Introduction to Industry Implementation

Chemical
Weapons
Convention

Education, Assistance & Support

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Introduction to Industry Implementation of the Chemical Weapons Convention

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U.S. DEPARTMENT OF COMMERCE
Bureau of Industry and Security
Office of Nonproliferation Controls
and Treaty Compliance

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Chemical Weapons Convention Signing Ceremony, Paris, January 13, 1993

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Introduction

More than 140 nations have ratified the Chemical Weapons Convention (CWC),[1] an international arms control and nonproliferation treaty whose aim is a comprehensive ban on chemical weapons. Unlike earlier attempts to ban chemical weapons, the CWC's scope extends beyond the actual use of chemical weapons. The Convention requires the destruction of existing chemical weapons and bans the use, development, production, acquisition, retention, and transfer of such weapons. In addition, the Convention prohibits assistance or inducement to others to engage in prohibited activity.

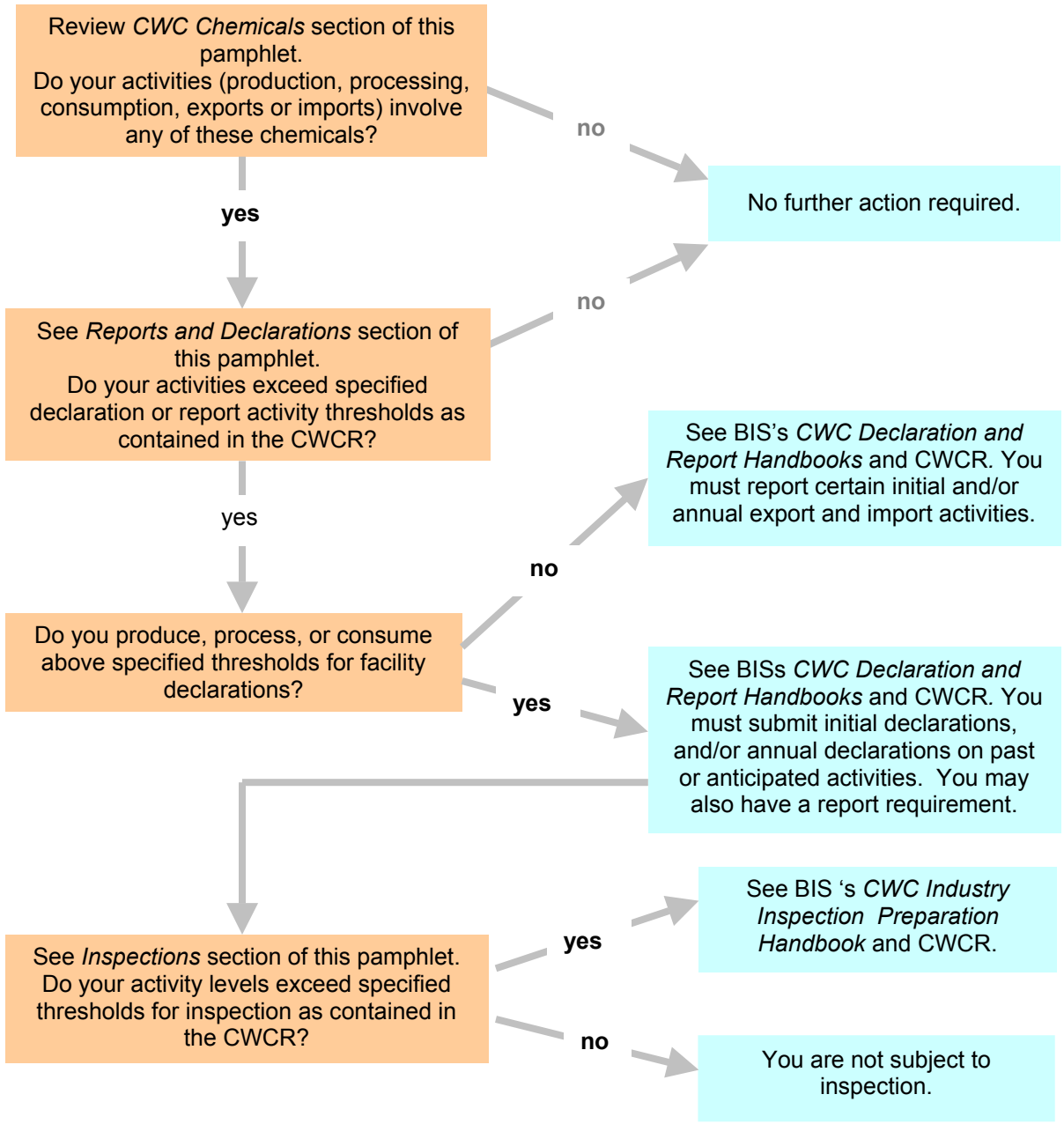
To accomplish the non-proliferation goals of the Convention, States Parties have agreed to a broad declaration and verification system for non-prohibited activities (e.g., industrial, agricultural, medical, pharmaceutical or research) involving certain toxic chemicals and precursors. In the United States, it is commercial industry—chemical producers, processors, consumers, exporters and importers—that carry out these legitimate, non-prohibited activities. The impact of the Convention upon these activities is the subject of this pamphlet.

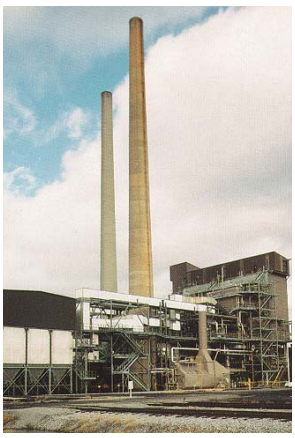
The Convention explicitly mandates implementation in a manner that avoids hampering economic or technological development. States Parties to the Convention are also prohibited from using the pretext of CWC implementation as a means to inhibit trade and development. During the lengthy negotiating process leading to the adoption of the Convention, the participation of commercial chemical industry representatives was key to the formulation of provisions that reflect the importance of the chemical sector in the international economy. For example, the U.S. chemical industry played a key role in developing the Confidentiality Annex of the Convention. Mindful that chemical manufacturing is a leading export sector in the U.S. economy, the Chemical Weapons Convention Implementation Act of 1998 (the "Act") and the CWC Regulations (CWCR) issued by the Bureau of Industry and Security (BIS) of the Department of Commerce were drafted to minimize the regulatory impact on industry consistent with U.S. international obligations under the treaty.

As the agency responsible for private sector compliance with the Convention, BIS is committed to providing industry with education and awareness outreach at every stage of CWC implementation. In addition, BIS is providing assistance in preparing declarations and reports, as well as advice and support before and during on-site inspections. All these efforts are focused on minimizing industry costs and burdens, and helping industry to protect its confidential business information.

[1] Formally called the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Production.

How to Use This and Other BIS Publications





The First Step

The Chemical Weapons Convention aims to ban all activities associated with the use of toxic chemicals as a means of warfare. At the same time, no chemicals, even the most toxic, are banned because they also may have legitimate, peaceful purposes. This unique aspect of the Convention sets it apart from other arms control agreements and greatly influences its verification procedures. For this reason, certain activities involving these chemicals, while conducted for purposes not prohibited under the Convention, are nonetheless subject to declaration, report and on-site inspection provisions.

Purposes Not Prohibited Under the Convention

Industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes

Protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons

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

Law enforcement including domestic riot control purposes.

U.S. industry, in accordance with BIS's CWCR and other federal regulations are required to comply with the provisions of the Convention. Facilities, plant sites, trading companies and other U.S. persons subject to the CWCR must submit declarations, reports, and notifications about their activities involving chemicals monitored under the Convention. The U.S. Government then submits a national industry declaration to the Organization for the Prohibition of Chemical Weapons (OPCW), which administers the treaty. On the basis of these declarations, some of those facilities submitting declarations are subject to inspection by the OPCW.

The first step in this process is to understand which chemicals are monitored and the ramifications of various activities—production,[1] processing,[2] consumption,[3] export and import—for further obligations under the Convention. This information is presented in the next three sections of this pamphlet, *CWC Chemicals, Reports and Declarations,* and *Inspections*. If a facility finds that none of its operations involves specified chemicals, it has no further obligation.[4] However, if a facility does engage in activities involving these chemicals, further examination will place it, based on the types and levels of such activities, into one of the following categories:

1. Facilities that are engaged in certain types and quantitative levels of activities that do not trigger an obligation to report or declare certain activities, and are not subject to on-site inspection;

2. Facilities that are engaged in certain types and quantitative levels of activities that trigger an obligation to report certain activities to BIS, in order to fulfill U.S. national aggregate declaration obligations under the CWC, but are not subject to on-site inspection;

3. Facilities that are engaged in certain types and quantitative levels of activities that trigger an obligation to declare certain activities to BIS, but are not subject to on-site inspection; or

4. Facilities that are engaged in certain types and quantitative levels of activities that trigger obligations to declare certain activities to BIS and are subject to on-site inspection.

