

**TABLE 2: Summary of CWC-Schedules and their Relevance to Chemical Warfare**

Schedule 1	Legitimate Applications	Treaty and Australian Legislative Requirements
<ul style="list-style-type: none"> <li>• Pose high risk.</li> <li>• Include chemicals which have been used as warfare agents or weaponised and some key precursors:               <ul style="list-style-type: none"> <li>– nerve agents (eg: VX, sarin) and some of their final-step precursors;</li> <li>– blister agents (eg: sulfur and nitrogen mustards, lewisites);</li> <li>– two naturally-occurring toxins, namely saxitoxin and ricin.</li> </ul> </li> <li>• Nerve agents, developed during the 1940's and 1950's, are highly lethal and stockpiles in other countries are currently being destroyed under OPCW supervision.</li> <li>• Blister agents were used extensively in WWI, mainly as incapacitating agents (ie: designed to injure rather than kill).</li> <li>• Some toxins, e.g. ricin, can and have been weaponised and have been used for military purposes.</li> </ul>	<ul style="list-style-type: none"> <li>• Limited legitimate uses in research, medical and pharmaceutical preparations and in national CW defence programs.</li> </ul> <p><b>Some examples:</b></p> <ul style="list-style-type: none"> <li>– some of the nitrogen mustards are used in very small quantities in the treatment of particular types of cancer;</li> <li>– saxitoxin is used as a standard in the monitoring of toxins produced in marine paralytic shellfish poisoning outbreaks and fresh water blue-green algae outbreaks;</li> <li>– ricin is used in cancer treatment, bone marrow transplants and AIDS research.</li> </ul>	<p><b>A. Treaty Obligations</b></p> <ul style="list-style-type: none"> <li>• Maximum of 1 tonne at any given time within a State.</li> <li>• Production above 100 grams per year must be declared to the OPCW.</li> <li>• Each State Party is permitted one small-scale production facility, a single protective purpose facility and other facilities producing up to 10 kg for research, medical and pharmaceutical uses.</li> <li>• Transfers are limited to States Parties; re-transfer to third States is not permitted. Notification to the OPCW of intention to transfer is required 30 days prior to shipment.</li> <li>• All declarable Schedule 1 facilities are subject to routine inspections.</li> </ul> <p><b>B. Legislative Obligations</b></p> <ul style="list-style-type: none"> <li>• In general, a permit is required under the <i>Chemical Weapons (Prohibition) Act</i> to operate a facility producing Schedule 1 chemicals or using Schedule 1 chemicals above 100g in total.</li> <li>• Permits are valid for up to 5 years with biannual reporting requirements.</li> <li>• Permits are required for import or export of any Schedule 1 chemical. Applications for permits must be received at least <b>37 days</b> before shipment.</li> </ul>

Schedule 2	Legitimate Applications	Treaty and Australian Legislative Requirements
<ul style="list-style-type: none"> <li>• Pose significant risk.</li> <li>• Includes key precursor chemicals for synthesis of nerve and blister agents, and three chemicals that could be used as CW agents: <ul style="list-style-type: none"> <li>– amiton is a nerve agent in the VX family. Its toxicity is about 1/10 that of VX (ie: similar to sarin);</li> <li>– PFIB, a lethal choking agent used as a chemical warfare agent during WWI;</li> <li>– BZ, a psychotomimetic agent, ie: a mental incapacitant.</li> </ul> </li> <li>• There are hundreds of CW-precursor chemicals, generally listed under Schedule 2.4.</li> </ul>	<ul style="list-style-type: none"> <li>• Many have legitimate uses in industry. However, production scale is generally small from an industrial perspective.</li> </ul> <p><b>Some examples:</b></p> <ul style="list-style-type: none"> <li>– thiodiglycol (Schedule 2.13), a precursor to mustards, is used extensively in the inks/dye/photographic industry (eg: printing inks, ball point pen fluids, paints, dye-carriers etc);</li> <li>– many of the phosphorus-based flame retardants (Schedule 2.4) used for example, in the fabrics industry, are also precursors to nerve agents;</li> <li>– not only the mainstream chemical industry which <b>produce</b> chemicals but also industries that <b>use</b> Schedule 2 chemicals (eg: fabric industry, printing industry).</li> </ul>	<p><b>A. Treaty Obligations</b></p> <ul style="list-style-type: none"> <li>• No limits on the quantity of Schedule 2 chemicals used or produced within a State.</li> <li>• Biannual declaration of all facilities producing or using above 1 tonne (in general) per year.</li> <li>• Inspections of facilities producing or using above 10 tonnes (in general).</li> <li>• Annual declaration of aggregate national data for international trade in Schedule 2 Chemicals.</li> <li>– all inspectable facilities receive an initial inspection. Subsequent inspections are based on risk.</li> <li>• Transfers are limited to States Parties;</li> </ul> <p><b>B. Legislative Obligations</b></p> <ul style="list-style-type: none"> <li>• A permit is required under the <i>Chemical Weapons (Prohibition) Act</i> to operate a facility if Schedule 2 chemicals are likely to be produced or used above 1 tonne (in general) per year.</li> <li>• Permits in effect last for 5 years with biannual reporting requirements.</li> <li>• Permits are required to import and export Schedule 2 chemicals. Applications for permits must be received at least <b>7 days</b> before shipment.</li> </ul>

