

# **Strengthening the Chemical Weapons Convention**

## **First CWC Review Conference Paper No 3**

### **Implementation of the General Purpose Criterion of the Chemical Weapons Convention**

**January 2003**

**Series Editors**

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# IMPLEMENTATION OF THE GENERAL PURPOSE CRITERION OF THE CHEMICAL WEAPONS CONVENTION

Graham S. Pearson

## Introduction

1. The central provision of the Chemical Weapons Convention<sup>1</sup> (CWC) is the total prohibition in Article I that "never under any circumstances" shall a State Party "develop, produce, otherwise acquire, stockpile or retain chemical weapons" with chemical weapons being defined in Article II as including "*Toxic chemicals and their precursors, **except where intended for purposes not prohibited under this Convention, as long as types and quantities are consistent with such purposes.***" The phrase in bold embodies the comprehensive scope of the Convention and is generally referred to as the General Purpose Criterion (GPC) which ensures that past, present and future chemical weapons are all prohibited. The implementation of the General Purpose Criterion is placed by Article VI on each State Party which "*shall adopt the necessary measures to ensure that toxic chemicals and their precursors are only developed, produced, otherwise acquired, retained, transferred, or used within its territory or in any other place under its jurisdiction or control for purposes not prohibited under this Convention.*"

2. Although the importance of implementing the general purpose criterion has been recognised by analysts of the CWC and the OPCW, relatively little attention has yet been given to how this might be achieved. As Julian Perry Robinson has pointed out<sup>2</sup>, "*the OPCW Technical Secretariat is sighted only towards those 29 chemicals and 14 families of chemicals that are listed in the CWC Annex on Chemicals*" and "*It is the National Authorities therefore, not the OPCW Technical Secretariat, that are primarily responsible for implementing the general purpose criterion which ... is absolutely vital to the future of the treaty.*" It was encouraging to note that the 1999 Annual Report<sup>3</sup> by the UK National Authority includes mention of the application of the general purpose criterion and concludes that "*National authorities need to consider this situation further.*" The most recent report<sup>4</sup>, for 2001, says that a workshop had been held at which it was agreed that "*it was essential for States Parties to recognise the importance of the GPC [general purpose criterion] in requiring that **any** toxic chemical can only be used for permitted purposes*" and that "*this stipulation does not apply only to the chemicals listed in the Schedules.*" It goes on to say that States Parties should review their activities to implement the general purpose criterion in the wake of the terrorist attacks on 11 September. In this Review Conference Paper, an analysis is made first as to why the general purpose criterion should be seen as being of increasing importance and then of some current international initiatives that are addressing chemicals that are of potential risk to public health or to the environment in order to explore

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<sup>1</sup>United Nations, *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction*, Corrected version in accordance with Depositary Notification C.N.246.1994.Treaties-5 and the corresponding Proces-Verbal of Rectification of the Original of the Convention, issued on 8 April 1994. Available at <http://www.opcw.org/cwc/cwc-eng.htm>

<sup>2</sup>Julian Perry Robinson, *Memorandum submitted by Professor J P Perry Robinson, University of Sussex, Foreign Affairs Committee, Eighth Report, Weapons of Mass Destruction*, 25 July 2000, Appendix 29, p. 203.

<sup>3</sup>Department of Trade and Industry, *1999 Annual Report on the operation of the Chemical Weapons Act 1996*, DTI/Pub 4913/2k/6/00/NP, June 2000.

<sup>4</sup>Department of Trade and Industry, *Annual Report for 2001 on the operation of the Chemical Weapons Act 1996*. Available at <http://www2.dti.gov.uk/non-proliferation/cwcna/2001-report.pdf>

how these initiatives might be harnessed by States Parties to implement the CWC general purpose criterion.

### The Importance of the General Purpose Criterion

3. It was noted in Review Conference Paper No. 2<sup>5</sup> that the General Purpose Criterion is clearly recognised as being central to the health of the Convention and that it is incorrect to have perceptions that there are gaps in regard to chemicals such as novichoks, etc. The point is that the prohibitions and definitions in Articles I and II are **all** embracing and that the lists of chemicals making up the Schedules were never intended to be, and never could be, comprehensive. The Convention totally prohibits the development, production, acquisition, stockpiling retention or use of chemical weapons "*under any circumstances*" and defines chemical weapons as meaning 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**; [Emphasis added]*
- (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).*

The text in bold is referred to as the **general purpose criterion** which ensures that all toxic chemicals and their precursors are embraced by the Convention *except where intended for purposes not prohibited under the Convention, as long as the types and quantities are consistent with such purposes*. Toxic chemicals are defined in the Convention as meaning:

*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.*

All chemicals that can cause death, temporary incapacitation or permanent harm to humans or animals are thus prohibited unless they are in types and quantities consistent with their intended uses for purposes not prohibited under the Convention which are defined in the Convention as:

- (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;*

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<sup>5</sup>Graham S. Pearson, *Maximizing the Security Benefits from the First Review Conference of the Chemical Weapons Convention*, University of Bradford, Department of Peace Studies, First CWC Review Conference Paper No. 2, December 2002. Available at <http://www.brad.ac.uk/acad/scwc>

(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.*

4. The Schedules to the Convention were essentially finalised nearly 20 years ago and understandably focussed on those chemicals widely known then as having been used or developed for use as chemical weapons. In order to create a somewhat wider safety net, chemicals belonging to the same classes as the known chemical weapon agents were also included in the Schedules -- sometimes referred to as "families". Since then there has been a greater appreciation that the risks to the Convention are posed by chemicals from a spectrum of potential agents.

Classical CW	Industrial Chemicals	Bioregulators Peptides	Toxins	Genetically Modified BW	Traditional BW
Cyanide Phosgene Mustard Nerve Agents	Methyl isocyanate	Substance P Neurokinin A	Saxitoxin Ricin Botulinum Toxin Cyanide	Modified/ Tailored Bacteria Viruses	Bacteria Viruses Fungi  Anthrax Plague Tularemia
Chemical Weapons Convention			Biological and Toxin Weapons Convention		
Poison			Infect		

5. The mid-spectrum region between chemical and biological agents includes substances such as bioregulators and toxins. These are all chemicals and that almost all are not included in the Schedules -- the two that are listed in Schedule 1 are ricin and saxitoxin. These midspectrum materials can now be readily produced in quantity -- and for prohibited purposes, impurities are not a problem. The challenge to the Convention posed by such materials is further increased by the recent advances in drug delivery techniques.