If reports or declarations are necessary, this and other BIS publications can guide a facility through the process. If a facility is subject to on-site inspection, BIS publications can provide information on inspections, inspection preparation, and U.S. Government support during inspections to minimize costs and protect confidential business information.

The concluding section of this pamphlet contains a brief discussion of implementation issues pertinent to industry. For a four-page synopsis of the Convention itself, please see Annex A. In addition to this and other publications, BIS's Treaty Compliance Division has embarked on a program of seminars and site assistance visits designed to facilitate U.S. industry compliance with the CWCR.

[1] Production of a chemical means formation through chemical reaction.

[2] Processing means a physical process such as formulation, extraction and purification in which a chemical is not converted into another chemical.

[3] Consumption of a chemical means its conversion into another chemical via a chemical reaction.

[4] In this and succeeding sections "facility" is used as defined in the CWC and CWCR to mean any plant site, plant or unit.

Applicable Federal Regulations for CWC Industry Implementation

1. ***Chemical Weapons Convention Regulations*** **(BIS, Department of Commerce) 15 CFR Parts 710 – 721; Interim Rule.**

2. ***Implementation of the Chemical Weapons Convention; Revisions to the Export Administration Regulations (EAR)*** **(BIS, Department of Commerce) 15 CFR Parts 734, 736, 738, 740, 742, 745, 748, 758, 772 and 774.**

3. ***Chemical Weapons Convention and the Chemical Weapons Convention Implementation Act of 1998; Taking of Samples: Record Keeping and Inspections*** **(Bureau of Arms Control, Department of State) 22 CFR Part 103; Final Rule.**

4. ***International Traffic in Arms Regulations*** **(Department of State) 22 CFR Parts 120 – 130.**

CWC Chemicals

The CWC organizes certain toxic chemicals and precursors that have or could play a role in chemical weapons (CW) activity into three “schedules” and an additional basket category of chemicals, “unscheduled discrete organic chemicals” (UDOCs). The CWC verification regime allows the OPCW to monitor specified levels of commercial activities—production, processing, consumption, export and import—involving scheduled chemicals and UDOCs as required by the Convention. The Schedules of Chemicals are ordered to reflect an assessment of the risk posed to the object and purpose of the Convention—the elimination of CW. It is important to understand that “scheduled chemicals” means specific chemicals listed, as well as families of chemicals and any other chemicals meeting the criteria included in the CWCR and Convention.[1]

Schedule 1 Chemicals

These chemicals pose the highest risk to the object and purpose of the Convention. They include nerve agents such as VX and blister agents such as Mustard. Schedule 1 also includes final stage precursors. Schedule 1 chemicals have little use for purposes other than those prohibited under the CWC.

Schedule 2 Chemicals

These chemicals pose a significant risk to the object and purpose of the Convention. They include toxic chemicals and precursors possessing properties that would enable them to be used in CW activities. Schedule 2 chemicals may be produced in large commercial quantities for purposes not prohibited under the CWC.

Schedule 3 Chemicals

These chemicals pose a risk to the object and purpose of the Convention. They include first generation CW and other toxic chemicals and precursors that might enable them to be used in CW activities. The U.S. chemical industry produces Schedule 3 chemicals in large commercial quantities for purposes not prohibited under the CWC.

[1] The specific criteria included in the CWC are provided at Annex C.

Concentration Levels

The CWCR contain a "round to zero" rule for Schedule 1 chemicals, and low concentration exemptions for Schedule 2 and 3 chemicals. Unless deemed a risk to the object and purpose of the Convention by virtue of the total weight and ease of recovery of the chemical, scheduled chemicals in the following concentrations (by volume or weight, whichever is lower) are exempt from declaration and report requirements:

- Schedule 1 chemicals: <0.5% (unavoidable by-products or impurities)
- Schedule 2 chemicals: <30%
- Schedule 3 chemicals: <80%

Unscheduled Discrete Organic Chemicals

An unscheduled discrete organic chemical (UDOC) means any unscheduled chemical belonging to the class of chemical compounds consisting of all compounds of carbon except for its oxides, sulfides and metal carbonates,[2] identifiable by chemical name, by structural formula, if known, and by Chemical Abstracts Service registry number, if assigned. In addition, a subcategory of UDOCs has also been created. Those UDOCs containing the elements phosphorous, sulfur or fluorine are referred to as "PSF-chemicals."

Certain UDOCs are exempt from declaration under the CWCR, including:

- ingredients or by-products in foods designed for consumption by humans and/or animals;
- products from the refining of crude oil, including sulfur-containing crude oil;
- polymer substances and oligomers consisting of two or more repeating units, and formed by the chemical reaction of monomeric or polymeric substances; and
- chemicals and chemical mixtures produced via a biological or bio-mediated process.

UDOC plant sites that produce hydrocarbons or explosives exclusively are also exempt from the CWCR's declaration requirements.

In addition, a coincidental UDOC byproduct of a manufacturing or production process that is not isolated or captured for use or sale during the process and that is routed to, or escapes, from the waste stream of a stack, incinerator, or wastewater treatment system or any other waste stream is exempted from declaration.

Classification Assistance

For assistance in determining whether your chemical is subject to declaration or report requirements, contact BIS's Information Technology Team. To ensure expeditious processing, please provide the following information for each chemical: the chemical name, the structural formula, and the CAS Registry Number, if assigned. BIS will respond within 10 working days of request.[3]

[2] For further explanation of these exempted compounds, see Annex D.

[3] For BIS contact information, see Annex E.

CWC Schedules of Chemicals

(Whenever reference is made to groups of dialkylated chemicals, followed by a list of alkyl groups in parentheses, all chemicals possible by all possible combinations of alkyl groups listed in the parentheses are considered as listed in the respective Schedule as long as they are not explicitly exempted. A chemical marked "*" on Schedule 2, part A, is subject to special thresholds for declaration and verification.)

		CAS registry number
	Schedule 1	
A.	**Toxic chemicals:**	
(1)	O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates	
	e.g. Sarin: O-Isopropyl methylphosphonofluoridate	(107-44-8)
	Soman: O-Pinacolyl methylphosphonofluoridate	(96-64-0)
(2)	O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates	
	e.g. Tabun: O-Ethyl N,N-dimethyl phosphoramidocyanidate	(77-81-6)
(3)	O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates andcorresponding alkylated or protonated salts	
	e.g. VX: O-Ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate	(50782-69-9)
(4)	Sulfur mustards:	
	2-Chloroethylchloromethylsulfide	(2625-76-5)
	Mustard gas: Bis(2-chloroethyl)sulfide	(505-60-2)
	Bis(2-chloroethylthio)methane	(63869-13-6)
	Sesquimustard: 1,2-Bis(2-chloroethylthio)ethane	(3563-36-8)
	1,3-Bis(2-chloroethylthio)-n-propane	(63905-10-2)
	1,4-Bis(2-chloroethylthio)-n-butane	(142868-93-7)
	1,5-Bis(2-chloroethylthio)-n-pentane	(142868-94-8)
	Bis(2-chloroethylthiomethyl)ether	(63918-90-1)
	O-Mustard: Bis(2-chloroethylthioethyl)ether	(63918-89-8)
(5)	Lewisites:	
	Lewisite 1: 2-Chlorovinyldichloroarsine	(541-25-3)
	Lewisite 2: Bis(2-chlorovinyl)chloroarsine	(40334-69-8)
	Lewisite 3: Tris(2-chlorovinyl)arsine	(40334-70-1)
(6)	Nitrogen mustards:	
	HN1: Bis(2-chloroethyl)ethylamine	(538-07-8)
	HN2: Bis(2-chloroethyl)methylamine	(51-75-2)
	HN3: Tris(2-chloroethyl)amine	(555-77-1)
(7)	Saxitoxin	(35523-89-8)
(8)	Ricin	(9009-86-3)
B.	**Precursors:**	
(9)	Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluorides	
	e.g. DF: Methylphosphonyldifluoride	(676-99-3)
(10)	O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) O-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonites and corresponding alkylated or protonated salts	
	e.g. QL: O-Ethyl O-2-diisopropylaminoethyl methylphosphonite	(57856-11-8)
(11)	Chlorosarin: O-Isopropyl methylphosphonochloridate	(1445-76-7)
(12)	Chlorosoman: O-Pinacolyl methylphosphonochloridate	(7040-57-5)
	Schedule 2	
A.	**Toxic chemicals:**	
(1)	Amiton: O,O-Diethyl S-[2-(diethylamino)ethyl] phosphorothiolate and corresponding alkylated or protonated salts	(75-53-5)
(2)	PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene	(382-21-8)
(3)	BZ: 3-Quinuclidinyl benzilate (*)	(6581-06-2)

