 10, at 155-62.

109. See CWC, *supra* note 2, VA pt. VI.A.1, 32 I.L.M. at 853-54 (in connection with VA pt. VI.B.4.).

110. See CWC, *supra* note 2, VA pts. VII.C.32, VIII.C.26, 32 I.L.M. at 859, 862.

(therefore including *any* chemicals, munitions, devices, or equipment, and *any* materials, manufacturing equipment, financial resources and intangible goods suitable for chemical weapon purposes). Finally, Article VI and the corresponding parts of the VA embody the third category of transfer rules, applicable only to TCPs.

V. IMPLEMENTATION OF CWC TRANSFER RULES

With the goods falling under the CWC's material scope and the rules governing their transfer now identified, it remains to be clarified *whether* and by what *means* these rules need to be implemented on the national level. This section examines these two questions. The question regarding national implementation is addressed in sub-section (A). Sub-sections (B) and (C), which deal with possible means of national implementation, focus on export controls and sanctions, respectively.

A. National Implementation

The addressees of the transfer rules are the states parties of the CWC. In fact, Articles I.1 and VI, as well as the relevant parts of the VA, are exclusively directed at "State Parties."¹¹¹ Accordingly, only the activities of governmental branches or agencies of CWC states parties are subject to the CWC transfer rules.¹¹² The activities of private entities (*i.e.*, natural and legal persons) are not covered.

In order to extend the reach of the CWC to activities of private entities, the CWC requires states parties—by means of Articles VII.1 and VI.2—to implement all CWC obligations in national law.¹¹³

111. See CWC, *supra* note 2, arts. I.1, VI, 32 I.L.M. at 804, 853–62.

112. See Zedalis, *supra* note 10, at 146.

113. On the basis of these implementation obligations, some commentators argue that the CWC is of a non-self-executing character. See, *e.g.*, KRUTZSCH & TRAPP, *supra* note 10, at 109. This argument is problematic. In fact, the existence in an international treaty of an obligation to implement the treaty provisions nationally does not exclude that certain provisions of the treaty may be considered self-executing. See, *e.g.*, International Covenant on Civil and Political Rights, Dec. 16, 1966, 6 I.L.M. 368 [hereinafter CCPR]. Although CCPR art. 2.2 asks signatory states to implement the CCPR provisions nationally, provisions such as CCPR arts. 6 or 7 keep their self-executing character. Therefore, whether an international provision is self-executing does not depend on whether the international provision has to be implemented or not in national law. It depends solely on whether its contents is intended to create rights (or duties) for individuals, and whether its wording is sufficiently precise to serve as legal basis for the definition of such rights (or duties). Accordingly, it is not on grounds of CWC arts. VII.1 and VI.2 that we can conclude whether the CWC does or not contain self-executing provisions. Bothe supports this viewpoint, arguing that CWC art. I.1 *per se* is self-executing, while CWC art. VI.2 (and thus CWC art. VII.1) is "a classical example of a non-self-executing provision." Michael Bothe, *National Implementation of the CWC: Some Legal*

Accordingly, states parties are required to establish national legislation implementing the CWC transfer rules. Paragraphs 1 and 2 analyze the contents of Articles VII.1 and VI.2, respectively, while paragraph 3 assesses the findings of this analysis.

1. Article VII.1

Article VII.1 states:

Each State Party shall, in accordance with its constitutional processes, adopt the necessary measures to implement its obligations under this Convention. In particular, it shall:

- (a) Prohibit natural and legal persons anywhere on its territory or in any other place under its jurisdiction as recognized by international law from undertaking any activity *prohibited* to a State Party under this Convention, including enacting penal legislation with respect to such activity;
- (b) Not permit in any place under its control any activity *prohibited* to a State Party under this Convention; and
- (c) Extend its penal legislation enacted under subparagraph (a) to any activity *prohibited* to a State Party under this Convention undertaken anywhere by natural persons, possessing its nationality, in conformity with international law.¹¹⁴

Article VII.1 is structured in two parts, namely a *chapeau* and three sub-paragraphs. According to its *chapeau*, Article VII.1 primarily requires a state party to adopt the measures it considers “necessary” for the implementation of “its obligations” under the CWC.¹¹⁵ The phrase “its obligations” covers not only all CWC transfer rules, but also all other obligations anchored in the CWC. Therefore, it can be held that Article VII.1 represents the “general implementation obligation” of the Convention.¹¹⁶

Considerations, in THE NEW CHEMICAL WEAPONS CONVENTION—IMPLEMENTATION AND PROSPECTS 543, 544 (Michael Bothe et al. eds., 1998).

114. CWC, *supra* note 2, art. VII.1, 32 I.L.M. at 810 (emphasis added).

115. CWC, *supra* note 2, art. VII.1, 32 I.L.M. at 810.

116. The term “general implementation obligation” is borrowed from KRUTZSCH & TRAPP, *supra* note 10, at 109.

The three sub-paragraphs concern the implementation of national law governing *prohibited* activities.¹¹⁷ With respect to the CWC transfer rules, the particular obligations merely apply to those transfer rules that establish prohibitions. These rules include:

- Article I.1(a) and (d) (prohibition of chemical weapon transfers, and of assistance in chemical weapon activities);
- Part VI VA, A.1, A.2 and B.4 (prohibitions applying to (re)transfers of Schedule 1 chemicals);
- Part VII VA, C. 31 (prohibition of transfers to non-states parties of Schedule 2 chemicals);
- Part VII VA, C.32(b) (prohibition for non-states parties to re-transfer Schedule 2 chemicals); and
- Part VIII VA, C.26(b) (prohibition for non-states parties to re-transfer Schedule 3 chemicals).