6. In Review Conference Paper No. 2<sup>6</sup> it was concluded that there are increasing risks from unscheduled chemicals as there are significant advances in technology and in biotechnology, and there were already a range of known unscheduled chemicals such as intermediate volatility agents (IVAs) or novichoks, mid-spectrum materials such as bioregulators, and calmatives which caused concern even though the general purpose criterion ensured that all such chemicals are embraced by the prohibitions of the CWC. The question was debated as to how likely is it that Scheduled chemicals would be chosen for breakout with the perception being that this was becoming less likely. Consequently, the First Review Conference needed to be alert to the dangers which might already be present but would certainly be there in future.

<sup>6</sup>Graham S. Pearson, *Maximizing the Security Benefits from the First Review Conference of the Chemical Weapons Convention*, University of Bradford, Department of Peace Studies, First CWC Review Conference Paper No. 2, December 2002. Available at <http://www.brad.ac.uk/acad/scwc>

7. Although the general purpose criterion is the heart and soul of the Convention which provides the best protection against new agents in respect both of the Convention and in providing protection against chemical terrorism, the situation in regard to the enactment nationally by States Parties of the essential overarching penal legislation to implement the general purpose criterion and the Convention is grave. Attention needs to be given by States Parties to how best to implement nationally the general purpose criterion in a way that demonstrates both nationally and to the other States Parties that the State Party has an effective arrangement in place to build confidence that chemicals are not being developed, produced or used for prohibited purposes.

## International Initiatives

8. As noted two years ago in an article *The CWC General Purpose Criterion: How to Implement?* (CBW Conventions Bulletin Issue No 49, September 2000)<sup>7</sup>, the world growth in trade in the 1960s and 1970s led to increasing attention being given to the potential risks to the environment and to public health from chemicals. Consequently, there are a number of international, regional and national initiatives that are addressing chemical safety and the potential risks to the environment and/or to the health of the general public or workers.

9. The international initiatives primarily arise from the United Nations promotion of global cooperation on issues relating to the environment and public health. There are several international treaties relating to the control of chemicals:

- *Stockholm Convention on Persistent Organic Pollutants (POPs)*<sup>8</sup>. POPs are chemicals which remain in the environment for lengthy periods without degrading and thus cause damage when they arrive in the environment.
- *Montreal Protocol on Substances that Deplete the Ozone Layer*.<sup>9</sup> This protocol has introduced measures to restrict the production and use of chemicals that damage the ozone layer.
- *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*.<sup>10</sup> This requires the provision of information from risk assessments to importing nations prior to the import of such chemicals.
- *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*.<sup>11</sup> This requires that transboundary movements of hazardous wastes be reduced to a minimum at that such wastes should be disposed of as close as possible to their source of generation.

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<sup>7</sup>Graham S. Pearson, *The CWC General Purpose Criterion: How to Implement?*, The CBW Conventions Bulletin Issue no 49, September 2000, pp. Available at <http://www.sussex.ac.uk/spru/hsp>

<sup>8</sup>Stockholm Convention on Persistent Organic Pollutants. Available at <http://www.pops.int>

<sup>9</sup>Montreal Protocol on Substances that Deplete the Ozone Layer. Available at <http://www.unep.ch/ozone/montreal.shtml>

<sup>10</sup>Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. Available at <http://www.pic.int/en/ViewPage.asp?id=101>

<sup>11</sup>Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Available at <http://www.basel.int>

10. These Conventions have largely arisen from a number of initiatives in relation to chemicals undertaken over the years by the United Nations Environment Programme (UNEP). As a discussion paper<sup>12</sup> prepared for the meeting of the Governing Council of UNEP on 3 to 7 February 2003 states:

### *I. The Chemicals Challenge*

*2. Chemicals are essential for development and everyday life. Modern fertilizers and pesticides have been a boon to agriculture and helped us feed our growing populations. Chemicals have served medicine in many ways, ranging from pharmaceuticals to the equipment and materials used in hospitals. From transportation through information technology to entertainment -- our quality of life would not be the same today without a healthy chemicals and manufacturing industry. Today, the pace of growth in the global chemicals industry is astonishing. There are some 70,000 different chemicals on the market with 1,500 new ones introduced every year.*

*3. As we have come to learn, however, chemicals are not all benign. Some chemicals have been implicated in various disorders and diseases, including cancer, reproductive disorders and failures, birth defects, neurobehavioural disorders and impaired immune functions. Many thousands of cases of accidental poisoning result from the inappropriate use of highly toxic pesticide formulations, or their use in locations where protective equipment is unavailable or unused. Chemicals deplete the ozone layer, cause climate change and affect biodiversity. They accumulate in poorly managed stockpiles and waste sites. Many persist in the environment and bioaccumulate, leading to ever increasing levels in humans and wildlife. These are just some of the effects we know – there is not enough data on most of the chemicals in use today to understand their risks. Furthermore, basic protection measures for consumers, workers and the environment are often lacking. Increasingly, the manufacture of chemicals is shifting from developed to developing countries where the capacity to provide such protection is limited.*

*4. Increasing globalization and the enormous market for chemicals and the products they are used in means that chemical safety programmes must be strengthened and steps must be taken to integrate these programmes wisely into sustainable development. The Plan of Implementation of the World Summit on Sustainable Development,<sup>13</sup> and the response by UNEP is a step in this direction.*

11. The UNEP chemicals programme has as its goal the making of the world a safer place from toxic chemicals. This is done by helping governments to take necessary global action for the sound management of chemicals, by promoting the exchange of information on chemicals, and by helping to build the capacities of countries around the world to use

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<sup>12</sup>United Nations, Governing Council of the United Nations Environment Programme, *Background Paper for Consideration by the Plenary: State of the Environment, The chemicals work of the United Nations Environment Programme*, UNEP/GC.22/10/Add.1, 20 December 2002. Available at <http://www.unep.org/GoverningBodies/GC22/contents2.htm>

<sup>13</sup>Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002, A/CONF.199/20, chap. I, resolution 2, annex. Available at [http://www.johannesburgsummit.org/documents/summit\\_docs/131302\\_wssd\\_report\\_reissued.pdf](http://www.johannesburgsummit.org/documents/summit_docs/131302_wssd_report_reissued.pdf)

chemicals safely. The UNEP programme takes forward several of the programmes identified at the 1992 United Nations Conference on Environment and Development (sometimes referred to as the Earth Summit, 1992) held in Rio de Janeiro which adopted Agenda 21 which in Chapter 19 identified six programme areas for the environmentally sound management of chemicals:

- A. Expanding and accelerating the international assessment of chemical risk;
- B. Harmonization of classification and labelling of chemicals;
- C. Information exchange on chemicals and chemical risks;
- D. Establishment of risk reduction programmes;
- E. Strengthening of national capabilities and capacities for management of chemicals; and
- F. Prevention of illegal international traffic in toxic and dangerous products.