B. Precursors:

(4) Chemicals, except for those listed in Schedule 1, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group but not further carbon atoms,

e.g. Methylphosphonyl dichloride (676-97-1)
Dimethyl methylphosphonate (756-79-6)

Exemption: Fonofos: O-Ethyl S-phenyl ethylphosphonothiolothionate (944-22-9)

(5) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides

(6) Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl Me, Et, n-Pr or i-Pr)-phosphoramidates

(7) Arsenic trichloride (7784-34-1)

(8) 2,2-Diphenyl-2-hydroxyacetic acid (76-93-7)

(9) Quinuclidin-3-ol (1619-34-7)

(10) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chlorides and corresponding protonated salts

(11) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols and corresponding protonated salts

Exemptions: N,N-Dimethylaminoethanol and corresponding protonated salts (108-01-0)
N,N-Diethylaminoethanol andcorresponding protonated salts (100-37-8)

(12) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols and corresponding protonated salts

(13) Thiodiglycol: Bis(2-hydroxyethyl)sulfide (111-48-8)

(14) Pinacolyl alcohol: 3,3-Dimethylbutan-2-ol (464-07-3)

Schedule 3

A. Toxic chemicals:

(1) Phosgene: Carbonyl dichloride (75-44-5)

(2) Cyanogen chloride (506-77-4)

(3) Hydrogen cyanide (74-90-8)

(4) Chloropicrin: Trichloronitromethane (76-06-2)

B. Precursors:

(5) Phosphorus oxychloride (10025-87-3)

(6) Phosphorus trichloride (7719-12-2)

(7) Phosphorus pentachloride (10026-13-8)

(8) Trimethyl phosphite (121-45-9)

(9) Triethyl phosphite (122-52-1)

(10) Dimethyl phosphite (868-85-9)

(11) Diethyl phosphite (762-04-9)

(12) Sulfur monochloride (10025-67-9)

(13) Sulfur dichloride (10545-99-0)

(14) Thionyl chloride (7719-09-7)

(15) Ethyldiethanolamine (139-87-7)

(16) Methyldiethanolamine (105-59-9)

(17) Triethanolamine (102-71-6)

Reports and Declarations

The CWCR require the submission of reports and declarations to BIS when specified criteria are met. Facilities, trading companies or other U.S. persons that export or import scheduled chemicals above designated threshold levels must submit reports to BIS. Reports are used to fulfill U.S. national aggregate declaration obligations only. BIS will aggregate and remove facility-specific information from reports before submitting them to the OPCW. Facilities that produce, process or consume certain chemicals at levels exceeding designated thresholds must submit declarations to BIS. If such "declared" facilities also export or import scheduled chemicals above these thresholds, they may include such information in a declaration (submission of export and import data with a declaration is mandatory for certain declared Schedule 2 plant sites) or submit a separate report. Facility-specific declarations are forwarded to the OPCW, and may serve as a basis for possible on-site inspection. The U.S. Government will classify reports and declarations transmitted to the OPCW to ensure that confidential business information (CBI) is handled by the Technical Secretariat according to prescribed rules. The CWCR contain a table outlining the fields of the report and declaration forms that contain CBI, as defined in the Act (see Supplement No. 1 to part 718). CBI collected by the U.S. Government is exempt from public disclosure under the Freedom of Information Act.

With these objectives in mind, report and declaration requirements are organized around the Schedules of Chemicals and quantitative activity criteria. The principle is very simple. *The greater the risk posed by a chemical and the lower the utility for peaceful purposes, the lower the threshold for report and declaration requirements is set.* Likewise, the level of detail and amount of ancillary information required are greatest for Schedule 1 chemicals and progressively decrease with Schedule 2, Schedule 3 and especially UDOCs. Production,[1] exports and imports are the activity criteria for Schedule 1 and Schedule 3 facilities. For Schedule 2 plant sites, production, processing,[2] consumption,[3] exports and imports serve as activity criteria. Production by synthesis[4] is the activity criterion for UDOC facilities.

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[1] Production of a chemical means formation through chemical reaction.
[2] Processing means a physical process such as formulation, extraction and purification in which a chemical is not converted into another chemical.
[3] Consumption of a chemical means its conversion into another chemical via a chemical reaction.
[4] Production by synthesis means production of a chemical from its reactants which is isolated for use or sale as a specific end product.

SCHEDULE 1

Declarations

Facilities engaged in producing Schedule 1 chemicals are subject to the most stringent verification measures. Schedule 1 facilities subject to the CWCR may engage in two categories of non-prohibited activities:

1. Production of Schedule 1 chemicals in aggregate quantities of less than 100 g per year carried out for research, medical or pharmaceutical purposes per facility. These facilities are not subject to a declaration obligation, however, exports or imports of any quantity of Schedule 1 chemicals must be reported to BIS.

2. Production of Schedule 1 chemicals in aggregate quantities of more than 100 g per year carried out for research, medical or pharmaceutical purposes per facility. These "declared" facilities must submit annual facility declarations to BIS on production, consumption, and storage of Schedule 1 chemicals. In addition, a "new" facility beginning production of Schedule 1 chemicals in aggregate quantities of more than 100 g per year must notify BIS 200 days in advance of commencement of production. Declared Schedule 1 facilities must also report to BIS any quantity of Schedule 1 chemicals exported or imported.

Facilities that produce mixtures that contain less than 0.5% of Schedule 1 chemicals as unavoidable by-products or impurities may round to zero and are not subject to declaration or inspection requirements.

Reports

The CWCR require facilities, trading companies and other U.S. persons to report any amount of Schedule 1 chemicals exported from or imported into the territory of the United States. This reporting requirement has two parts. First, U.S. exporters or importers must notify BIS at least 45 days prior to the transfer. Export or import of Schedule 1 chemicals is only permissible to or from other CWC States Parties and only for permitted purposes. Retransfer is prohibited. Second, annual reports on exports and imports must be submitted to BIS and identify each chemical, the quantity acquired from or transferred to other States Parties, including the source or recipient, and the purpose of the transfer.

Facilities, trading companies and other U.S. persons that export or import mixtures that contain less than 0.5% of Schedule 1 chemicals as unavoidable by-products or impurities may round to zero and are not subject to report requirements.

Declaration & Report Schedule

Each year, annual declarations and reports on the past year's activities must be submitted to BIS by February 28, and declarations on anticipated activities for the next calendar year must be submitted by August 3.

For initial declarations of "new" Schedule 1 facilities, declarants must provide the name, location and a detailed technical description of the facility or its relevant parts. Annual declarations on past activities must include:

1. Identification of the facility;

2. For each Schedule 1 chemical, information on the purpose of production, consumption, transfer and storage; and

3. Information on any changes at the facility or its relevant parts during the year compared to previously submitted detailed technical descriptions of the facility.

Detailed annual declarations on anticipated activities and the anticipated production at the facility for the coming year must include:

1. Identification of the facility;

2. For each Schedule 1 chemical, the quantity, timing and purpose of the anticipated production; and

3. Information on any anticipated changes at the facility or its relevant part during the year, compared to previously submitted detailed technical descriptions of the facility.

For further information on concentration levels, declaration and report requirements, forms, recordkeeping and other issues related to activities involving Schedule 1 chemicals, see BIS's *Chemical Weapons Convention*

Declaration and Report Handbook for Schedule 1 Chemicals and part 712 of the CWCR.

SCHEDULE 2

Declarations

Declarations for activities involving Schedule 2 chemicals are made *by plant sites* to specify the activities *of each declared plant* within the plant site. Annual declarations on past activities for a preceding calendar year are required from all plant sites that comprised one or more plant(s) which *produced, processed or consumed* a Schedule 2 chemical in any one of the past three years (three-year look-back period) above the applicable threshold quantity. Annual declarations on anticipated activities are required from all plant sites that comprise one or more plant(s) which intend to *produce, process or consume* a Schedule 2 chemical in the next calendar year above the applicable threshold quantity.

The activity thresholds for Schedule 2 declarations and reports are as follows:

1. 1 kg of a Schedule 2 toxic chemical designated "*" – currently only BZ;

2. 100 kg of any other Schedule 2 toxic chemical – currently only PFIB and Amiton (and corresponding alkylated or protonated salts); or

3. 1 metric ton of a Schedule 2 precursor.

Mixtures containing a Schedule 2 chemical are exempt from declaration requirements if the quantity of the Schedule 2 chemical in a mixture is less than 30 percent by weight or volume, whichever is less.

Declarations must include information on the plant site and owner, a precise location of the plant site, and information on each declared plant on the plant site.