As is expressed by the words “in particular,” the obligations listed in the sub-paragraphs represent a *minimum* standard.¹¹⁸ In principle, a state party is free to implement a higher standard, provided that three conditions are fulfilled.¹¹⁹ First, any additional measures must appear necessary.¹²⁰ Second, they must be in conformity with international law.¹²¹ Third, they ought not to conflict with other CWC provisions.¹²²

According to the minimum standard established in the three Sub-paragraphs of Article VII.1, a state party is obliged

- (a) to enact penal legislation forbidding all natural and legal persons anywhere on its territory or under its jurisdiction to undertake prohibited activities;
- (b) to implement (penal) legislation forbidding natural and legal persons of its own or a foreign nationality to undertake prohibited activities in any place under its *de facto* control; and

117. See emphasis in the text of the provision, *supra* note 114; see also Ronzitti, *supra* note 10, at 913.

118. Cf. Marauhn, *supra* note 10, at 493.

119. Marauhn mentions as a further condition the subjection of additional measures to the territoriality principle. *Id.*, *supra* note 10, at 494. However, the Convention does not establish such a requirement.

120. See CWC, *supra* note 2, arts. VI.2, VII.1., 32 I.L.M. at 810.

121. See CWC, *supra* note 2, arts. VII.1(a), (c), 32 I.L.M. at 810.

122. National implementation measures primarily risk conflicting with CWC art. XI.1. Regarding the contents of this provision, see *infra* Part V.B.2.b.

- (c) to extend its penal legislation enacted under (a) to all natural persons abroad who carry its nationality.¹²³

As follows from this analysis, a state party has to provide at least for penal legislation when implementing the CWC transfer rules pertaining to prohibitions. The precise contents of the obligation to enact penal legislation is discussed in sub-section (C), which deals specifically with the question of sanctions.

2. Article VI.2

Article VI.2 reads:

Each State Party shall adopt the necessary measures to ensure that toxic chemicals and their precursors are only . . . transferred . . . within its territory or in any other place under its jurisdiction or control for purposes not prohibited under this Convention. To this end, . . . each State Party shall subject toxic chemicals and their precursors listed in Schedules 1, 2 and 3 of the Annex on Chemicals . . . to verification measures as provided in the Verification Annex.¹²⁴

As is indicated by the phrase “shall adopt the necessary measures to ensure that *toxic chemicals and their precursors* are only . . . transferred . . . for purposes not prohibited,” Article VI.2 specifically addresses the implementation into national law of the CWC transfer rules concerning TCPs. The clause can thus be qualified as the CWC’s “specific implementation provision.”¹²⁵

Unlike Article VII.1, Article VI.2 does not establish particular implementation obligations. It simply reaffirms that states parties have to implement the transfer rules concerning TCPs in accordance with the VA.¹²⁶

3. Assessment

As shown, the CWC contains two clauses, Articles VII.1 and VI.2, that require states parties to implement the transfer rules and all other CWC obligations into national legislation. Regarding their core contents, the two provisions are identical in that they ask states parties to adopt the measures necessary to fulfill all CWC obligations. The main difference

123. For a discussion in more detail, see *infra* Part V.C.

124. CWC, *supra* note 2, art. VI.2, 32 I.L.M. at 810.

125. This term is again borrowed from KRUTZSCH & TRAPP, *supra* note 10, at 109 n. 3.

126. See CWC, *supra* note 2, art. VI.2, 32 I.L.M. at 810.

lies in the fact that Article VII.1 establishes a minimum standard concerning the implementation into national law of those transfer rules pertaining to prohibitions. This standard concerns the enactment of penal sanctions and is discussed further below.¹²⁷

It is self-evident that the implementation into national law of the transfer rules pertaining to TCPs needs to occur in accordance with the requirements listed in the VA. Article VI.2, which establishes this obvious directive, can therefore be regarded as legally redundant. The clause merely helps to clarify that the CWC provisions concerning TCP transfer prohibitions must be implemented into national law in accordance with both the minimum standard of Article VII.1(a)–(c) *and* the requirements of the VA.

B. Export Controls

The previous discussion has shown that Articles VI.2 and VII.1 deal with the national implementation of the CWC obligations in general and the CWC transfer rules in particular. The question now is whether the two provisions require states parties to control the export of materials falling under the CWC's material scope.

Surprisingly, neither Article VI.2 nor VII.1 explicitly establish an export control obligation. This has induced some commentators to observe that the decision about how to implement the CWC is entirely left to the states parties.¹²⁸ This conclusion is only partially correct. Although Articles VI.2 and VII.1 grant states parties considerable leeway in choosing appropriate national implementation measures, they nevertheless require the enactment of precisely those measures that are "necessary" to fulfill the CWC's obligations.

Krutzsch/Trapp confirm that the freedom of states parties in the realm of national implementation is not absolute. They observe:

While the specifics of the measures required are at the discretion of the State Party, the words 'necessary measures' indicate that a State Party will have lived up to this obligation only, when its national measures ensure the implementation of the rather broad and complex field of diverse obligations contained in all parts of the Convention¹²⁹

127. See *infra* Part V.C.

128. See, e.g., Stock & De Geer, *supra* note 10, at 1; Kurzidem et al., *The National Authority: Some Important Issues to Be Addressed*, CHEMICAL WEAPONS CONVENTION IMPLEMENTATION PAPER NO. 10, at 15 (last modified Sept. 16, 1997) <<http://www.sipri.se/cbw/research/ssf-cwc-paper10.html>> (conclusions).