12. Whilst most chemicals are benign in the concentration levels to which we are exposed to them, others present risks to human health or to the environment. Sustainable development requires the global capacity for the sound management of chemicals. National capacities exist within most developed countries, but to a more limited extent elsewhere. One aim in building global capacity is to extend the sound management of chemicals to all countries -- that is, to take steps to ensure that all countries have the information necessary, expertise, and resources to manage chemicals safely under the conditions of production or use in that country. A second aim of global capacity is ensuring that the necessary global actions are taken to address risks that are not dealt with by national actions alone.

13. Expanding access to information and information tools is one of the primary ways in which UNEP helps countries to develop their capabilities in assessing and managing chemical risks. A wide range of information products have been issued by UNEP Chemicals, such as the International Register of Potentially Toxic Chemicals (IRPTC), often with partner organizations such as the International Programme on Chemical Safety (IPCS), the Inter-Organizational Programme on the Sound Management of Chemicals (IOMC), the Organization of Economic Co-operation and Development (OECD), and the Intergovernmental Forum on Government Safety (IFCS). The IFCS was established<sup>14</sup> in 1994 as *"a non-institutional arrangement whereby representatives of governments meet to consider and to provide advice and where appropriate, make recommendations to governments, international organizations, intergovernmental bodies and non-governmental organizations involved in chemical safety on aspects of chemical risk assessment and environmentally sound management of chemicals."* Its aim is the integration and consolidation of national and international efforts to promote chemical safety. The representatives of governments have the right to vote whereas intergovernmental and non-governmental organizations participate without the right to vote. The IFCS secretariat is located in Geneva within the WHO.

14. The IFCS at its Forum III in Bahia, Brazil in October 2000 adopted the Bahia Declaration on Chemical Safety<sup>15</sup> which called for the promotion of *"global cooperation for chemicals management; for pollution prevention; for sustainable agriculture; and for cleaner processes, materials and products."* and for ensuring that *"all countries have the capacity for*

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<sup>14</sup>International Conference on Chemical Safety, *Resolution on the Establishment of an Intergovernmental Forum on Government Safety*, Stockholm, 25-29 April 1994, IPCS/IFGC/94.Res.1, 29 April 1994. Available at [http://www.who.int/ifcs/fs\\_res1.htm](http://www.who.int/ifcs/fs_res1.htm)

<sup>15</sup>Intergovernmental Forum on Chemical Safety, *Bahia Declaration on Chemical Safety*, Third Session - Forum III Final Report, IPCS/FORUM III/23w. Available at <http://www.who.int/ifcs/forum3/final.htm>



*sound management of chemicals, particularly through coordinated national policies, legislation and infrastructure."* It also recognised that *"Many countries are still struggling to establish the essential infrastructure for chemical safety"* and that *"Standards of chemical safety across much of the world fall short of that needed to provide adequate protection of human health and the environment."* The Declaration calls for the ratification and implementation of *"chemicals conventions and agreements and ensuring efficient and effective coordination between all chemical safety-related organizations and activities"* as well as the promotion of *"the entry into force at the earliest possible time of international treaties and agreements concerning chemical safety that are under negotiation or not yet in operation."* The Forum III also agreed Priorities for Action beyond 2000<sup>16</sup> which set out a structured approach with dated milestones to achieve the objectives of the Bahia Declaration.

15. A decision<sup>17</sup> calling for a strategic approach to international chemicals management was adopted by the UNEP Governing Council at its Seventh Special Session in February 2002. This noted the steps being taken to implement the Stockholm Convention on Persistent Organic Pollutants, the Rotterdam Convention on the Prior Informed Consent Procedure and the Basel Convention on the Control of Transboundary Movements of hazardous Wastes and their Disposal and decided that *"there is a need to further develop a strategic approach to international chemicals management and endorses the Intergovernmental Forum on Chemical Safety Bahia Declaration and Priorities for Action beyond 2000 as the foundation of this approach."* The decision goes on to underline *"that the strategic approach to chemicals management should promote the incorporation of chemical safety issues into the development agenda and identify concrete proposals for strengthening capacity for the sound management of chemicals and the related technologies of all countries, taking into account the vast difference in capabilities between developed and developing countries in this field."* This initiative was subsequently endorsed<sup>18</sup> by the World Summit on Sustainable Development in Johannesburg on 26 August to 4 September 2002. The Summit agreed to:

*"23. Renew the commitment, as advanced in Agenda 21 to sound management of chemicals throughout their life cycle and of hazardous wastes, for sustainable development as well as for the protection of human health and the environment, inter alia, aiming to achieve, by 2020, that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment, using transparent science-based risk management procedures, taking into account the precautionary approach, as set out in principle 15 of the Rio Declaration on Environment and Development, and support developing countries in strengthening their capacity for the sound management of chemicals and hazardous wastes by providing technical and financial assistance. This would include actions at all levels to:*

*(a) Promote the ratification and implementation of relevant international instruments on chemicals and hazardous waste, including the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous*

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<sup>16</sup>Intergovernmental Forum on Chemical Safety, *Annex 6 Priorities for Action beyond 2000*, Third Session - Forum III Final Report, IPCS/FORUM III/23w, Annex 6. Available at <http://www.who.int/ifcs/forum3/final.htm>

<sup>17</sup>UNEP Governing Council, *Decision SS.VII/3 Strategic approach to international chemicals management*, Seventh Special Session, February 2002. Available at <http://www.chem.unep.ch/irptc/strategy/default.htm>

<sup>18</sup>United Nations, *Report of the World Summit on Sustainable Development*, Johannesburg, South Africa, 26 August-4 September 2002. A/CONF.199/20, Resolution 2, Annex, pp. 19-20. Available at [http://www.johannesburgsummit.org/html/documents/summit\\_docs/131302\\_wssd\\_report\\_reissued.pdf](http://www.johannesburgsummit.org/html/documents/summit_docs/131302_wssd_report_reissued.pdf)

*Chemicals and Pesticides in International Trade so that it can enter into force by 2003 and the Stockholm Convention on Persistent Organic Pollutants so that it can enter into force by 2004, and encourage and improve coordination as well as supporting developing countries in their implementation;*

*(b) Further develop a strategic approach to international chemicals management based on the Bahia Declaration and Priorities for Action beyond 2000 of the Intergovernmental Forum on Chemical Safety by 2005, and urge that the United Nations Environment Programme, the Intergovernmental Forum, other international organizations dealing with chemical management and other relevant international organizations and actors closely cooperate in this regard, as appropriate;*

