

Report on the Control of Chemicals of Security Concern

15 July 2008

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EXECUTIVE SUMMARY

This *Report on Chemicals of Security Concern* (the Report) is the fourth and final component of a review of hazardous materials commissioned by the Council of Australian Governments (COAG) in late 2002, in the aftermath of the October 2002 terrorist bombing in Bali. This review examines the threat to Australia from the possible use of chemicals for terrorist purposes. It proposes that security of chemicals be enhanced to minimise their potential to harm the Australian community, industry and infrastructure.

Many chemicals available in Australia are used widely in the community, by industry and business, and for research and other purposes. Only a small percentage of these chemicals is known to be of interest to terrorist groups. A key challenge for this review was to establish an effective means of improving the security of chemicals while ensuring that they remain accessible to legitimate users.

To this end, the review of chemicals of security concern was informed by consultations with government, industry and community stakeholders. The chemical sector, and other industries that use chemicals, operate in a global and highly competitive environment. Given this, the review has also taken into account comparable arrangements that are being considered, or are in place, in other countries with similar security concerns—such as the United States of America and the United Kingdom.

As noted in the review, terrorist groups and individuals around the world have accessed chemicals for use in weapons. This has involved the use of chemicals in the manufacture of home made explosives and toxic weapons. An attack using home made explosives could occur in Australia. Based on international experience, it is highly likely that such an attack would result in death, serious injury and significant economic loss.

Initial analysis of the 40,000 chemicals used in Australia shows there are already many controls in place nationally. These include government regulation and industry self-regulation. Current control measures, however, focus mainly on human health, occupational health and safety and protecting the environment. The review identified that there is limited focus on the security surrounding agricultural and veterinary chemicals, industrial chemicals and fertilisers.

Some of these existing measures have security benefits and are sufficient to address the risks associated with use of chemicals for terrorist purposes. However, the Report identifies that improvements are required.

This Report recommends that COAG agrees to a Framework for the Management of the Security of Chemicals (the Framework). This Framework is based on principles that reflect the needs and interests of the community, industry and government and deliver an effective national system. The Framework aims to provide a structured process for developing and implementing measures that are proportionate to the assessed risk, to enhance the security of chemicals on an ongoing basis. The measures are intended to assist security and law enforcement

agencies in preventing terrorist acts involving chemicals whilst not impeding the legitimate use of chemicals.

The Framework comprises:

- i. an agreed approach to conduct security risk assessments across all elements of the supply chain of chemicals of potential security concern
- ii. several initial strategies to improve the security around chemicals. These include:
 - a. improving community awareness of the threat from chemicals of security concern
 - b. enhancing the capability of industry to contribute to the security of chemicals, building on existing industry activities where possible
 - c. measures to enhance the capability of government agencies involved in managing the security risks of the terrorist misuse of chemicals, and
- iii. management and governance arrangements to allocate roles and responsibilities, and establish ongoing coordination and consultation arrangements, between governments and between governments and industry.

The risks can never be completely eliminated. However, by working together, responsible governments and industry can ensure that the risk associated with terrorist acts involving chemicals is decreased.

RECOMMENDATIONS

Recommendation 1: General observations

The Council of Australian Governments notes that:

- i. there are currently over 40,000 chemicals approved for use in Australia. However, based on their properties and ease of use, only a small percentage of these could potentially be used in a terrorist act
- ii. there are extensive arrangements currently in place in Australia to manage the human health, occupational health and safety and environmental risks posed by hazardous chemicals
- iii. specific chemicals that may be of interest to terrorist groups are commonly classed as dangerous goods, or have similar physical and chemical attributes. They include industrial and/or agricultural and veterinary chemicals and can be formulated into thousands of products found at any or all components of the supply chain
- iv. there is sustained terrorist interest in the use of chemicals that is likely to continue for the near to medium-term future, and
- v. steps are being taken to improve the security of chemicals. It is not possible, however, to eliminate all risks associated with the use of chemicals for terrorist purposes and maintain a viable, effective chemical industry.

Recommendation 2: Chemical security

The Council of Australian Governments agrees to strengthening security around chemicals that terrorists are most likely to access or target in Australia, to reduce the likelihood of their use for terrorist purposes. This could be achieved through a combination of appropriate strategies that may be specific to individual chemicals, groups of chemicals or industry.

Recommendation 3: Security outcomes

The Council of Australian Governments agrees to the following security outcomes:

- i. general community—an informed and vigilant community that is able to assist jurisdictional police and security agencies in deterring, and/or detecting, the use of chemicals for terrorist purposes
- ii. industry—an informed and vigilant industry that understands the security risks associated with the use of chemicals for terrorist purposes and has appropriate measures in place to prevent, detect and deter such use

- iii. government agencies—informed agencies that act, in partnership with industry and the community, in a coordinated manner to manage the security risks from the use of chemicals for terrorist purposes, and
- iv. chemicals—appropriate security around priority chemicals of security concern.

Recommendation 4: Overarching principles

The Council of Australian Governments agrees that the development of strategies to achieve the security outcomes be guided by the following principles:

- i. control measures should be *proportionate to the assessed risk* of the use of chemicals for terrorist purposes
- ii. the development of strategies for control measures should be *nationally coordinated* and agreed outcomes *nationally consistent*
- iii. control measures should, where possible, be *built on existing industry and/or government arrangements*
- iv. proposed control measures should be *cost effective* and subject to a cost benefit analysis
- v. control measures should be *developed in partnership between government and industry* so that appropriate knowledge and needs can be integrated effectively and efficiently, and
- vi. Australia should *take account of arrangements applied in other countries* to achieve common security outcomes that do not restrict industry competitiveness and the trade of chemicals.