129. KRUTZSCH & TRAPP, *supra* note 10, at 109.

Correspondingly, it remains to be seen what national measures are “necessary” for the implementation of the CWC transfer rules.

The CWC does not define the term “necessary measures.” The only indication as to the contents of the notion can be found in Sub-paragraphs (a) and (c) of Article VII.1, which require states parties to enact specific penal legislation. Thus, the question arises of whether the CWC requires the enactment of penal legislation as the sole national implementation measure.

Obviously, this is not the case. The enactment of penal legislation alone would represent a measure inadequate to fulfill the CWC transfer rules for two reasons. First, the transfer rules—reflecting the central nonproliferation obligation of the CWC—primarily aim at the *prevention* of chemical weapon activities. Penal law, on the other hand, develops its main legal impact only *ex post*, that is, when prevention no longer is possible. Second, certain CWC transfer rules ask states parties to collect aggregate national data on transfers and exports of scheduled chemicals. It is impossible to imagine how this requirement can be fulfilled on the mere basis of penal law. On the other hand, there is little doubt that *administrative export control law* represents a type of law quite appropriate both for the effective prevention of possible violations of CWC transfer rules as well as the collection of national data.¹³⁰

Accordingly, the CWC—if not explicitly, at least *implicitly* by means of the term “necessary measures”—requires states parties to enact administrative export control law.¹³¹ As a consequence, national export controls are “integral” to the implementation of the CWC transfer rules.¹³² The enactment of penal law, on the other hand, must be understood as a measure reinforcing national export controls. It, in itself, would represent an insufficient means to fulfill the CWC transfer rules.

1. Scope

In general, commentators have recognized the implicit export control requirement anchored in Articles VI.2 and VII.1. However, they have done so only in regard to the transfer rules applying to TCPs. For instance, concerning the transfer prohibitions applicable to Schedule 1 chemicals, Krutzsch/Trapp observe that “[t]he requirement not to transfer such chemicals . . . will require a *tight national control* of all export

130. Cf. Marauhn, *supra* note 10, at 494 (indicating that the obligations of Article VII may make it necessary that the states enact administrative measures).

131. The enacting of national export control law, it is commonly argued, is required by the *effet utile* rule according to which a treaty must be interpreted in a way that gives it practical relevance. See, e.g., Bothe, *supra* note 10, at 549.

132. See SMITHSON, *supra* note 10, at 26.

activities of such chemicals”¹³³ Similarly, Zedalis asserts that “no doubt exists that the CWC provides for controls over exports of *toxic chemicals and their precursors*”¹³⁴ Regarding the other goods that may qualify as chemical weapons (*i.e.*, munitions, devices, and equipment), no reference to an implicit export control obligation could be found in the scholarly literature.

This lack of reference, however, cannot mean that the CWC’s implicit export control requirement does not apply to munitions, devices, or equipment. As previously shown, Article VII.1 asks states parties to take the necessary measures to implement into national law the prohibition of chemical weapon transfers anchored in Article I.1(a). Given the fact that various materials (*i.e.*, TCPs, munitions, devices, and equipment) may under specific circumstances qualify as chemical weapons, a proper implementation of Article I.1(a) requires each state party to control the export not only of TCPs, but also of munitions, devices, and equipment. In other words, if Article I.1(a) requires—as Zedalis and Pathe correctly observe¹³⁵—export controls for *all* TCPs (including the tens of thousands of unscheduled chemicals) due to the fact that all TCPs have a possible application as chemical weapons, it also and *a fortiori* requires export controls for *all* munitions, devices, and equipment. As much as states parties can ensure only through national export controls that TCPs are not used for chemical weapon purposes, only national export controls allow them to guarantee that munitions, devices and equipment have not been specifically designed for prohibited purposes.

Accordingly, two conclusions may be drawn. First, the implicit export control obligation in the CWC applies not only to TCPs, but also to munitions, devices, and equipment. Second, on the basis of Article I.1(d) in connection with Article VII.1, it is equally applicable in the realm of activities that may qualify as *assistance* to prohibited activities. Therefore, a state party to the CWC must provide for national export control legislation covering any type of dual-use material, financial resource, or intangible good that might be transferred for chemical weapon purposes.¹³⁶

133. KRUTZSCH & TRAPP, *supra* note 10, at 417 (emphasis added).

134. Zedalis, *supra* note 10, at 148 (emphasis added).

135. *Id.* at 152; Helmut Pathe, *Kriegswaffenkontrollrecht*, in HANDBUCH DES AUSSENWIRTSCHAFTSRECHT 745, 944 (Klaus Bieneck ed., 1998).