For each declared plant, the following information must be provided:

1. Identification of the plant and its owner, the precise location within the plant site and its main activities;

2. Whether the plant produces, processes or consumes the declared chemical(s); whether it is dedicated to such activities, multi-purpose, or other; and whether it performs other activities with regard to the declared Schedule 2 chemical(s); and

3. The production capacity of the plant for each declared Schedule 2 chemical that is produced.

In addition, plant site declarations must identify and quantify each Schedule 2 chemical which meets the declaration threshold criteria:

1. <u>Annual declaration on past activities</u>: only plants that exceeded the applicable threshold quantity for production, processing, or consumption of a Schedule 2 chemical during the three-year look-back period must be declared. The annual plant site declaration on past activities will aggregate activity information from declared plants only.[5] For declared chemicals, the plant site must also declare exports or imports of such chemicals above applicable threshold quantities on the annual declaration on past activities for the declaration year;

2. <u>Annual declaration on anticipated activities</u>: only plants that are anticipated to exceed the applicable threshold quantity for production, processing, or consumption of a Schedule 2 chemical in the next calendar year must be declared. The annual plant site declaration on anticipated activities will aggregate activity information from declared plants only, and will include anticipated time periods for production, processing or consumption; and

3. The purposes for which the chemical was or will be produced, processed or consumed.

Export and import data <u>must</u> be included in the declaration only if a <u>declared</u> chemical is exported from or imported to a plant site in quantities exceeding the declaration threshold criteria.[6]

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[5] If, for the declaration year in question, an activity was below threshold, you declare "0" quantity for that activity on the declaration.

[6] Exports and imports of undeclared Schedule 2 chemicals by plant sites above an applicable threshold quantity are subject to report requirements.

Plant sites must notify BIS no later than 15 days before commencing certain additionally planned activities not contained in the annual declaration on anticipated activities. See section 713.5 of the CWCR for details.

Reports

The CWCR require plant sites, trading companies and other U.S. persons to report the past year's export and import activity to BIS for each undeclared Schedule 2 chemical above the applicable threshold quantity. Transfers to and from States not Party to the Convention ("non-States Parties") are prohibited except where the Schedule 2 chemical subject to the EAR constitutes 10 percent or less of the weight of the mixture or is a normal ingredient in consumer goods packaged for retail sale for personal use. Export control requirements are included in the EAR.

Mixtures containing a Schedule 2 chemical are exempt from report requirements if the quantity of the Schedule 2 chemical in a mixture is less than 30 percent by weight or volume, whichever is less.

Declaration & Report Schedule

Each year, annual declarations and reports on the past year's activities must be submitted to BIS by February 28, and declarations of anticipated activities must be submitted by September 3.

For further information on the application of concentration levels, activity determinations, declaration and report requirements, forms, recordkeeping and other issues related to activities involving Schedule 2 chemicals, see BIS's *Chemical Weapons Convention Declaration and Report Handbook for Schedule 2 Chemicals and part 713 of the CWCR.*

SCHEDULE 3

Declarations

Schedule 3 declaration requirements are significantly simpler than those for Schedule 2. Annual declarations are required for all plant sites that comprise one or more plants which produced during the previous calendar year or are anticipated to produce in the next calendar year more than 30 metric tons of a Schedule 3 chemical. Declarations of a plant site must include the name, owner and precise location of the plant site, as well as the number of declared plants within it.

Annual declarations on past activities and annual declarations on anticipated activities must include for each declared plant, the name, owner, precise location within the plant site and main activities of the plant. Declarations must also include for each Schedule 3 chemical produced in excess of 30 metric tons at one or more plants: identification of the chemical, the purposes for which it was or will be produced, and the approximate amount of production for the calendar year within the ranges:

- 30 – 200 metric tons
- above 200 – 1,000 metric tons
- above 1,000 – 10,000 metric tons
- above 10,000 – 100,000 metric tons
- above 100,000 metric tons.

Only production quantities from plants that produced a Schedule 3 chemical in amounts greater than 30 metric tons are aggregated to determine the production range for the plant site.

Plant sites must notify BIS no later than 15 days before commencing certain additionally planned activities not contained in the annual declaration on anticipated activities. See section 714.4 of the CWCR for details.

Mixtures containing a Schedule 3 chemical are exempt from declaration requirements if the quantity of the Schedule 3 chemical in a mixture is less than 80 percent by weight or volume, whichever is less.

Reports

The CWCR require plant sites, trading companies and other U.S. persons to report the past year's exports and imports for each Schedule 3 chemical above 30 metric tons. Transfers of Schedule 3 chemicals to non-States Parties require an end-use certificate except where the Schedule 3 chemical constitutes 25 percent or less of the weight of the mixture or is a normal ingredient in consumer goods packaged for retail sale for personal use. Five years after entry into force

(April 29, 2002) of the Convention, the OPCW Conference of States Parties will consider the need to establish other measures relative to Schedule 3 transfers. Export control requirements are included in the EAR.

Mixtures containing a Schedule 3 chemical are exempt from report requirements if the quantity of the Schedule 3 chemical in a mixture is less than 80 percent by weight or volume, whichever is less.

Declaration & Report Schedule

Each year, annual declarations and reports on the past year's activities must be submitted to BIS by February 28, and declarations of anticipated activities must be submitted by September 3.

For further information on the application of concentration levels, declaration and report requirements, forms, recordkeeping and other declaration issues related to activities involving Schedule 3 chemicals, see BIS's *Chemical Weapons Convention Declaration and Report Handbook for Schedule 3 Chemicals and part 714 of the CWCR.*

UDOCs

Declarations

Declarations involving UDOCs have the highest threshold levels and the simplest requirements. Annual declarations on past activities are required from plant sites that:

1. Produced by synthesis during the previous calendar year more than 200 metric tons aggregate of unscheduled discrete organic chemicals (including all PSF-chemicals); or

2. Comprised one or more plants which produced by synthesis during the previous calendar year more than 30 metric tons of an individual PSF-chemical.

Declarations must include an identification of the plant site, its owner, precise location, main activities and the approximate number of plants producing UDOCs and the exact number of plants producing PSF-chemicals.

For UDOC plant sites included in (1) above, information on the approximate aggregate amount of UDOCs produced is declared in the ranges:

- 200 to 1,000 metric tons
- above 1,000 to 10,000 metric tons
- above 10,000 metric tons.

For plant sites included in (2) above, information on the approximate aggregate amount of all PSF-chemicals produced is declared in the ranges:

- 30 to 200 metric tons
- above 200 to 1,000 metric tons
- above 1,000 to 10,000 metric tons
- above 10,000 metric tons.

Declaration & Report Schedule

Each year, annual declarations on the past year's activities must be submitted to BIS by February 28.

For further information on declaration requirements, forms, recordkeeping and other declaration issues related to activities involving UDOC's, see BIS's *Chemical Weapons Convention Declaration and Report Handbook for Unscheduled Discrete Organic Chemicals and part 715 of the CWCR.*

Penalties

The Act and the CWCR contain civil and criminal penalties for prohibited acts related to CWC declaration and report requirements:

- Any person who willfully fails or refuses: (1) to establish or maintain required records; (2) to submit prescribed reports, notices or other information; or (3) to permit access to or copying of any record exempt from disclosure under the Act or the CWCR may be fined up to $5,000 (per violation) and/or imprisoned for not more than one year.

- Any person that violates the import restrictions on Schedule 1 or 2 chemicals may be subject to civil penalties up to $11,000 (per violation) or criminal penalties up to $50,000 and/or imprisoned for not more than ten years.

Inspections

Only declared facilities are subject to initial or routine inspection under the CWCR. As with declarations, the obligation to undergo on-site inspection is determined by specified threshold activity criteria. Prudent planning and preparation founded on knowledge is the surest way for a facility to fulfill its obligation to demonstrate compliance during on-site inspections. This is important to the facility because judgments about subsequent inspections will be based in large part on OPCW Technical Secretariat assessments made during initial inspections. During verification activities, BIS acts as host and escort for inspection teams at U.S. facilities subject to the CWCR. The BIS's Treaty Compliance Division is applying its own resources and expertise, as well as those of other agencies, to fulfill its mission to educate, prepare and support U.S. industry at all stages of the inspection process. The first step is an examination of the relevant provisions of the CWCR and Convention as they apply to the different categories of declarants.