*(c) Encourage countries to implement the new globally harmonized system of classification and labelling of chemicals<sup>19</sup> as soon as possible with a view to having the system fully operational by 2008;*

*(d) Encourage partnerships to promote activities aimed at enhancing environmentally sound management of chemicals and hazardous wastes, implementing multilateral environment agreements, raising awareness of issues relating to chemicals and hazardous waste and encouraging the collection and use of additional scientific data;*

*(e) Promote efforts to prevent international illegal trafficking of hazardous chemicals and hazardous wastes and to prevent damage resulting from the transboundary movement and disposal of hazardous wastes in a manner consistent with obligations under relevant international instruments, such as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; ...."*

16. It is thus evident that there is a significant international effort addressing safety in chemicals which is seeking to promote the incorporation of the safe use of chemicals into the development agenda in countries around the world. This effort is essentially focussed on capacity-building programmes in chemical safety for developing countries and countries with economies in transition.

## **Other International Initiatives**

### *Organization of Economic Co-operation and Development (OECD)*

17. The 30 nation<sup>20</sup> OECD in 1991 adopted a Council decision/recommendation<sup>21</sup> considering that strengthened national and co-operative international efforts to investigate

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<sup>19</sup>Work on the globally harmonized system of classification and labelling of chemicals is being led by the International Labour Organization together with United Nations Institute for Training and Research.

<sup>20</sup>The 30 member countries of the OECD are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, European Communities, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, The Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States.

<sup>21</sup>OECD, *Decision-Recommendation of the Council on the Co-operative Investigation and Risk Reduction of Existing Chemicals*, C(90)163/Final, 31 January 1991. Available at <http://www.oecd.org/ehs/CA90163.HTM>

*systematically and reduce the risks of hazardous existing chemicals will substantially alleviate threats of serious or irreversible damage to the environment and/or the health of the general public or workers ... DECIDES that Member countries shall co-operatively investigate high production volume (HPV) chemicals in order to identify those which are potentially hazardous to the environment and/or to the health of the general public or workers. In addition, the decision-recommendation DECIDES that Member countries shall establish or strengthen national programmes aimed at the reduction of risk from existing chemicals to the environment and/or the health of the general public or workers and RECOMMENDS that, where appropriate, Member countries undertake concerted activities to reduce the risks of selected chemicals taking into account the entire life cycle of the chemicals. These activities could encompass both regulatory and non-regulatory measures including: the promotion of the use of cleaner products and technologies; emission inventories; product labelling; use limitations; economic incentives; and the phase-out or banning of chemicals. The decision-recommendation also INVITES the Secretary-General to take the necessary steps to ensure that this work is carried out in co-operation with other international organizations and, in particular, in collaboration with the UNEP/IRPTC and the IPCS.*

18. In order to make this task manageable, the OECD decided to concentrate on high production volume (HPV) chemicals -- these are chemicals being produced or imported at levels greater than 1000 tonnes per year in at least one OECD country. The chemicals are listed in an OECD list of high production volume chemicals<sup>22</sup> which currently includes 5,235 substances. In addition, the OECD has agreed a minimum set of data in order to determine its potential hazard -- the Screening Information Data Set (SIDS).<sup>23</sup> This enables resources to be concentrated on carrying out further work on chemicals of concern.

19. Using the data from the SIDS, mainly provided by co-operation with the chemical industry, OECD Member countries prepare a SIDS Initial Assessment Report (SIAR) which highlights any potential risk and contains recommendations for further action, if any, on the chemical. The SIAR is discussed at a meeting (SIDS Initial Assessment Meeting (SIAM)) of experts from all Member countries, from other international organizations, and from non-member countries, as nominated by the United Nations International Programme on Chemical Safety (IPCS), as well as representatives of the manufacturing companies. The SIAR, amended as appropriate, is made available world-wide by posting on the internet and by provision to UNEP Chemicals for inclusion in their database and publication as a contribution to the Inter-Organizational Programme on the Sound Management of Chemicals (IOMC). The OECD HPV Chemicals programme was refocussed in 1998 in order to increase transparency, efficiency and productivity. The current aim is to complete SIDS testing for the first tranche of some 1000 chemicals on the HPV list -- which contains 5,235 chemicals -- by the end of 2004.

*United Nations Institute for Training and Research (UNITAR)*

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<sup>22</sup>The latest OECD HPV chemicals list is that compiled in 2000 which contains 5,235 substances and is based on the submissions of nine national inventories and that of the European Union. The next List will be compiled in 2003. Available at <http://www.oecd.org/EN/document/0,,EN-document-525-14-no-1-9998-0,00.html> The OECD Integrated HPV Database is available at the same website.

<sup>23</sup>Information on the SIDS and the evaluation and assessment process is provided in the Manual for the Investigation of HPV Chemicals which is available at <http://www.oecd.org/EN/document/0,,EN-document-525-nodirectorate-no-5-33255-12,00.html>

20. The United Nations Institute for Training and Research (UNITAR) has mounted training and capacity building programmes in chemicals and waste management (CWM) to support developing countries and countries in economic transition in their efforts to ensure that dangerous chemicals and waste are handled safely without causing harm to human health and the environment. These programmes are closely linked to Chapter 19 of Agenda 21 and to related recommendations of the IFCS. The CWM programmes are implemented through partnerships with the participating organizations of IOMC and are funded through extra-budgetary funds provided by Member States and international organisations. Programmes have been supported by the governments of Australia, Austria, Canada, Denmark, Germany, The Netherlands, Switzerland, and the United States, the European Commission, UNEP Chemicals and FAO, with core funding being provided by Switzerland and the Netherlands. A particularly important element of the CWM programmes is in the elaboration of national profiles to indicate current capabilities and capacities for management of chemicals and the specific needs for improvements. As of August 2002, some 92 countries<sup>24</sup>, including several OECD Member States, have prepared or are preparing a National Profile following the guidelines laid down in the UNITAR/IOMC National Profile Guidance Document<sup>25</sup>. National Profiles are available on the internet for 45 countries<sup>26</sup> at a UNITAR/European Chemicals Bureau website.