136. Traditionally, states were able to implement international export control obligations by means of export control lists. However, the material scope of the CWC is too vast to apply the listing technique alone. While the listing technique is adequate to deal with the scheduled chemicals, it is only by means of a *catch-all* clause that a state party is able to subject to its national export control legislation all the unscheduled chemicals as well as all the dual-use materials, financial resources and immaterial goods apt to serve chemical weapon purposes. Accordingly, it can be concluded that CWC art. VII.1 requires states parties to establish a *catch-all* clause. See CWC, *supra* note 2, arts. I.1(d), VII.1, 32 I.L.M. at 804, 810. Regarding

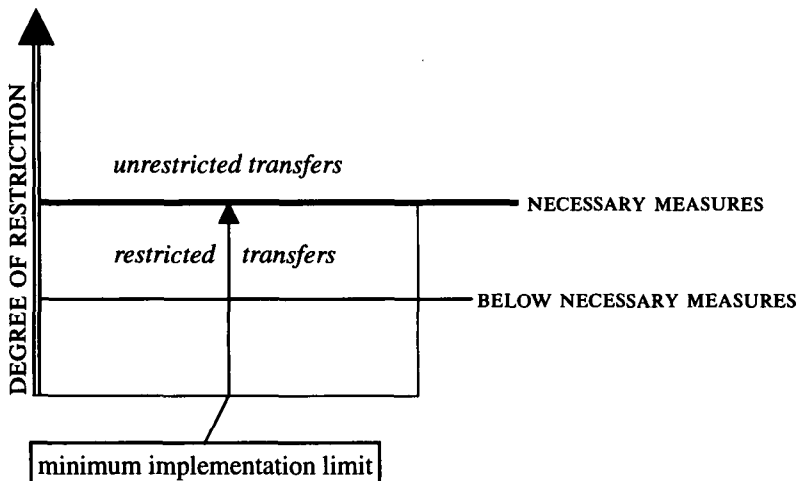
2. Limits

The previous discussion has shown that the CWC implicitly requires the establishment of national export controls for all goods falling under its material scope. This section focuses on the *limits* applicable to such national export control measures. More precisely, it examines whether and to what extent the CWC sets a minimum and a maximum implementation limit.

a. Minimum Implementation Limit

As shown above, Articles VI.2 and VII.1 require states parties to establish the national export control measures *necessary* to fulfill the CWC transfer rules. In so doing, the provisions set a *minimum implementation limit*. In fact, they oblige each state party to set up exactly that minimum level of national export control measures that is necessary to fulfill the transfer rules. This finding allows for two closely connected conclusions. First, one should note that for each state party, the minimum implementation limit always coincides with the level of export control measures it necessarily has to establish in order to fulfill the CWC transfer rules. Second, it needs to be stressed that states parties are therefore not allowed to go *below* the minimum implementation limit in their national implementation of the CWC transfer rules (see below, Figure 2).

FIGURE 2: MINIMUM IMPLEMENTATION LIMIT



the impact of this catch-all clause requirement on possible national implementation disparities, see *infra* Part V.B.2.a.

These conclusions, in turn, give rise to the question of whether the minimum implementation limit may vary from state party to state party, depending, for instance, on the level of economic development of the respective domestic chemical industries.

Theoretically, the absence in the CWC of a clearly formulated, universal export control obligation allows for national disparities in the realm of export control legislation. In practice, however, disparities may emerge only with regard to law enforcement. In the realm of export control legislation, national disparities are technically impossible, given the fact that the CWC transfer rules can be implemented correctly only by means of a *catch-all* clause that covers all goods apt to serve chemical weapon purposes.¹³⁷ Such a clause by definition rules out national disparities in export control legislation.

National disparities in law enforcement are possible, but should be avoided. The effective implementation of nonproliferation requires that national disparities in this area be minimal. Only with the highest degree of international harmonization can the circumvention of export prohibitions be prevented and chemical nonproliferation most effectively attained.

b. Maximum Implementation Limit

The Convention contains two provisions, Articles XI.1 and VI.11, that implicitly set a maximum implementation limit to national export control measures. Given the fact that the two provisions are nearly identical in their wording, the following analysis only bears on Article XI.1.¹³⁸

Article XI.1 states:

“The provisions of this Convention shall be implemented in a manner which avoids hampering the economic and technological development of States Parties, and international cooperation in the field of chemical activities for purposes not prohibited under this Convention”¹³⁹

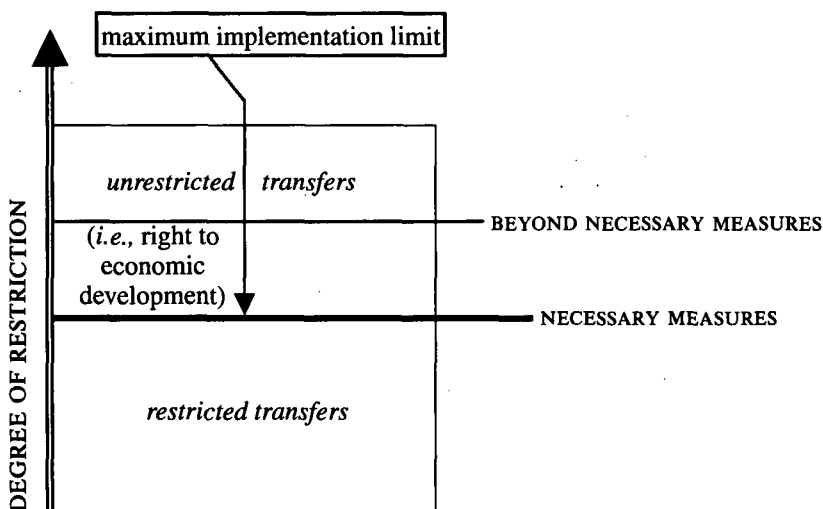
137. See *supra* note 136.

138. In light of CWC Article XI.1, Krutzsch & Trapp agree that Article VI.11 can be considered legally redundant. KRUTZSCH & TRAPP, *supra* note 10, at 106.

139. The provision gives an example of activities that may be considered legitimate international cooperation. Such activities may include “the international exchange of scientific and technical information and chemicals and equipment for the production, processing or use of chemicals for purposes not prohibited under this Convention.” CWC, *supra* note 2, art. XI.1, 32 I.L.M. at 818.