Schedule 1 Facilities

Facilities producing Schedule 1 chemicals in quantities of more than 100 g aggregate for research, medical or pharmaceutical purposes will be inspected by the Technical Secretariat. The aim of inspection activity at these facilities is to verify that:

1. The facility is not used to produce any Schedule 1 chemical, except for the declared chemicals;

2. The quantities of Schedule 1 chemicals produced, processed or consumed are correctly declared and consistent with needs for the declared purpose; and

3. The Schedule 1 chemical is not diverted or used for other purposes.

The number, intensity, duration, timing and mode of inspections for a particular facility are based on the risk to the object and purpose of the Convention posed by the quantities of chemicals produced, the characteristics of the facility and the nature of the activities carried out there. For initial Schedule 1 inspections, the Technical Secretariat must notify the U.S. Government at least 72 hours before arrival of the inspection team at Washington Dulles International Airport—the national point of entry (POE). For subsequent routine inspections, the notification period is just 24 hours.

Facility Agreements

During an initial inspection of a Schedule 1 or 2 facility, the BIS-led U.S. Government "Host Team," working closely with facility representatives, will negotiate a draft facility agreement with the inspection team. Facility agreements cover all aspects of inspection activity and lend an element of predictability to the inspection environment and scope (e.g., they will detail the areas, equipment, computers, records, data, and samples that are subject to inspection). A final facility agreement will be concluded between the OPCW Technical Secretariat and the U.S. Government.

U.S. facility agreements will be drafted in accordance with model agreements adopted by the OPCW. The model agreements contained in the CWCR are based on the OPCW's models, and contain additional information to comply with the Act and to minimize disclosure of CBI during inspections.

Facility agreements are mandatory for all Schedule 1 facilities. For Schedule 2 plant sites, a facility agreement must be drafted unless facility representatives and the Technical Secretariat agree that it is not needed. In the case of Schedule 3 and UDOC plant sites, facility agreements are to be concluded only at the option of the individual facility.

Schedule 2 Plant Sites

The Technical Secretariat conducts initial inspections at each plant site that comprises at least one declared plant that produced, processed or consumed during any of the previous three calendar years or is anticipated to produce, process or consume in the next calendar year more than:

1. 10 kg of a Schedule 2 toxic chemical designated "*" – currently only BZ ;

2. 1 metric ton of any other Schedule 2 toxic chemical – currently only PFIB and Amiton (and corresponding alkylated or protonated salts); or

3. 10 metric tons of a Schedule 2 precursor.

During initial inspections, in addition to the negotiation of a draft facility agreement, the inspection team will assess the risk to the object and purpose of the Convention posed by the relevant chemicals, the characteristics of the plant site and the nature of the activities carried out there. The Convention states that these inspections are to be conducted as soon as possible.

The general aim of inspections is to verify that activities are in accordance with obligations under the Convention and consistent with the information provided in declarations. Particular aims of inspections include verification of:

1. The absence of any Schedule 1 chemical, especially its production, except if in accordance with CWC provisions related to non-prohibited activities;

2. The consistency of levels of production, processing or consumption of Schedule 2 chemicals with declarations; and

3. Non-diversion of Schedule 2 chemicals for activities prohibited under the Convention.

Having received the initial inspection, each plant site is subject to subsequent routine inspections in accordance with the facility agreement, if applicable. In selecting particular plant sites for inspection and in deciding on the frequency and intensity of inspections, the Technical Secretariat gives consideration to the risk posed to the object and purpose of the Convention, the respective facility agreements and the results of the initial inspections and subsequent inspections. However, no plant site will receive more than two inspections per calendar year. Schedule 2 inspections require at least 48 hours advance notification before arrival of the inspection team at the plant site. The inspection may not exceed 96 hours duration.

Schedule 3 Plant Sites

The Technical Secretariat may conduct on-site inspections at each plant site where the declared plants produced during the previous calendar year or are anticipated to produce in the next calendar year in excess of 200 metric tons aggregate of any Schedule 3 chemical. The Technical Secretariat selects plant sites for inspection on the basis of the following weighting factors:

1. Equitable geographical distribution of inspections; and

2. The information on the declared plant sites made available in declarations.

The aim of inspections is to verify that activities are consistent with the information provided in declarations and the absence of any Schedule 1 chemical, especially its production, except if in accordance with CWC provisions related to non-prohibited activities. No plant site will receive more than two inspections per year, and the total number of Schedule 3 and UDOC inspections in the United States is limited to 20 per year. Schedule 3 inspections require 120 hours advance notification before arrival of the inspection team at the plant site. The inspection may not exceed 24 hours duration.

UDOC Plant Sites

The Technical Secretariat may conduct on-site inspections at each plant site that produced by synthesis during the previous calendar year more than 200 metric tons aggregate of UDOCs, including those containing phosphorus, sulfur or fluorine.

The Technical Secretariat will select plant sites for inspection on the basis of the following weighting factors:

1. Equitable geographical distribution of inspections; and

2. The information on the declared plant sites made available in declarations.

The aim of inspections is to verify that activities are consistent with the information provided in declarations and the absence of any Schedule 1 chemical, especially its production, except if in accordance with CWC provisions related to non-prohibited activities. No plant site will receive more than two inspections per year and (as stated above) the total number of Schedule 3 and UDOC inspections in the United States is limited to 20 per year. UDOC inspections also require at least 120 hours advance notification before inspection team arrival at the plant site. Likewise, the inspection may not exceed 24 hours duration unless extended by agreement.

A table summarizing information presented on CWC-monitored chemicals, declarations and reports, and inspections follows this section. For detailed information on preparing for and hosting an inspection, see BIS's *Industry Inspection Preparation Handbook and part 716 of the CWCR.*

Challenge Inspections

The CWCR does provide for challenge inspections at undeclared and declared sites, when the United States is unsuccessful in resolving an issue of possible non-compliance raised by another State Party (see part 717 of the CWCR). However, no request for a challenge inspection has yet been made.

Administrative Warrants

In accordance with section 305 of the Act and the CWCR, BIS may seek an administrative warrant if a facility does not consent to allowing inspection team access to its facility. For all initial and routine inspections, BIS's Host Team notification to the designated inspection point of contact will request whether consent will be granted. If consent is not granted or the facility does not return the Host Team notification within four hours of receipt, a BIS team will be dispatched to obtain an administrative warrant.

Penalties

The Act and the CWCR contain civil and criminal penalties for prohibited acts related to CWC verification. Any person who willfully fails or refuses to permit, disrupts, delays or otherwise impedes an inspection may be fined up to $25,000 (per day) and/or imprisoned for not more than one year.

Inspection Preparation

Under the CWCR, inspectors may undertake a wide range of activities during on-site inspections. At the same time, the CWCR and Convention provide the means by which inspected States Parties and facilities may minimize the cost and burden of inspections

and minimize the disclosure of CBI. Among the keys to success in preparing for inspections are:

- Working knowledge of CWC provisions, as well as the Act and CWCR;
- Thorough site self-assessments, including the identification of confidential business information; and
- Site inspection staff training.

Outreach materials published by BIS can serve as a good starting point for preparing your site and staff. In addition, you may contact BIS for further information on regional seminars and site assistance visits, or log on to www.cwc.gov.

Summary of Implementation Provisions

	Schedule 1	Schedule 2	Schedule 3	UDOCs
CWCR chemicals (criteria)	Developed, produced, stockpiled or used as CW; high risk to the object and purpose of the Convention; key final stage precursors	Potential for use as CW; significant risk to the object and purpose of the Convention; final stage precursors	Produced, stockpiled or used as CW; otherwise poses risk to the object and purpose of the Convention; importance to Schedule 1 and 2 chemical production	Unscheduled discrete organic chemicals (UDOCs) and UDOCs containing phosphorus, sulfur, or flourine (PSF-chemicals)
Commercial uses	Few or none	Low to moderate	High	High
Annual activity threshold(s) for facility declarations	Production > 100 g aggregate	Production, processing, consumption, exports or imports > 1 kg for BZ, > 100 kg for other toxic chemicals, > 1 metric ton for precursors	Production > 30 metric tons	Production > 200 metric tons aggregate of UDOCs or > 30 metric tons of a PSF-chemical
Annual activity threshold(s) for reports	Any quantity of exports or imports	Exports or imports > 1 kg for BZ, > 100 kg for other toxic chemicals, > 1 metric ton for precursors	Exports or imports > 30 metric tons	None
Exemptions	< 0.5% unavoidable by-products or impurities	< 30% mixtures	< 80% mixtures	See part 715.1(a)(2)(ii) of CWCR
Deadline for annual declarations on past activities	28 February for previous calendar year	28 February for previous calendar year	28 February for previous calendar year	28 February for previous calendar year
Deadline for annual declarations on anticipated activities	3 August for next calendar year	3 September for next calendar year	3 September for next calendar year	N/A
Annual activity threshold(s) for inspections	Production > 100 g aggregate	Production, processing and consumption > 10 kg for BZ, > 1 metric ton for other toxic chemicals, > 10 metric tons for precursors	Production > 200 metric tons aggregate of a declared Schedule 3 chemical	Production > 200 metric tons aggregate of UDOCs, including those containing PSF-chemicals
Initial inspection notifications & facility agreements (FA)	At least 72 hours before arrival at the POE; mandatory FAs	At least 48 hours before arrival at plant site; mandatory FAs (unless plant site and Technical Secretariat agree otherwise)	No initial inspection; FAs at option of plant site	No initial inspection; FAs at option of plant site
Notice of routine inspections	At least 24 hours before arrival at POE	At least 48 hours before arrival at the site	At least 120 hours before arrival at site	At least 120 hours before arrival at site
Duration of initial/ routine inspections	To be specified in facility agreement	96 hours	24 hours	24 hours
Inspection team access during inspections	Unimpeded access to declared facilities	Unimpeded access to declared plants; managed access to other areas of plant site	Unimpeded access to declared plants; agreed access to other areas of plant site	Managed access to declared plants; agreed access to other areas of plant site
Maximum yearly number of inspections	Determination based on characteristics of facility	2 per plant site	2 per plant site; maximum 20 Schedule 3 and UDOC in United States	2 per plant site; maximum 20 Schedule 3 and UDOC in United States
Restrictions on exports / imports	Exports to and imports from States Parties only with 45 days advance notification	Exports to and imports from States Parties only (consumer products and ≤10% mixtures subject to EAR exempt)	Exports to non-Parties require end-use certificate (EUC) (≤25% mixtures and consumer products exempt)	No restrictions