Schedule 3	Legitimate Applications	Treaty and Legislative Requirements
<ul style="list-style-type: none"> <li>• Pose risk.</li> <li>• Include chemicals which have been used as warfare agents and precursors: <ul style="list-style-type: none"> <li>– phosgene resulted in 80% of CW-related fatalities in WWI;</li> <li>– hydrogen cyanide, cyanogen chloride, hydrogen cyanide and chloropicrin were also used extensively as chemical warfare agents during WWI.</li> </ul> </li> <li>• Largely replaced in modern CW arsenals by the more toxic nerve agents.</li> </ul>	<ul style="list-style-type: none"> <li>• Most have legitimate uses in industry and are usually produced on large scale.</li> </ul> <p><b>Some examples:</b></p> <ul style="list-style-type: none"> <li>– hydrogen cyanide is a precursor to sodium cyanide which is used extensively in the gold mining industry;</li> <li>– phosgene used in the production of many legitimate organic chemicals;</li> <li>– triethanolamine, a precursor to nitrogen mustard, is used extensively in consumer products such toiletries, detergents, cement etc.</li> </ul>	<p><b>A. Treaty Obligations</b></p> <ul style="list-style-type: none"> <li>• No limits on quantity or use of Schedule 3 chemicals within a State.</li> <li>• Biannual declaration of all facilities producing above 30 tonnes per year. <ul style="list-style-type: none"> <li>– production is declared in ranges.</li> </ul> </li> <li>• Annual declaration of aggregate national data for international trade in Schedule 3 Chemicals.</li> <li>• Inspections of facilities producing or using above 200 tonnes.</li> <li>• Facilities to be inspected selected randomly by the OPCW.</li> <li>• Can be traded with Non-States Parties, provided end-use certificate obtained. States Parties may revise requirements from 2002.</li> </ul> <p><b>B. Legislative Obligations</b></p> <ul style="list-style-type: none"> <li>• A permit is required under the <i>Chemical Weapons (Prohibition) Act</i> to operate a facility if Schedule 3 chemicals are likely to be produced above 30 tonnes per year.</li> <li>• Permits in effect last for 5 years with biannual reporting requirements.</li> <li>• Permits are required to import and export Schedule 3 chemicals. Applications for permits must be received at least <b>7 days</b> before shipment.</li> </ul>

Discrete Organic Chemicals	Legitimate Applications	Treaty and Legislative Requirements
<ul style="list-style-type: none"> <li>• A <i>Discrete Organic Chemical (DOC)</i> is defined as any chemical belonging to the class of chemical compounds consisting of all compounds of carbon, except for its oxides, sulfides and metal carbonates.</li> <li>• Covers chemicals not listed in Schedules 1-3 relevant to the purposes of the Convention.</li> <li>• Aim of this element of the verification regime is to identify potentially relevant chemical production capability rather than activities involving specific chemicals.</li> <li>• Long-chain polymers and facilities producing only hydrocarbons (eg: petroleum refineries) or explosives are not included in this definition.</li> </ul>	<ul style="list-style-type: none"> <li>• Are usually produced on a large scale.</li> <li>• Use equipment which could be capable of producing CW-relevant chemicals.</li> <li>• A large range of industries produce or use DOCs:</li> </ul> <p><b>Some examples:</b></p> <ul style="list-style-type: none"> <li>– production of reagents used in cosmetics, detergents, fuel additives etc;</li> <li>– production of pharmaceuticals, inks and dyes, organic fertiliser (eg: urea), pesticides;</li> <li>– synthesis of flavours used in the food industry;</li> <li>– synthesis of monomers for polymerisation;</li> <li>– production of alcohols (including through fermentation).</li> </ul>	<p><b>A. Treaty Obligations</b></p> <ul style="list-style-type: none"> <li>• Annual declarations of plant sites producing more than 200 tonnes per year or 30 tonnes per year if the DOC contains one or more of the elements phosphorus, sulfur or fluorine (PSF)</li> <li>– DOC declarations are not detailed; production is declared in ranges and specific chemicals are not identified: they are grouped according to structure (e.g: alcohols) or intended use (e.g: tanning extracts).</li> <li>• Inspections of facilities producing above 200 tonnes.</li> <li>• No international trade restrictions.</li> </ul> <p><b>B. Legislative Obligations</b></p> <ul style="list-style-type: none"> <li>• Permit not required: the operator of a facility must make an annual notification under the <i>Chemical Weapons (Prohibition) Act</i> if more than 200 tonnes of DOC (or 30 tonnes of PSF) were produced at the facility in the preceding year.</li> <li>• No licences required to export or import.</li> </ul>