21. In addition, UNITAR have organised a number of thematic workshops on priority topics of national chemicals management capacity building. Of particular interest, is one on "Developing & Strengthening National Legislation and Policies for the Sound Management of Chemicals" which was held in Geneva in 1999 with funding provided by Switzerland and the Technical Secretariat of the OPCW. The Final Report<sup>27</sup> of this Workshop in its record of the perspective of international organization includes that the OPCW *"noted the close linkage of implementing obligations under the Chemical Weapons Convention and the general infrastructure for the management of chemicals such as import and export control mechanisms, licensing data reporting, laboratory capacities."* The workshop concluded that unacceptable risks to health, safety and environmental quality continually primarily because existing laws and regulations are fragmented across sectoral boundaries with no unifying policy mechanisms and governments are therefore urged to review their chemical legislation, including regulations and regulatory structures, to ensure that they efficiently and effectively promote the sound management of chemicals.

#### *International Council of Chemical Associations (ICCA) Global Initiative on HPV Chemicals*

22. The global chemical industry launched a global Initiative on High Production Volume (HPV) chemicals<sup>28</sup> on 3 October 1998 at the meeting of the Board of Directors of the ICCA.

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<sup>24</sup>Detailed information on the current status of the national profile for each country is available at <http://www.unitar.org/cwm/homepage/a/np/globalstatus/frglobalheader.htm>

<sup>25</sup>UNITAR/IOMC, *Preparing a National Profile to Assess the National Infrastructure for Management of Chemicals: A Guidance Document*, 1996. Available at <http://www.unitar.org/cwm/homepage/a/np/npdoc/index.htm>

<sup>26</sup>Available at <http://www.unitar.org/cwm/nationalprofiles/English/national.htm>

<sup>27</sup>UNITAR/IOMC/IFCS, *Developing & Strengthening National Legislation and Policies for the Sound Management of Chemicals*, Observations and Conclusions of an International Expert Meeting, Geneva, Switzerland, 22 -- 25 June 1999, Final Report. Available at [http://www.unitar.org/cwm/publications/pdf/tw3\\_\(22\\_jan\\_02\).PDF](http://www.unitar.org/cwm/publications/pdf/tw3_(22_jan_02).PDF)

<sup>28</sup>ICCA Global Initiative on High Production Volume (HPV) Chemicals. Available at <http://www.cefic.org/activities/hse/mgt/hpv/hpvinit.htm>

The goal of this initiative is to prepare harmonized, internationally agreed data sets and initial hazard assessments under the SIDS programme of the OECD. The key element of the ICCA initiative is the improvement of the current database of approximately 1,000 OECD HPV chemicals based on information gathering and where necessary additional testing by the end of 2004. The ICCA HPV Working List as of July 2002 lists 1,257 chemicals<sup>29</sup> and shows which substances have already been assessed by the SIDS Initial Assessment Meeting (SIAM).

### *European Union*

23. The European Union (EU) had identified the potential risks of chemicals as a policy priority in the 1970s and the 1980s which saw the drawing up of EINECS (European INventory of Existing Commercial Substances) which lists and defines some 100,000 chemicals which were deemed to be on the European Union market between 1 January 1971 and 18 September 1981; EINECS is an inventory containing 100,195 substances. Any new chemicals subsequently brought onto the market are included in ELINCS (European List of New Chemical Substances); this currently comprises some 4000 notifications in total, representing about 2000 substances, which have been notified since 1981 corresponding to about 400 notifications each year. The Fourth Community Action Programme on the Environment (1987-1992) underlined the need for a legislative instrument which would provide a comprehensive structure for the evaluation of the risks posed by "existing chemicals". The development of the legal instruments in the European Union took place in parallel with the development of new initiatives by the OECD which had led to the launching of an extensive programme in 1988 on existing chemicals, an area in which several EU Member States were already active.

24. European Union Directives require the evaluation and control of the risks to the environment and/or public health of both existing and new chemicals. The European Chemicals Bureau (ECB) located in Ispra, Italy provides technical support for the development of EU chemicals policy and its website<sup>30</sup> provides information on both existing and new chemicals. The Existing Substances Regulation<sup>31</sup> provides for the evaluation and control of risks posed by existing chemicals in four steps:

Step I	Data collection
Step II	Priority setting
Step III	Risk assessment
Step IV	Risk reduction

25. The data reporting is divided into two broad categories -- firstly, data on high production volume (HPV) substances produced or imported in quantities exceeding 1000 tonnes per year, and secondly, data on low production volume (LPV) substances which have been produced or imported in quantities between 10 and 1000 tonnes per year. The data required for HPV chemicals is specified as follows:

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<sup>29</sup>The ICCA HPV Working List, July 2002 Update, is available at [http://www.cefic.org/activities/hse/mgt/hpv/ICCA Working List - July 2002 Update - 070103.xls](http://www.cefic.org/activities/hse/mgt/hpv/ICCA%20Working%20List%20-%20July%202002%20Update%20-%20070103.xls)

<sup>30</sup>European Chemicals Bureau website at <http://ecb.jrc.it/>

<sup>31</sup>European Community, *Council Regulation (EEC) No 793/93 of 23 March 1993 on the evaluation and control of the risks of existing substances*, Available at <http://ecb.jrc.it/existing-chemicals>

Data required for High Production Volume chemicals
Name and EINECS number of the substance
Quantity of the substance produced or imported
Information on the reasonably foreseeable uses of the substance
Data on the physico-chemical properties of the substance
Data on the pathways and environmental fate
Data on the ecotoxicity of the substance
Data on the acute and subacute toxicity of the substance
Data on carcinogenicity, mutagenicity and/or toxicity for reproduction of the substance
Any other indication relevant to the risk evaluation of the substance

26. The toxicity data requirements are comprehensive

Toxicity Data required for High Production Volume chemicals	
5.1	Acute toxicity
5.1.1	Acute oral toxicity
5.1.2	Acute inhalation toxicity
5.1.3	Acute dermal toxicity
5.1.4	Acute toxicity (other routes of administration)
5.2	Corrosiveness and irritation
5.2.1	Skin irritation
5.2.2	Eye irritation
5.3	Sensitization
5.4	Repeated dose toxicity
5.5	Genetic toxicity in vitro
5.6	Genetic toxicity in vivo
5.7	Carcinogenicity
5.8	Toxicity to reproduction
5.9	Other relevant information
5.10	Experience with human exposure

27. The EU Directive makes it clear that industrial and commercial secrecy shall not apply *inter alia* to the name of the substance, the name of the manufacturer, the summary results of the toxicological and ecotoxicological tests.