Industry Issues

The two largest concerns that U.S. industry has about the Convention are the disclosure of proprietary data, trade secrets or other confidential business information (CBI) and the direct financial costs of compliance. The BIS committed to Congress and industry that it will minimize costs to industry and maximize the protection of CBI to the extent permitted by law. Further, BIS will view all policy and operational issues related to industry implementation through this prism.

The Bureau of Industry and Security's Principles of CWC Industry Implementation

1. Comply with CWC requirements
2. Maximize protection of confidential business information to the full extent permitted by law
3. Minimize intrusiveness and costs of inspections

Disclosure of CBI

The protection of CBI, that is disclosed to the U.S. Government, to the OPCW, or other States Parties, to the maximum extent permitted by law is a primary objective of BIS implementation policy. Overlapping layers of protective measures are written into the CWC text, the Act, and CWCR. The Confidentiality Annex of the Convention contains guidance to employees of the OPCW Technical Secretariat for handling confidential information. All employees of the Technical Secretariat are further required to sign secrecy agreements (with enforcement penalties) extending 5 years beyond their terms of employment. Finally, the Act contains severe penalties for the wrongful disclosure of CBI by the OPCW and U.S. Government officials.[1]

[1] Any current or former officer or employee of the United States, or employee of the Technical Secretariat who wrongfully discloses CBI to an unauthorized person is subject to fines and/or imprisonment of up to five years.

The Act defines CBI to mean any trade secrets or commercial or financial information that is privileged and confidential, including:

- financial data;
- sales and marketing data (other than shipment data);
- pricing data;
- personnel data;
- research data;
- patent data;
- data maintained for compliance with environmental or occupational health and safety regulations;
- data on personnel and vehicles entering and personnel passenger vehicles exiting the facility;
- any chemical structure;
- any plant design, process, technology or operating method;
- any operating requirement, input, or result that identifies any type or quantity of chemicals used, processed or produced;
- any commercial sale, shipment or use of a chemical; or
- any other information described in section 552(b)(4) of title 5, U.S. Code (Freedom of Information Act (FOIA)).

Specific Examples of Confidential Business Information

Manufacturing and process information

- The formula for a new drug or specialty chemical
- A synthetic route that requires the fewest steps or the cheapest raw materials
- The form, source, composition and purity of raw materials or solvents
- A new catalyst that improves the selectivity, efficiency or yield of a reaction
- The precise order and timing with which chemicals are fed into a reactor
- Subtle changes in pressure or temperature at key steps in a process
- Isolation methods that give the highest yields consistent with good recycling of solvents and reagents

Business Information

- Expansion and marketing plans
- Raw materials and suppliers
- Manufacturing costs
- Prices and sales figures
- Names of technical personnel working on a particular project
- Customer lists

SOURCE: Office of Technology Assessment, 1993.

Under the Act, information meeting the definition of CBI is exempt from disclosure under FOIA.

Declaration/Report Issues

Certain information submitted to BIS in the form of declarations and reports will meet the definition of CBI, and therefore will be exempt from disclosure under FOIA. Supplement No. 1 of Part 718 of the CWCR contains a table identifying the fields of declaration and report forms that will be treated as CBI. If a person believes that other declaration or report information provided to BIS should be treated as CBI, a justification must be appended to the submitted information which includes how disclosure would likely result in competitive harm.

The OPCW has developed a classification system whereby States Parties may designate information as unclassified, “restricted,” “protected,” or “highly protected” based on the sensitivity of the information. The classification level determines the limits on access to such information by the Technical Secretariat and States Parties. All declaration and report information submitted to the OPCW will be classified as “protected” by the U.S. Government.

Inspection Issues

During verification activities, OPCW inspection teams have a need to review facility records and visually inspect areas to fulfill the inspection mandate. Such activities result in the disclosure of information that facility representatives consider to be CBI. In order for the Host Team to properly handle and classify information provided to inspection teams, the facility must identify CBI to the Host Team prior to disclosure. All CBI disclosed to inspection teams will be classified as “protected” or “highly protected” depending upon its sensitivity. The BIS has developed document handling and tracking procedures which provides a record of

all information disclosed to the inspection team. BIS has also implemented new procedures for tracking inspection team access to buildings, areas, and structures.

Despite these measures, U.S. industry must remain vigilant in protecting its interests. Corporate and state-conducted industrial espionage is a fact of life and constitutes viable threats to leading U.S. industrial sectors, such as chemical manufacturing. The Act requires that each BIS-led Host Team include a Special Agent of the Federal Bureau of Investigation (FBI) to help protect facilities from industrial espionage. The BIS works closely with the FBI on CBI-related issues.

The first and most important layer of CBI protection is measures adopted by facility representatives themselves. A large part of the BIS outreach and site assistance effort is directed to just that end—education in the timely, cost-effective application of CWC-compliant protective measures.

Direct Financial Costs

In drafting the CWCR, BIS interpreted CWC provisions (wherever possible) in order to limit the number of facilities subject to declaration, reporting and inspection requirements.

The direct costs associated with compliance are primarily in three areas: the cost of completing declaration and/or reporting forms, the cost of compiling and maintaining records in support of verification activities, and any cost incurred in connection with preparing for and hosting a CWC inspection. In the creation of declaration forms, simplicity of use, consistent with CWC requirements, was a primary objective. The time required to complete the forms associated with each regime has been estimated to be:

- Schedule 1 - 10.6 hours
- Schedule 2 - 11.9 hours
- Schedule 3 - 2.5 hours
- UDOC - 5.3 hours.

The cost of compiling and maintaining records in accordance with the CWCR in order to comply with both the declaration and report requirements, and any requests for records during an on-site inspection is harder to quantify. It varies by type of facility. Some of the information required is not directly analogous to that required by existing financial or regulatory reporting vehicles. It is assumed that much of the cost involved will constitute one-time expenses that will not be duplicated once procedures are established for the collection and handling of CWCR-specific information.

The direct costs incident to hosting an on-site inspection should not be onerous. The Convention itself requires the conduct of inspections in such a way as to minimize disruption of operations. This injunction is echoed in the CWC Implementation Act and the CWCR. In addition, these are costs that the facility itself can influence. With a modest investment in planning and preparation, management and staff can efficiently present their facility and its operations in such a way as to expedite the inspection process, greatly reduce the inspection team's time on site and, ultimately, minimize costs.

The Act and CWCR require facilities to submit a report on inspection-related costs to BIS within 90 days of an inspection. To date, costs have averaged $45,000 for Schedule 1 and Schedule 2 inspections, and $21,000 for UDOC inspections.

Conclusion

BIS is committed to helping industry comply with the CWCR's declaration, reporting, and inspection requirements in a manner that maximizes the protection of CBI and minimizes costs and burdens. Our dedicated website, www.cwc.gov, is a comprehensive resource for documents related to CWC implementation, including: the treaty, implementing legislation and regulations; electronic declaration and report handbooks and forms; tools for managing inspections; outreach materials; seminar information; and links to other related organizations' websites. Facilities subject to the CWCR may also contact BIS at the numbers listed in Annex E.

Annex A: A Synopsis of the CWC Text

The Chemical Weapons Convention entered into force on April 29, 1997. Implementation activity in the United States began almost immediately thereafter. However, due to U.S. constitutional and regulatory requirements, implementation was limited to the chemical weapons (CW) provisions of the Convention and the Department of Defense facilities to which they apply. With the passage of the CWC Implementation Act of 1998 and the subsequent promulgation of BIS's CWCR, a timetable for industry implementation was set in motion. The first step in this implementation process is an awareness of the CWCR which are based on CWC provisions. As background a synopsis of the Convention is provided below.