This requires states parties to implement the CWC (and, more particularly, its transfer rules) in a way that would not hamper the economic and technological development of other states parties.¹⁴⁰ In doing so, Article XI.1 grants each state party a *right to economic development*. Simultaneously, it prohibits any transfer restriction that would infringe on this right. Article XI.1 thus sets a *maximum implementation limit*, requiring states parties to refrain—though only in their commercial relations to other states parties—from national export control measures that would go beyond what is necessary to fulfill the Convention’s transfer rules (see *infra*, Figure 3).¹⁴¹

FIGURE 3: MAXIMUM IMPLEMENTATION LIMIT



Article XI.1 refrains from determining the maximum implementation in precise terms. More concrete guidelines regarding the scope of the maximum implementation limit can however be found in Article

140. A number of developing countries during the negotiations proposed to change the provision's wording from "shall be implemented in a manner which avoids hampering . . ." to "shall not hamper . . ." *Working Paper on art. 11, Economic and Technological Development*, Conference on Disarmament, Ad Hoc Committee on Chemical Weapons, U.N. Doc. CD/CW/WP.409 (1992), at 2 (Working paper submitted by Algeria, China, Egypt, India, Indonesia, Iran, Kenya, Mexico, Burma, Pakistan, Sri Lanka and Zaire). Although it is regrettable that the shorter and more precise wording was not adopted, it is safe to say that the meaning of the current version does not differ from that of the rejected one.

141. For a detailed discussion of CWC art. XI, see Natalino Ronzitti, *Economic and Technological Development and Trade in Chemicals*, in *THE NEW CHEMICAL WEAPONS CONVENTION—IMPLEMENTATION AND PROSPECTS* 533–42 (M. Bothe et al. eds., 1998).

XI.2, which defines the right to economic development in *negative* and *positive* terms.¹⁴²

The introductory sentence of Article XI.2 contains a *negative* definition of the right to economic development. Accordingly, the right to economic development is *not* absolute, but always “subject to the provisions of this Convention and without prejudice to the principles and applicable rules of international law.”¹⁴³ This, in turn, means that transfer restrictions established in accordance with the minimum implementation limit set in Articles VI.2 and VII.1, on the one hand, and international law,¹⁴⁴ on the other, prevail at any time over the right to economic development.¹⁴⁵

Sub-paragraphs (b)–(e) of Article XI.2 define the right to economic development in *positive* terms. According to these provisions, this right requires states parties:

- to facilitate “the fullest possible exchange of chemicals, equipment and scientific and technical information relating to the development and application of chemistry for purposes not prohibited under this Convention;”¹⁴⁶
- not to maintain “among themselves any restrictions, including those in any international agreements, incompatible with the obligations undertaken under this Convention, which would restrict or impede trade and the development and promotion of scientific and technological knowledge in the field of chemistry for . . . peaceful purposes;”¹⁴⁷
- not to establish or maintain “any measures other than those provided for, or permitted, under this Convention;”¹⁴⁸ and

142. CWC, *supra* note 2, art. XI.2, 32 I.L.M. at 818–19.

143. *Id.*; see also Ronzitti, *supra* note 141, at 536.

144. Permitted transfer restrictions under international law include, *e.g.*, restrictions established under art. XXI of the General Agreement on Tariffs and Trade, 33 I.L.M. 1125 (1994) [hereinafter GATT 1994]. This provision allows WTO parties to establish trade restrictions in case of war or grave international tension or in order to protect essential security interests. Furthermore, customary *ius in bello* may permit states parties to the CWC to establish or maintain trade restrictions notwithstanding CWC art. XI.1. Finally, prevailing international restrictions may be grounded in resolutions of the U.N. Security Council. See Ronzitti, *supra* note 141, at 537.

145. Accordingly, a state party is permitted to implement the transfer control measures necessary to fulfill the CWC. This may imply the establishment of measures going beyond the *minimum requirements* listed in CWC Articles VII.1(a) to (c). CWC, *supra* note 2, art. VII.1(a)–(c), 32 I.L.M. at 810. In this context, it is, however, important to note that the maintenance or establishment of such measures may conflict with CWC art. XI.1. See *infra*.

146. CWC, *supra* note 2, art. XI.2(b), 32 I.L.M. at 819.

147. CWC, *supra* note 2, art. XI.2(c), 32 I.L.M. at 819.

148. CWC, *supra* note 2, art. XI.2(d), 32 I.L.M. at 819.

not to “use any other international agreement for pursuing an objective inconsistent with this Convention;”¹⁴⁹

- to review existing national export control measures “in the field of trade in chemicals in order to render them consistent with the object and purpose of this Convention.”¹⁵⁰

The four duties can be divided into two groups. Sub-paragraphs (c) and (d) require states parties to neither establish nor maintain among themselves any export restrictions—be they of unilateral or multilateral nature—that are inconsistent with the provisions and purposes of the CWC.¹⁵¹ By prohibiting states parties to go beyond the level of restrictions necessary to fulfill the CWC transfer rules, the two Sub-paragraphs thus cause the maximum implementation limit to coincide with the minimum implementation limit (see Figure 4).