28. On the basis of the information submitted and on the basis of national lists of priority substances, the Commission shall regularly draw up lists of priority substances or groups of substances *requiring immediate attention because of their potential effects on man or the environment*. These lists are published by the Commission; four such lists have so far been published totalling 141 chemicals.<sup>32</sup> The main motivations for establishing the EU working list are twofold: first as the basis for the priority lists, and second because industry is

<sup>32</sup>European Community, Commission Regulation (EC) No 1179/94 of 25 May 1994 concerning the first list of priority substances as foreseen under Council Regulation (EEC) No 793/93. European Community, Commission Regulation (EC) No 2268/95 of 27 September 1995 concerning the second list of priority substances as foreseen under Council Regulation (EEC) No 793/93. European Community, Commission Regulation (EC) No 143/97 of 27 January 1997 concerning the third list of priority substances as foreseen under Council Regulation (EEC) No 793/93. European Community, Commission Regulation (EC) No 2364/2000 of 25 October 2000 concerning the fourth list of priority substances as foreseen under Council Regulation (EEC) No 793/93. Available at <http://ecb.jrc.it/existing-chemicals>

encouraged to include substances on the working list as by doing so, HEROs (High Expected Regulatory Outcome substances) can be better identified and possible NEROs (No Expected Regulatory Outcome substances) can be removed from the working list if convincing evidence is brought forward by industry.<sup>33</sup>

29. The notification schemes for new substances<sup>34</sup>, manufactured or imported within the EU, were first introduced during the 1970s by individual Member States. The current version is the 7th Amendment<sup>35</sup> to Directive 67/548/EEC which requires the provision of data, with increasing detail, according to the quantity of the substance placed on the market, viz: 10 kg, 100 kg, 1000 kg per year per manufacturer with further toxicological and ecotoxicological testing required at quantities exceeding 100 and 1000 tonnes per year. Since the 7th Amendment, the European Chemicals Bureau has received about 400 to 450 notifications per annum referring to about 300 to 350 new substances<sup>36</sup>. Notifications from the UK contribute about 28% of the cumulative total, followed by Germany (25%), France (12%), The Netherlands (9%) and Italy (7%). Foreign imports, particularly from the USA, Japan and Switzerland, represent about half of the new notified substances.

Type of Notification	Annual Quantity
Level 2 (1000 tonnes)	> 1000 tonnes
Level 1 (100 tonnes)	> 100 tonnes
VIIA	> 1 tonne
VIIB	>100 kg and < 1 tonne
VIIC	>10 kg and <100 kg

61% of new chemicals are notified for production volumes between 1 and 10 tonnes a year (Annex VIIA), 28% for production in smaller quantities (Annex VIIB and VIIC) and about 10.5% in larger volumes (Level 1 and 2).

30. As an example of the additional data required as the quantity placed on the market increases, the toxicological data requirements are summarised below:

	Toxicological testing	Type of Notification
4.1	Acute Toxicity*	
4.1.1	Administered orally	VIIC, VIIB, VIIA
4.1.2	Administered by inhalation	VIIC, VIIB, VIIA
4.1.3	Administered cutaneously	VIIA
4.1.5	Skin irritation	VIIB, VIIA
4.1.6	Eye irritation	VIIB, VIIA
4.1.7	Skin sensitization	VIIB, VIIA
4.2	Repeated dose†	

<sup>33</sup>European Community, *Priority Setting*. Available at <http://ecb.jrc.it/Priority-Setting/>

<sup>34</sup>European Community, *New Chemicals*. Available at <http://ecb.jrc.it/new-chemicals/>

<sup>35</sup>European Community, *Council Directive 92/32/EEC of 30 April 1992 amending for the seventh time Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances*. Available at [http://europa.eu.int/eur-lex/en/lif/dat/1992/en\\_392L0032.html](http://europa.eu.int/eur-lex/en/lif/dat/1992/en_392L0032.html)

<sup>36</sup>European Community, *New Chemicals*. Available at <http://ecb.jrc.it/new-chemicals/>

4.2.1	Repeated dose toxicity	VIIA
4.3	Other effects	
4.3.1	Mutagenicity	VIIIB, VIIA
4.3.2	Screening for toxicity related to reproduction	VIIA
4.3.3	Assessment for toxicokinetic behaviour	VIIA

\*For acute toxicity testing at VIIC or VIIIB one route of administration is sufficient. Gases should be tested by inhalation. Substances other than gases should be tested by oral administration. At VIIA, substances other than gases shall be administered by at least two routes, one of which should be the oral route. The choice of the second route will depend on the nature of the substance and the likely route of human exposure. Gases and volatile liquids should be administered by the inhalation route.

†For repeated dose testing, the route of administration should be the most appropriate having regard to the likely route of human exposure, the acute toxicity and the nature of the substance. In the absence of contra-indications the oral route is usually the preferred one.

31. As the quantity of a new substance increases through Level 1 to Level 2 so the additional toxicological data required converges with the data required for High Production Volume existing substances. The Directive also requires that the substances shall be classified as very toxic, toxic or harmful according to the following criteria:

	Very toxic	Toxic	Harmful
LD <sub>50</sub> oral in rat, mg/kg body weight	< 25	25 to 200	200 to 2,000
LD <sub>50</sub> dermal in rat, mg/kg body weight	< 50	50 to 400	400 to 2,000
LC <sub>50</sub> (inhalation) rat, mg/litre/4 hours	< 0.25	0.25 to 1	1 to 5

The data provided in the new substances notification procedure is used to assign one of the following risk assessments<sup>37</sup> to the new substance:

- The substance is of no immediate concern
- The substance is of concern ... assessment revision deferred to tonnage threshold attainment.
- The substance is of concern ... assessment to be reviewed immediately
- The substance is of concern ... recommendations for risk reduction to be instigated immediately.

32. **Future EU Chemicals Policy.** The European Union chemicals policy is currently being redeveloped as the current system of assessing chemicals on the market has made only very slow progress. The European Commission, because of concerns about the lack of information

<sup>37</sup>European Community, *Commission Directive 93/67/EEC of 20 July 1993 laying down the principles for assessment of the risks to man and the environment of substances notified in accordance with Council Directive 67/548/EEC*. Available at [http://europa.eu.int/eur-lex/en/lif/dat/1993/en\\_393L0067.html](http://europa.eu.int/eur-lex/en/lif/dat/1993/en_393L0067.html)



about chemicals, in February 2001 published a white paper<sup>38</sup> outlining ideas on future chemicals strategy known as the New European Chemicals Strategy (NECS). This introduces a new system of chemicals control for both new and existing substances which has been called the REACH system:

**Registration** of basic information of substances to be submitted by companies, in a central database.

**Evaluation** of the registered information to determine hazards and risks.

**Authorisation** requirements imposed on the use of high-concern substances. This process will be used for both new and old...

**Chemicals.**

The broader aims of NECS include compliance with the various United Nations and other international agreements on the use and control of chemicals as well as the provision of assistance to developing countries, so that their capability and capacity for managing chemicals can be strengthened. The European Commission is expected to release legislative proposals for the introduction of NECS by April 2003.