The CWC is divided into four major components: the Preamble and 24 Articles; the Annex on Chemicals; the Annex on Implementation and Verification; and the Annex on the Protection of Confidential Information. The annexes are considered an integral part of the Convention. While the annexes provide the detailed "How" of the Convention, the Preamble and articles outline the general "What" of the document.

Preamble

The *Preamble* briefly proclaims, in stylized treaty language, the moral, historical and legal antecedents of the Convention.

24 Articles

Article I—General Obligations—spells out to States Parties the activities the Convention prohibits, as well as the positive actions it requires of States Parties.

Article II—Definitions and Criteria—provides specific definitions for terminology used in the CWC.

Article III—Declarations—outlines the reporting requirements each State Party bears in relation to CW and CW activities

Article IV—Chemical Weapons—provides the basis for implementation procedures for the destruction of CW and its verification.

Article V—Chemical Weapons Production Facilities—provides the basis for implementation procedures for the destruction and/or conversion of production facilities and their verification.

Article VI—Activities Not Prohibited Under This Convention—outlines the declaration and on-site verification measures pertaining to scheduled chemicals. This article forms the basis for industry verification measures.

Article VII—National Implementation Measures—specifies the legal and organizational undertakings required of States Parties in order to implement the Convention.

Article VIII—The Organization—describes the functions of the structural components of the Organization for the Prohibition of Chemical Weapons (OPCW).

The Conference of the States Parties, or simply the Conference, is the principle organ of the OPCW. The Conference meets at least annually and consists of representatives of each of the States Parties.

The Executive Council, the executive organ of the Organization, is responsible to the Conference, and is charged with promoting the effective implementation of, and compliance with, the Convention. It consists of representatives of 41 rotating States Parties chosen for 2-year terms and with due regard for geographic distribution and the importance of chemical industry.

The Technical Secretariat assists the Conference and the Executive Council and carries out all the verification measures in the Convention. The Director-General is the head of the Technical Secretariat and is appointed by the Conference.

Article IX—Consultations, Cooperation and Fact-finding—contains the procedures for clarifying and resolving compliance concerns, including the procedures for challenge inspections.

Article X—Assistance and Protection Against Chemical Weapons—provides for assistance and cooperation among States Parties in CW protection and for the reporting of chemical defense programs.

Article XI—Economic and Technological Development—promotes economic and technological development and prohibits impediments to trade and development in the field of chemistry for peaceful purposes.

Article XII—Measures to Redress a Situation and to Ensure Compliance, Including Sanctions—provides for the application of collective measures in response to threats to the object and purpose of the Convention, including referral to the United Nations.

(The remaining 12 articles are self-explanatory and are mainly administrative in nature.)

Article XIII—Relation to Other International Agreements

Article XIV—Settlement of Disputes

Article XV—Amendments

Article XVI—Duration and Withdrawal

Article XVII—Status of the Annexes

Article XVIII—Signature

Article XIX—Ratification

Article XX—Accession

Article XXI—Entry into Force

Articles XXII—Reservations

Article XXIII—Depositary

Article XXIV—Authentic Texts

Annex on Chemicals

The *Annex on Chemicals* consists of two parts: Guidelines for Schedules of Chemicals and the actual Schedules of Chemicals.

- Schedule 1 chemicals pose the greatest risk to the CWC. They have few or no uses not prohibited under the CWC.

- Schedule 2 chemicals pose a significant risk and generally are not produced in large quantities for legitimate (non-CW) uses.

- Schedule 3 chemicals are "dual-use" chemicals in that they are produced in large commercial quantities yet still pose a risk to the object and purpose of the CWC.

Verification Annex

The *Annex on Implementation and Verification,* known as the *Verification Annex,* contains the detailed instructions for implementing and complying with the CWC. As such, it is the heart of the Convention and is where most answers to operational questions can be found. The organization of the Verification Annex follows the same order as the articles of the Convention. The logic of the document is to move from the general to the more specific so that the later treatment of a given topic is the one that has precedence in specific application. For example, the general inspection rules are superseded by subsequent treatments of inspection procedures for specific types of inspections and facilities. The following is a synopsis of the contents of the Verification Annex.

Part I—Definitions

Part II—General Rules of Verification—provides for the designation of inspectors and their status, arrangements for inspection notifications and arrival at the point of entry (POE), inspection equipment, transfer to the inspection site and pre-inspection briefings. Most important, it establishes the general rules for the conduct of inspections and delineates the rights of the inspection team and the inspected State Party, as well as required procedures. The inspection team is granted unimpeded access to the inspection site, while at the same time it is enjoined to strictly observe and not exceed its inspection mandate. In addition, it is required to carry out its activities in a timely manner and to ensure the least possible inconvenience to the inspected State Party and disturbance to the inspected facility. Part II establishes the inspectors' right to conduct a number of inspection activities, including:

- Interviewing facility personnel;
- Inspecting documentation and records;
- Having photographs taken;
- Requesting clarification of ambiguities; and
- Having samples taken and performing analysis.

Part III—General Provisions for Verification Measures Pursuant to Articles IV, V, and VI, Paragraph 3—provides the framework for verification of declarations pertaining to chemical weapons storage, destruction and production facilities, as well as Schedule 1 chemical facilities. Included in this framework are requirements for facility agreements and measures for continuous monitoring instrumentation.

Part IV (A)—Destruction of Chemical Weapons and its Verification Pursuant to Article IV—details the declaration and verification process pertaining to chemical weapons. In addition to technical and historical declaration data, States Parties who possess chemical weapons are required to submit a general plan plus detailed annual plans for destruction of chemical weapons. These plans must conform to a CWC-prescribed order of destruction, meet phase targets, and meet the overall target—total destruction of CW not later than 10 years after entry into force.

Part IV (B)—Old Chemical Weapons and Abandoned Chemical Weapons—contains the obligations and procedures by which States Parties are to report Old and Abandoned CW and the CWC verification regime for them

Part V—Destruction of Chemical Weapons Production Facilities and its Verification Pursuant to Article V—provides the declaration, verification and destruction procedures for CW production facilities.

Part VI—Activities Not Prohibited Under This Convention in Accordance with Article VI (Regime for Schedule 1 Chemicals and Facilities Related to Such Chemicals)—specifies the limited uses and quantities of Schedule 1 chemicals permissible under the Convention, as well as the declaration and inspection provisions.

Part VII—Activities Not Prohibited Under This Convention in Accordance with Article VI (Regime for Schedule 2 Chemicals and Facilities Related to Such Chemicals)—specifies procedures for declarations and inspection activities.

Part VIII—Activities Not Prohibited Under This Convention in Accordance with Article VI (Regime for Schedule 3 Chemicals and Facilities Related to Such Chemicals)—specifies procedures for declarations and inspection activities.

Part IX—Activities Not Prohibited Under This Convention in Accordance with Article VI (Regime for Other Chemical Production Facilities)—contains the procedures for declarations and inspection activities involving unscheduled discrete organic chemicals, including those containing the elements phosphorus, sulfur or fluorine (designated “PSF chemicals” in the CWC).

Part X—Challenge Inspections Pursuant to Article IX—provides detailed information pertaining to the conduct of challenge inspections. The determination, negotiation, designation and role of the inspection site perimeter are covered, as well as the concept and practice of managed access procedures.

Part XI—Investigation in Cases of Alleged Use of Chemical Weapons—provides procedures for requests for an investigation and for the conduct of inspections.

Confidentiality Annex

The *Annex on the Protection of Confidential Information*, or simply the *Confidentiality Annex*, is divided into four sections that outline the general principles for handling confidential information, impose ethical standards for employment in the Technical Secretariat, describe the measures to protect confidential information as a result of on-site verification activity, and provide for procedures in cases of breaches of confidentiality. *Of particular importance is the right of States Parties to protect sensitive information not related to chemical weapons.* This right is reinforced by the obligation of the inspection teams to employ the least intrusive measures possible. These provisions are elaborated through facility agreements. Thus, the Convention provision affording the inspection team the right to *unimpeded access to the site* is conditioned by countervailing obligations and inspected State Party rights. In cases where information a State Party considers confidential is disclosed, the State Party may designate it as such and thereby impose an obligation on the Technical Secretariat in terms of special handling procedures. These procedures are reinforced through employee secrecy agreements that extend 5 years after the term of employment and provision for punitive disciplinary measures.

Annex B: Excerpts from Article II of the CWC

DEFINITIONS AND CRITERIA

For the purposes of this Convention:

1. **"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;

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

2. **"Toxic Chemical"** means:

Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere.