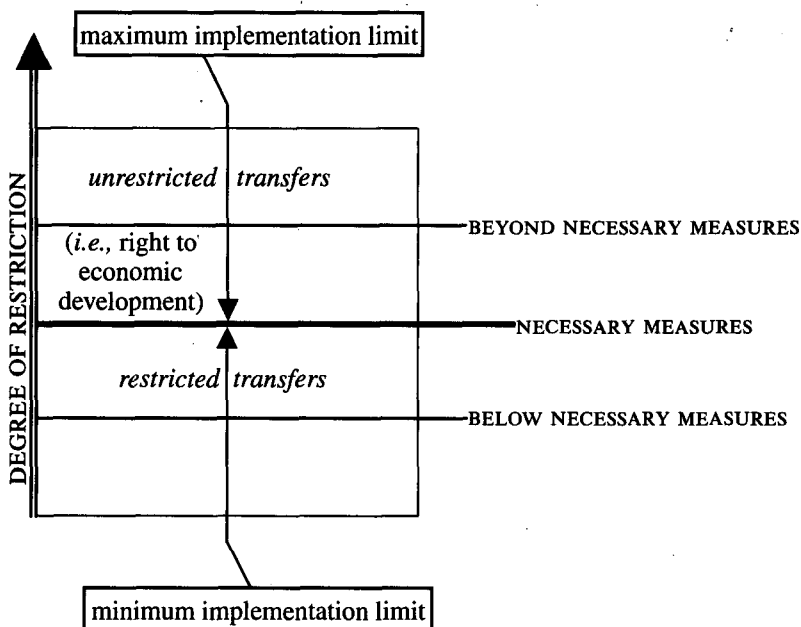
Sub-paragraphs (b) and (e), on the other hand, require states parties to review their national export control measures and to eliminate all restrictions infringing on the right to economic development. Therefore, they too prohibit any national export control measures that would go beyond what is *necessary* to fulfill the CWC transfer rules. As a consequence, they again let the maximum and minimum implementation limits coincide at the level of the measures necessary to fulfill the CWC transfer rules.

149. CWC, *supra* note 2, art. XI.2(d), 32 I.L.M. at 819.

150. CWC, *supra* note 2, art. XI.2(e), 32 I.L.M. at 819.

151. These two provisions thus are of particular importance in regard to the question of whether or not the AG needs to be dismantled. Some commentators argue that the CWC does not require the abolishment of the AG. *See, e.g.,* Marauhn, *supra* note 10, at 497. Others say that the question is difficult to answer. *See, e.g.,* Ronzitti, *supra* note 141, at 539. These observations are correct only insofar as the CWC does not contain an explicit obligation pertaining to the dissolution of the AG. However, by asking states parties not to use any other international agreement in the realm of chemical nonproliferation “for pursuing an objective inconsistent with the CWC,” CWC art. XI.2(d) *implicitly* asks for the dismantling of the AG. CWC, *supra* note 2, art. XI.2(d), 32 I.L.M. at 819. Indeed, due to the fact that the AG, contrary to the CWC, pursues the objective of selective rather than universal nonproliferation, it is inconsistent with the latter and must therefore—in accordance with CWC art. XI.2(d)—be abolished.

FIGURE 4: COINCIDENCE OF MINIMUM AND
MAXIMUM IMPLEMENTATION LIMIT



3. Assessment

The CWC does not contain an explicit obligation to establish national export controls. Articles VI.2 and VII.1 simply require states parties to adopt the “necessary measures” to implement the CWC transfer rules. The text of the Convention leaves open the question of whether states parties have to set up national export controls. It only clarifies—by means of Sub-paragraphs (a)–(c) of Article VII.1—that the notion “necessary measures” requires the enactment of specific penal legislation.

That the enactment of penal law alone is insufficient to guarantee the effective implementation of the CWC transfer rules is obvious. Penal law is suited neither for *ex ante* controls of exports nor for the collection of national data. If a state party wants to fulfill these requirements, it has to enact administrative export control law. Accordingly, it can be concluded that the term “necessary measures” implicitly requires states parties to establish national export controls.

National export controls must cover the entire material scope of the CWC. Accordingly, states parties are obliged to provide for national ex-

port control legislation covering not only the scheduled chemicals, but also any unscheduled chemical, as well as any type of dual-use material, financial resource, or intangible good that might be transferred for chemical weapon purposes. While the scheduled chemicals may be subject to national legislation by means of a control list, the latter group of goods can be covered only with a catch-all clause. The term “necessary measures” thus requires states parties to enact not only export control lists, but also a catch-all clause. Due to this requirement, national disparities in the realm of export control legislation are ruled out. As far as they occur in the realm of law enforcement, they should be eliminated, since only on the basis of harmonized national export control legislation can chemical nonproliferation be attained most effectively.

Although the CWC does not contain an explicit reference to national export control measures, it establishes certain limits applicable to the implementation of such measures. The minimum implementation limit is set by the term “necessary measures” itself. According to this requirement, a state party is not allowed to go *below* the measures that are necessary to fulfill the CWC transfer rules. The maximum implementation limit, on the other hand, is defined in Articles XI.1 and VI.11. These provisions establish an actual right to economic development, which requires states parties—though only in their commercial relations with other states parties—to refrain from national export control measures that would go *beyond* what is necessary to fulfill the CWC transfer rules. Given the fact that both implementation limits have “necessary measures” as their point of reference, it can be concluded that they coincide.