### *National Initiatives*

33. Individual countries such as the United Kingdom and the United States of America have adopted particular national strategies to augment the regional and international initiatives into the evaluation of the risk assessment of chemicals. As an example of a national approach, the United Kingdom in December 1999 published a chemical strategy<sup>39</sup> setting out policies to avoid harm to the environment or to human health through environmental exposure to chemicals. This strategy includes the need for precautionary action for chemicals which are likely to cause serious or irreversible damage to the environment and identifies environmental persistence, tendency to bioaccumulate and toxicity as the properties that are especially important. A Stakeholder Forum established in September 2000 has advised the UK government on criteria for concern rapidly identifying those chemicals which need a risk management strategy as a matter of urgency. These criteria for concern<sup>40</sup> were developed in order to trigger a structured review process and provide a fast-track procedure for high risk chemicals. The strategy states that all documents considered by the Stakeholder Forum and all records of its meetings will be made available to the public; these are available on the web<sup>41</sup>.

34. The United States of America in 1998 announced the Chemical Right-to-Know (RTK)

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<sup>38</sup>European Commission, *The White Paper on the strategy for a future Chemicals Policy*, COM (2001) 88 final, 27 February 2001. Available at <http://europa.eu.int/comm/enterprise/chemicals/chempol/whitepaper/whitepaper.htm>

<sup>39</sup>Department of the Environment, Transport and the Regions, *Sustainable production and use of chemicals -- a strategic approach, The Government's Chemicals Strategy*, London, December 1999. Available at <http://www.detr.gov/environment/chemistrat/index.htm>

<sup>40</sup>Department of the Environment Food and Rural Affairs, Chemicals Stakeholder Forum, Criteria for Identifying Chemicals of Concern. Available at <http://www.defra.gov.uk/environment/chemicals/csf/criteria/index.htm>. See also The Chemicals Stakeholder Forum, Criteria for Concern of the Chemicals Stakeholder Forum. Available at <http://www.defra.gov.uk/environment/chemicals/csf/criteria.htm>.

<sup>41</sup>Chemicals Stakeholder Forum, Criteria for Identifying Chemicals of Concern. Available at <http://www.defra.gov.uk/environment/chemicals/csf/papers.htm>.

Initiative<sup>42</sup> which was the US government response to an Environmental Protection Agency (EPA) study that found that very little basic toxicity information is publicly available on most of the HPV chemicals made and used in the USA. It should be noted that the US definition of HPV chemicals is different from that used in the rest of the world as the US definition is a chemical produced in or imported into the USA in amounts of over a million pounds a year -- approximately 444 tonnes. The RTK initiative aims to rapidly test chemicals -- using the same tests as in the OECD SIDS -- and make the data available to scientists, policy makers, industry and the public. An EPA Chemical Hazard Data Availability Study<sup>43</sup> showed that the US produces or imports close to 3,000 chemicals at over 1 million pound a year yet there was no basic toxicity information publicly available for 43% of the HPV chemicals produced in the US and that a full set of basic toxicity information is only available for 7% of these chemicals. The EPA has invited industry chemical manufacturers and importers to participate in a voluntary challenge programme to provide the basic toxicity data on the HPV chemicals they produce. EPA intends that chemicals not adopted in the voluntary programme be tested under the HPV Test Rule. Some 2080 of the 2800 HPV chemicals were adopted by deadline of 1 December 1999. Detailed information on much of this programme is available on the EPA website.

35. Notification of new chemicals is required in the US under the TSCA (Toxic Substances Control Act) Inventory Update Rule<sup>44</sup> which requires the reporting of basic data every four years on chemicals produced or imported in an amount exceeding 10,000 pounds (4,540 kilogrammes ~ 4.5 tonnes). Typically data is provided on approximately 9,000 organic substances each four years. However, unlike the EU notification of new substance requirements, the US requirement does not require provision of toxicity data although proposals are currently being considered<sup>45</sup> to modify the US requirement so as to require the collection of a broad-based database of use and exposure information on chemicals produced or imported in quantities exceeding 25,000 lbs.

#### *Other Initiatives*

36. Although particular attention has been given above to the UNEP, OECD, ICCA and European Union initiatives demonstrating how there is a concerted effort to obtain data both on existing chemicals and on new chemicals placed on the market, it is evident that there are several global activities which are aimed at taking forward the six priority programme areas of Agenda 21, Chapter 19 so that there is sound management of chemicals worldwide. These include:

a. The International Programme on Chemical Safety (IPCS)<sup>46</sup> established in 1980 with the WHO as its executing agency. The two main roles of IPCS are to:

i. to establish the scientific health and environmental risk assessment basis for

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<sup>42</sup>Environmental Protection Agency, *Chemical Right-to-Know Initiative*. Available at <http://www.epa.gov/chemrtk>

<sup>43</sup>Environmental Protection Agency, *Chemical Hazard Data Availability Study*, prepared by EPA's Office of Pollution Prevention and Toxics, April 1998. Available at <http://www.epa.gov/opptintr/chemtest/hazchem.htm>

<sup>44</sup>Environmental Protection Agency, *The TSCA Inventory Update Rule (IUR)*. Available at <http://www.epa.gov/opptintr/iur98/>

<sup>45</sup>Environmental Protection Agency, *Fact Sheet: Proposed IUR Amendments*, 26 July 1999. Available at <http://www.epa.gov/opptintr/iuramend/iurafact.htm>

<sup>46</sup>Information on IPCS is available at <http://www.who.int/pcs/>

- safe use of chemicals, and
- ii. to strengthen national capabilities and capacities for chemical safety

IPCS products include Health and Safety Guides, Environmental Health Criteria documents, International Chemical Safety cards. Activities include

- The global harmonization of approaches to risk assessment through increased understanding and
- Responses to chemical incidents and emergencies which are usually accidental and unexpected but may be caused deliberately, for example, as a result of terrorist action.

b. The Intergovernmental Forum on Chemical Safety (IFCS)<sup>47</sup> established in 1994 which has as one of its functions the identification of priorities for cooperative action on chemical safety particularly taking into account the special needs of developing countries. IFCS in 1994 established Priorities for Action<sup>48</sup> for the implementation of the six priority programme areas of Agenda 21 Chapter 19. As already noted above, Forum III agreed<sup>49</sup> the Bahia Declaration on Chemical Safety and Priorities for Action Beyond 2000.

c. The Inter-Organization Programme for the Sound Management of Chemicals (IOMC)<sup>50</sup> established in 1995 provides a mechanism to coordinate the efforts of intergovernmental organizations (UNEP, ILO, FAO, WHO, UNIDO, UNITAR and OECD) in the assessment and management of chemicals. IOMC compiles summary reports of ongoing activities categorized by the six priority programme areas of Agenda 21 Chapter 19. Capacity-building has been given a high priority with a comprehensive review being issued in 1998.<sup>51</sup>

d. The Global Information Network on Chemicals (GINC)<sup>52</sup> was initiated in 1994 to foster generation and circulation of chemical-related information among all countries and international organizations for the promotion of chemical safety. Its website includes a useful guide with links to the principal sites providing chemical safety information around the world.