(For the purpose of implementing this Convention, toxic chemicals which have been identified for the application of verification measures are listed in Schedules contained in the Annex on Chemicals.)

3. **"Precursor"** means:

Any 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.

(For the purpose of implementing this Convention, precursors which have been identified for the application of verification measures are listed in Schedules contained in the Annex on Chemicals.)

8. **"Chemical Weapons Production Facility"**:

(a) Means any equipment, as well as any building housing such equipment, that was designed, constructed or used at any time since 1 January 1946:

(i) As part of the stage in the production of chemicals ("final technological stage") where the material flows would contain, when the equipment is in operation:

(1) Any chemical listed in Schedule 1 in the Annex on Chemicals; or

(2) Any other chemical that has no use, above 1 tonne per year on the territory of a State Party or in any other place under the jurisdiction or control of a State Party, for purposes not prohibited under this Convention, but can be used for chemical weapons purposes; or

(ii) For filling chemical weapons, including, inter alia, the filling of chemicals listed in Schedule 1 into munitions, devices or bulk storage containers; the filling of chemicals

into containers that form part of assembled binary munitions and devices or into chemical submunitions that form part of assembled unitary munitions and devices, and the loading of the containers and chemical submunitions into the respective munitions and devices;

(b) **Does not mean**:

(i) Any facility having a production capacity for synthesis of chemicals specified in subparagraph (a) (i) that is less than 1 tonne;

(ii) Any facility in which a chemical specified in subparagraph (a) (i) is or was produced as an unavoidable by-product of activities for purposes not prohibited under this Convention, provided that the chemical does not exceed 3 per cent of the total product and that the facility is subject to declaration and inspection under the Annex on Implementation and Verification (hereinafter referred to as "Verification Annex"); or

(iii) The single small-scale facility for production of chemicals listed in Schedule 1 for purposes not prohibited under this Convention as referred to in Part VI of the Verification Annex.

9. **"Purposes Not Prohibited Under this Convention"** means:

(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.

10. **"Production Capacity"** means:

The annual quantitative potential for manufacturing a specific chemical based on the technological process actually used or, if the process is not yet operational, planned to be used at the relevant facility. It shall be deemed to be equal to the nameplate capacity or, if the nameplate capacity is not available, to the design capacity. The nameplate capacity is the product output under conditions optimized for maximum quantity for the production facility, as demonstrated by one or more test-runs. The design capacity is the corresponding theoretically calculated product output.

12. For the purposes of Article VI:

(a) **"Production"** of a chemical means its formation through chemical reaction;

(b) **"Processing"** of a chemical means a physical process, such as formulation, extraction and purification, in which a chemical is not converted into another chemical;

(c) **"Consumption"** of a chemical means its conversion into another chemical via a chemical reaction.

Annex C: Guidelines for Schedules of Chemicals

Guidelines for Schedule 1

1. The following criteria shall be taken into account in considering whether a toxic chemical or precursor should be included in Schedule 1:

(a) It has been developed, produced, stockpiled or used as a chemical weapon as defined in Article II;

(b) It poses otherwise a high risk to the object and purpose of this Convention by virtue of its high potential for use in activities prohibited under this Convention because one or more of the following conditions are met:

(i) It possesses a chemical structure closely related to that of other toxic chemicals listed in Schedule 1, and has, or can be expected to have, comparable properties;

(ii) It possesses such lethal or incapacitating toxicity as well as other properties that would enable it to be used as a chemical weapon;

(iii) It may be used as a precursor in the final single technological stage of production of a toxic chemical listed in Schedule 1, regardless of whether this stage takes place in facilities, in munitions or elsewhere;

(c) It has little or no use for purposes not prohibited under this Convention.

Guidelines for Schedule 2

2. The following criteria shall be taken into account in considering whether a toxic chemical not listed in Schedule 1 or a precursor to a Schedule 1 chemical or to a chemical listed in Schedule 2, part A, should be included in Schedule 2:

(a) It poses a significant risk to the object and purpose of this Convention because it possesses such lethal or incapacitating toxicity as well as other properties that could enable it to be used as a chemical weapon;

(b) It may be used as a precursor in one of the chemical reactions at the final stage of formation of a chemical listed in Schedule 1 or Schedule 2, part A;

(c) It poses a significant risk to the object and purpose of this Convention by virtue of its importance in the production of a chemical listed in Schedule 1 or Schedule 2, part A;

(d) It is not produced in large commercial quantities for purposes not prohibited under this Convention.

Guidelines for Schedule 3

3. The following criteria shall be taken into account in considering whether a toxic chemical or precursor, not listed in other Schedules, should be included in Schedule 3:

(a) It has been produced, stockpiled or used as a chemical weapon;

(b) It poses otherwise a risk to the object and purpose of this Convention because it possesses such lethal or incapacitating toxicity as well as other properties that might enable it to be used as a chemical weapon;

(c) It poses a risk to the object and purpose of this Convention by virtue of its importance in the production of one or more chemicals listed in Schedule 1 or Schedule 2, part B;

(d) It may be produced in large commercial quantities for purposes not prohibited under this Convention.

Annex D: Exempted UDOC Compounds

TO DETERMINE IF CHEMICALS ARE CARBON OXIDES, CARBON SULFIDES OR METAL CARBONATES OR COMPOUNDS OF METAL AND CARBON.

Determine if any of your site's unscheduled chemicals containing carbon are classified as carbon oxides, carbon sulfides, metal carbonates, or compounds of metal or carbon. This determination should be made by evaluating each chemical against the definitions provided below.

Carbon oxides consist of chemical compounds that contain only the elements carbon and oxygen and have the chemical formula $C_x O_y$, where x and y denote integers. The two most common carbon oxides are carbon monoxide (CO) and carbon dioxide (CO_2). If a chemical produced at your plant site fits this definition, then it is classified as a carbon oxide.

Carbon sulfides consist of chemical compounds that contain only the elements carbon and sulfur, and have the chemical formula $C_a S_b$, where a and b denote integers. The most common carbon sulfide is carbon disulfide (CS_2). If a chemical produced at your plant site fits this definition, then it is classified as a carbon sulfide.

Metal carbonates consist of chemical compounds that contain a metal [i.e., the Group I Alkalis, Groups II Alkaline Earths, the Transition Metals, or the elements aluminum, gallium, indium, thallium, tin, lead, bismuth or polonium], and the elements carbon and oxygen. Metal carbonates have the chemical formula $M_d (CO_3)_e$, where d and e denote integers and M represents a metal. Common metal carbonates are sodium carbonate ($Na_2 CO_3$) and calcium carbonate ($CaCO_3$). If a chemical produced at your plant site fits this definition, then it is classified as a metal carbonate.

Compounds of metal and carbon consist of those chemicals that contain only a metal (as described in the previous paragraph) and carbon, e.g. calcium carbide (CaC_2).

Annex E: Points of Contact at BIS

Requests for declaration, reporting, notification and end-use certificate forms and information:

Treaty Compliance Division
Bureau of Industry and Security
Attention: Forms
U.S. Department of Commerce
1555 Wilson Boulevard, Suite 700
Arlington, VA 22209-2405

TEL: (703) 235-1335
FAX: (703) 235-1481
E-MAIL: cwcqa@cwc.gov

Submission of CWC declarations, reports and notifications:

Mail and Courier Deliveries to:

Treaty Compliance Division
Bureau of Industry and Security
Attention: Submissions
U.S. Department of Commerce
1555 Wilson Boulevard, Suite 700
Arlington, VA 22209

Chemical determinations:

Treaty Compliance Division
Bureau of Industry and Security
Attention: Determinations
U.S. Department of Commerce
1555 Wilson Boulevard, Suite 700
Arlington, VA 22209-2405

FAX: (703) 235-1481
E-MAIL: cdr@cwc.gov

Inspection-related information, including site assistance visit requests:

Treaty Compliance Division
Bureau of Industry and Security
Attention: Inspections
U.S. Department of Commerce
1555 Wilson Boulevard, Suite 700
Arlington, VA 22209-2405

TEL: (703) 605-4400
FAX: (703) 605-4424
E-MAIL: inspections@cwc.gov

Forms and DESI (Data Entry Software for Industry) as well as related information may also be obtained via the Internet at **http://www.cwc.gov**. Forms are provided in *Adobe Acrobat PDF* format.

To learn more about the CWC, visit the joint, BIS-Department of State website at: www.cwc.gov

Industry Implementation Chronology

13 January 1993 – CWC signed in Paris

31 October 1996 – 65th ratification (Hungary) deposited, triggering entry into force

25 April 1997 – U.S. ratifies CWC

29 April 1997 – CWC enters into force

21 October 1998 – U.S. CWC Implementation Act of 1998 enacted

30 December 1999 –Publication of final CWCR – Declaration window opens