C. Sanctions

As previously indicated, Sub-paragraphs (a)–(c) of Article VII.1 establish three specific requirements applicable to the implementation into national law of those CWC transfer rules that represent prohibitions.¹⁵² The three requirements translate into specific implementation obligations. On the one hand, every state party has to enact *penal* legislation covering prohibited activities if undertaken:

- by *natural* and *legal* persons of any nationality on its own territory, including territorial and archipelagic waters and installations on the continental shelf or in the exclusive

152. See *supra* Part V.A.1.

economic zone, as well as in any other place under its jurisdiction (e.g., on vessels under its flag or aircraft registered under its law);¹⁵³

- anywhere else by *natural* persons possessing its nationality.¹⁵⁴

On the other hand, every state party has to take *appropriate measures* ensuring that prohibited activities are not undertaken

- by *natural* and *legal* persons of any nationality in any place under its *de facto* control.¹⁵⁵

Regarding the question of sanctions, the wording of the Sub-paragraph prompts the following three observations. First, although Sub-paragraph (b) does not explicitly refer to penal legislation, it seems obvious that penal provisions are best suited “not [to] permit” prohibited activities.¹⁵⁶ Accordingly, it can be concluded that all three sub-paragraphs pertain to the enactment of penal legislation.

Second, Sub-paragraph (c) requires states parties to enact penal legislation with extraterritorial effect.¹⁵⁷ However, this requirement is limited to prohibited activities undertaken by *natural* persons.

Third, it has already been pointed out that the obligations anchored in the three sub-paragraphs represent a mere minimum standard. This is indicated by the words “in particular” in the *chapeau* of Article VII.1 and the word “including” in sub-paragraph (a). Therefore, a state party is, in principle, free to:

- enact appropriate *administrative* measures in addition to the required penal legislation;¹⁵⁸

153. CWC, *supra* note 2, art. VIII.1(a), 32 I.L.M. at 810. See also Marco Gestri, *Control by States Parties over Private Extraterritorial Activities: Issues of Jurisdiction and International Responsibility*, in THE NEW CHEMICAL WEAPONS CONVENTION—IMPLEMENTATION AND PROSPECTS 463, 470–71 (M. Bothe et al. eds., 1998).

154. CWC, *supra* note 2, art. VIII.1(c), 32 I.L.M. at 810.

155. CWC, *supra* note 2, art. VIII.1(b), 32 I.L.M. at 810. Sub-paragraph (b) does not explicitly define its scope *ratione personae*. However, the words “any activity” indicates that all acts of all persons are covered by the provision. Regarding the interpretation of the word “control”, see *id.* at 471–72.

156. CWC, *supra* note 2, art. VII.1(b), 32 I.L.M. at 810. The vague formulation of Sub-paragraph (b), avoiding terms such as “prohibit” or “penal legislation,” is due to the fact that *de facto* control over a territory strictly speaking does not give the controlling state legislative authority. Contextually, however, the provision must be interpreted as requiring penal legislation, for the following two reasons. First, only penal measures seem adequate to guarantee “non-permission” of prohibited activities in territories under *de facto* control of a foreign state. Second, the application of penal measures that are *not* based on legislation is incompatible with the universal principle *nullum crimen, nulla poena sine lege*.

157. For an excellent discussion of the question of extraterritoriality under the CWC, see Gestri, *supra* note 153, at 471–72.

- subject other than merely the *prohibited* activities to penal legislation;
- extend the extraterritorial reach of its penal legislation to the activities performed abroad by *legal* persons (*i.e.*, branches of companies incorporated under national law, or foreign companies controlled by nationals).¹⁵⁹

As already mentioned, three conditions need to be fulfilled in the case of national implementation measures going beyond the minimum standard listed in Sub-paragraphs (a)–(c) of Article VII.1. They include necessity, conformity with international law and conformity with other CWC provisions.¹⁶⁰

In the absence of any CWC directives, the *degree* of the respective sanctions—whether of penal or administrative nature—is left to the discretion of the states parties. As a rule of thumb, the intentional performance of an activity prohibited under the CWC (including assistance)¹⁶¹ should always fall under the category “crime.” Accordingly, severe criminal punishment should be its consequence. Equally subject to criminal punishment should be any negligent behavior leading to an immediate danger that transferred goods could be used for chemical weapon purposes. Depending on the gravity of the negligence, such acts could be defined as either crimes or misdemeanors. Finally, negligence not endangering the implementation of the central CWC transfer rules

158. In this context, Krutzsch & Trapp observe that “[a]ppropriate means to prohibit could also be the enacting of prohibitions under administrative law.” KRUTZSCH & TRAPP, *supra* note 10, at 110.

159. The frequently encountered opinion that the CWC’s extraterritorial reach is confined to natural persons thus proves wrong. *See, e.g., Zedalis, supra* note 10, at 153. Not the reach itself, but the *duty* to subject to extraterritorial legislation is limited to natural persons. The extension of the extraterritorial reach of penal law to activities undertaken abroad by either foreign companies controlled by nationals, or branches of domestic companies is, insofar as the CWC is concerned, indeed unproblematic. In the former case (as well as in the case the concerned branch is *not* incorporated abroad), extraterritorial application of penal law can be justified on the basis of the generally accepted *nationality* principle. *See also Gestri, supra* note 153, at 473–74. In the latter case, that is, if the concerned branch is incorporated abroad, the *universality* principle provides a valid alternative legal basis for extraterritorial penal legislation. According to this principle, a state is entitled to enact rules with extraterritorial effect in order to further the repression of those criminal acts that are considered harmful to the fundamental interest and values of the international community. *See id.* at 469. It cannot seriously be contested that the use, development, etc. of chemical weapons does not represent a crime under customary international law, especially in light of the fact that its codification in treaty law has recently been initiated. *See Crawford et al., Draft Convention to Prohibit Biological and Chemical Weapons Under Int’l Criminal Law, reprinted in* 42 CHEM. & BIO. WEAPONS CONVENTIONS BULL. 1, 2–5 (Dec. 1998).