## Evaluation

37. There are already mechanisms in place within nations and regions, such as the European Union, which are also reflected in other areas of the world, notably through the OECD and UNEP Chemicals programmes, to respond to the Agenda 21 Chapter 19 priority programme area to expand and accelerate the international assessment of chemical risks. These programmes ensure that **data regarding the risks** to public health and to the environment is available for **both** existing and new chemicals.

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<sup>47</sup>Information on IFCS is available at <http://www.who.int/ifcs/>

<sup>48</sup>Available at [http://www.who.int/ifcs/fs\\_res2.htm](http://www.who.int/ifcs/fs_res2.htm)

<sup>49</sup>Available at <http://www.who.int/ifcs/forum3.final.html>

<sup>50</sup>Information on IOMC is available at <http://www.who.int/iomc>

<sup>51</sup>Available at <http://www.who.int/iomc/capacity/cap-rep.html#toc>

<sup>52</sup>Information on GINC is available at <http://www.nihs.go.jp/GINC/other/aboutginc.htm>

38. The data required increases with the quantity of chemical -- using the EU situation as a model, the data requirements are as follows:

Annual Quantity	Existing Chemicals	New Chemicals
>10 kg and <100kg		VIIC
>100kg and < 1 tonne		VIIB
> 1 tonne		VIIA
10 to 1000 tonnes	Low Production Volume	
> 100 tonnes		Level 1 (100 tonnes)
> 1000 tonnes	High Production Volume	Level 2 (1000 tonnes)

It is noted that the EU scheme is intended to identify HEROs (High Expected Regulatory Outcome substances) as well as possible NEROs (No Expected Regulatory Outcome substances) and that national schemes, such as that in the United Kingdom, includes the establishment of a fast-track procedure for chemicals that present a high risk to public health or to the environment.

39. Given that the EU will expand to include many of the Central and Eastern European states and that international trade in chemicals will continue to increase, it is reasonable to expect that the EU requirements for toxicity information on both existing and new chemicals will come to be applied to an increasing extent around the world.

40. In addition, it should be noted that there is considerable emphasis throughout the programmes described above in making information on the risks posed by chemicals available to the public.

### The CWC Requirements

41. The general purpose criterion within the CWC in Article II.1(a) states that "chemical weapons" include *"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."* As chemical weapons, by their nature, involve toxic chemicals which cause death, temporary incapacitation or permanent harm to humans or animals, there is clearly a parallel between chemicals which might be used as chemical weapons and existing or new chemicals which are highly toxic -- and are the subject of the ongoing national, regional and international initiatives aimed at ensuring the sound management of chemicals and the reduction of risks to human health or the environment. The implementation of the general purpose criterion in the CWC is clearly placed upon the States Parties by the requirement in Article VI that:

*2. Each State Party shall adopt the necessary measures to ensure that toxic chemicals and their precursors are only developed, produced, otherwise acquired, retained, transferred, or used within its territory or in any other place under its jurisdiction or control for purposes not prohibited under this Convention.*

42. In considering how National Authorities in the States Parties to the OPCW might implement the general purpose criterion, it is considered that use should be made of the ongoing national and international programmes addressing the safe management of chemicals

as these programmes are focussed on those chemicals that present the **greatest** dangers to health and to the environment. Particular attention should be addressed to those chemicals that present the greatest risks to public health and that are available in quantity for purposes not prohibited under the Convention. As traditionally, it has been recognised that for a single attack using chemical weapons, a quantity of about 1 tonne of agent is required, it follows that for a militarily significant capability, a quantity of 300 tonnes or more of agent would be needed. Consequently it would be appropriate for National Authorities to utilize in respect of **existing** chemicals, the data emerging from the ongoing international HPV chemicals programme (for chemicals in the US in excess of 444 tonnes per annum and elsewhere in excess of 1000 tonnes per annum) and, and in respect of **new** chemicals, the data relating to new substances being placed on the market in quantities in excess of 1 tonne, in order to identify those chemicals that presented the greatest risk to public health. National Authorities could then determine what further action was appropriate and necessary to ensure that the national obligations under Article VI.2 of the CWC are being met.

43. The general purpose criterion also applies to newly encountered hazardous chemicals which might be judged to lack market potential and so fail to enter the reporting systems. Such chemicals could be more toxic than the traditional chemical weapon agents -- and thus smaller quantities than 300 tonnes may present a risk to the Convention. It is, however, noted that in the UK the Health & Safety Executive guidance<sup>53</sup> on the notification of new substances states that the regulations apply to anyone who supplies a new substance which *"includes selling it, lending it to someone else, passing it on, giving it away or importing it"* into the EU. Furthermore, the EU requirements for the notification of new substances do require provision of toxicity information for any new chemical produced in quantities in excess of 10 kg. Whilst it is possible that a significant military quantity (300 tonnes or more for a traditional CW agent -- or a smaller quantity for a more toxic novel chemical) of a new chemical that has not been placed on the market could be produced -- and thus present a risk to the CWC -- it is recognized that the overall trend is increasingly to require the provision for health and safety reasons of toxicity information on chemicals being produced in a facility and for the provision of such information on new chemicals being placed on the market in quantities in excess of 10 kg. National Authorities implementing the general purpose criterion will also need to consider other chemicals, both known and novel, which have not entered the reporting chains in the chemical safety regimes.

44. From the point of view of the effective implementation of the CWC, there is much to be said for the States Parties individually encouraging both the implementation and extension of the international HPV chemicals programme and the EU notification of new substances.

45. As the general purpose criterion is a central provision in the CWC, it is important that both the fact and the method of its implementation is made generally known. It would be important for National Authorities to report to the OPCW as well as nationally both what action they have taken and the nature of this action to implement the general purpose convention thereby strengthening the implementation of the CWC and ensuring its continued health and effectiveness in totally preventing chemical weapons.

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<sup>53</sup>Health & Safety Executive, *The NONS Regulations*. Available at <http://www.hse.gov.uk/hthdir/noframes/nons/nons2.htm>