160. *See supra* Part V.A.1.

161. *See supra* note 85.

(*i.e.*, false declaration of a transferred chemical) should not be sanctioned under penal law.¹⁶² In such cases, the imposition of administrative sanctions might be more appropriate.

D. Summary

This section examined whether and by what means the CWC transfer rules need to be implemented in national law. The analysis concentrated on Articles VII.1 and VI.2, both of which address issues of national implementation. Article VI.1 is legally redundant, because its substance is essentially covered by the CWC's general implementation obligation, Article VII.1.

By requiring states parties to enact the necessary measures to fulfill the CWC transfer rules, Article VII.1 establishes—though implicitly—an obligation to implement national export control measures that cover all goods falling under the CWC's material scope. States parties are not allowed to go below the level of implementation measures necessary for the successful execution of the transfer rules. Simultaneously, Article XI.1, which grants a right to economic development, prohibits states parties to go beyond the level of measures deemed necessary in their commercial relations with each other.

As shown in Figure 4, the CWC's minimum and maximum implementation limits thus coincide at the level of national implementation measures that each state party must establish. These measures include, most importantly:

- the establishment of a national export control regime for all goods that may qualify as chemical weapons according to Article II.1;
- the adoption of a catch-all clause for all other dual-use goods apt to serve chemical weapon purposes; and
- the enactment of reinforcing penal legislation with partial extraterritorial reach.

In light of these obligations, it seems wrong to conclude that states parties have a “wide margin of appreciation” in the domain of national implementation.¹⁶³ Rather, the CWC requires each state party, regardless of the situation of its domestic chemical industry, to comply with these three requirements in order to fulfill the CWC transfer rules.

162. See also KRUTZSCH & TRAPP, *supra* note 10, at 111–12.

163. See Marauhn, *supra* note 10, at 496.

The CWC falls short of establishing a fourth requirement, namely the extension of the reach of domestic penal legislation to illegitimate activities of legal persons undertaken abroad. Given the open wording of Article VII.1, it can be concluded, however, that states parties have the option to go beyond the minimum standard anchored in Sub-paragraphs (a)–(c), provided that the criteria of necessity and compatibility with international law and the CWC are fulfilled. Taking into account that the extension of national penal legislation to illegitimate activities of legal persons performed abroad appear both necessary and legitimate, it seems desirable that states parties actively pursue this option.

The degree and type of sanctions applicable to violations of the transfer rules are not defined in the CWC. It seems appropriate, however, to determine that criminal sanctions should apply to the intentional violation of CWC transfer rules. Depending on its gravity, negligent behavior leading to an immediate proliferation danger should qualify either as misdemeanor or felony. Negligent behavior not endangering the central nonproliferation purpose should not be punished under penal law. Administrative sanctions may be more appropriate in such cases.

CONCLUSION

The present article pursued two goals. First, it attempted to clarify the export control obligations deriving from the CWC. Second, in so doing, it intended to provide insight into the question of whether the CWC represents an adequate legal framework to supplant the AG, thereby allowing for a move towards greater multilateralism in the realm of chemical nonproliferation.

Regarding the first goal, the textual analysis has shown that the CWC refrains from establishing an explicit export control obligation. However, on the basis of Articles VI.2 and VII.1, in conjunction with the CWC transfer rules, the CWC implicitly requires states parties to enact a number of national export control measures. In light of these manifold export control requirements, the finding that “[t]he convention does only establish a limited transfer regime”¹⁶⁴ seems understated. As supported by the preceding analysis, it is more accurate to conclude that the CWC provides for an extensive and well-designed legal framework for national export controls in the realm of chemicals and related dual-use goods.

On the basis of this first conclusion, an answer can be given to the second question. Taking into account the comprehensive export control

164. *Id.* at 496.

regime each state party is required to establish, it appears correct to observe that the legal framework the CWC sets up is well suited to replace the AG. As one commentator correctly put it: "If states parties agree to do so, an antiproliferation regime at least as strong and supple as that of the Australia Group could be developed from the provisions of the [CWC]."¹⁶⁵

The CWC implicitly requires the dissolution of the AG.¹⁶⁶ The replacement of the AG by the CWC would doubtlessly represent a move towards greater multilateralism. While the AG stresses selectivity in its approach to nonproliferation, the CWC aims at universality in its approach. In light of the fact that "[t]he goal of *widespread participation* in all values throughout the social process is the fundamental criterion of policy,"¹⁶⁷ greater multilateralism in the realm of nonproliferation is politically desirable. Only on the basis of universal multilateralism can the goal of nonproliferation be attained most effectively, that is, at the lowest costs for all actors involved.

Although it is both politically desirable and legally required, the immediate dissolution of the AG would nevertheless be premature. Given the fact that the AG provides for export control mechanisms not only in the realm of chemicals, but also in that of biological agents and related dual-use goods, the CWC alone is unable to substitute for all AG export controls. Only if the member states of the Conference on Disarmament succeed in creating a protocol to the BTWC that provides for an export control framework comparable to that of the CWC is there a realistic chance that the AG be dismantled. We may therefore conclude that the achievement of greater multilateralism in the realm of *chemical* nonproliferation is ultimately contingent upon the achievement of greater multilateralism in the realm of *biological* nonproliferation.

165. Perry Robinson (1995), *supra* note 10, at 46.

166. *See supra* note 151.

167. *See supra* note 1 (emphasis added).