Recommendation 5: Chemical Security Management Framework

The Council of Australian Governments agrees to a Chemical Security Management Framework that includes:

- i. a process for the ongoing identification of security risks associated with specific chemicals, groups of chemicals or components of the supply chain of potential security concern. This process will also identify appropriate controls to assist with managing these risks (recommendation 6)
- ii. the development of capability building measures for the community, industry and governments that seek to prevent the use of chemicals for terrorist purposes (recommendations 7 and 8), and
- iii. appropriate management and governance arrangements (recommendation 9).

Recommendation 6: Assessing risk

The Council of Australian Governments:

- i. agrees the Commonwealth Government, in collaboration with State and Territory Governments and industry, develop agreed methodology based on the Australian and New Zealand Standard AS/NZS 4360:2004 (and its successor standards), for conducting assessments of the risks posed by the use of chemicals for terrorist purposes, that will be tailored to meet the unique challenges of counter-terrorism. The methodology would include an assessment of threat, vulnerability, likelihood and consequence across all elements of the supply chain
- ii. notes that a range of chemicals have been identified as potentially of security concern based on terrorist interest, technical assessment and accessibility
- iii. agrees that, as an initial priority, a risk assessment be undertaken on chemicals of potential security concern that are precursors to home made explosives and chemicals stored and/or transported in bulk
- iv. agrees that future priorities for risk assessment be informed by advice from security and law enforcement agencies, and
- v. agrees that based on the outcomes of those assessments, appropriate and targeted security measures to address the risks will be recommended for implementation by the Commonwealth, State and Territory Governments and industry.

Recommendation 7: Capability building

The Council of Australian Governments agrees that the Commonwealth Government, in consultation with State and Territory Governments, will enhance the capability of the general community, industry and government to contribute to limiting opportunities for, and improving the detection of, the use of chemicals for terrorist purposes that is both responsive to and flexible in the current security environment.

General community

The Council of Australian Governments agrees that the Commonwealth Government, in consultation with State and Territory Governments, will develop and implement a national community awareness program to increase the likelihood of members of the community identifying and reporting suspicious behaviour and activities to relevant authorities.

Industry

The Council of Australian Governments agrees that the Commonwealth Government, in collaboration with State and Territory Governments and industry,

will coordinate initiatives to assist with the development of a security culture in industry by developing:

- i. targeted awareness programs based on the identified risks of the use of specific chemicals or group/s of chemicals for terrorist purposes
- ii. security advice or security standards for introduction into existing industry codes; and measures to enhance early detection of, and limit access to, the use of chemicals for terrorist purposes that can be tailored to meet jurisdictional needs, and
- iii. relevant training and security guidance materials for all elements of the supply chain for use by industry bodies that can be tailored to meet jurisdictional needs.

Government

The Council of Australian Governments agrees that the Commonwealth Government, in collaboration with State and Territory Governments will:

- i. develop security guidance and training material for inclusion in relevant existing government standards. This material would be used by government agencies responsible for the management of chemicals and be tailored to meet jurisdictional needs, and
- ii. provide specialised information to government policy and regulatory agencies, jurisdictional police and security agencies on the risks of the use of chemicals for terrorist purposes.

Recommendation 8: Sharing information

The Council of Australian Governments agrees that all jurisdictions will:

- i. review relevant legislation and policies that control the sharing of related information and data between government agencies with a view to facilitating the exchange of information necessary to implement the Chemical Security Management Framework, and
- ii. consistent with the National Counter-Terrorism Plan, maintain or establish appropriate arrangements to share information between security and law enforcement agencies, government policy and regulatory agencies, industry and the community as required to implement the Chemical Security Management Framework.

Recommendation 9: Governance arrangements

The Council of Australian Governments agrees that:

- i. the Commonwealth Government will establish a chemical security coordination unit to:

- a. coordinate the national implementation of appropriate controls to address any identified gaps between the risks and existing controls (recommendation 6), and
 - b. coordinate the national implementation of capability building measures (recommendations 7 and 8) with, and for, the community, industry and government. The chemical security coordination unit will work with reference groups comprising security and law enforcement agencies, industry and existing Commonwealth, State and Territory Government regulators of chemicals
- ii. the Commonwealth Attorney-General and nominated Ministers from each State and Territory Government will agree to national capability building measures and control measures, including responsibility for their implementation in response to risk assessments conducted on chemicals, groups of chemicals or components of the supply chain of potential security concern, and
 - iii. that an intergovernmental agreement be established which describes the roles, responsibilities and mechanisms by which governments will agree to develop and implement appropriate, and nationally consistent, actions for chemical security.

PART 1—INTRODUCTION

In December 2002, the Council of Australian Governments (COAG) agreed to a national review of the regulation, reporting and security surrounding the storage, sale and handling of hazardous materials. The work was divided into four parts: ammonium nitrate; radiological sources; harmful biological materials; and hazardous chemicals (chemicals of security concern¹).

The reviews of ammonium nitrate, biological agents and radiological material have been completed and are currently being implemented. The remaining review of chemicals of security concern is the subject of this Report.

The chemicals review has been complex due to the extensive range of pure/concentrated chemicals that required consideration, the large number of formulated chemical products used in Australia and the breadth of the current regulatory environment for chemicals. Australia has well established arrangements in place for chemical use to protect human health, occupational health and safety, and the environment. It is noteworthy that the chemical industry and chemical users have a strong history of compliance with those requirements, and have demonstrated their commitment to the responsible use of chemicals.

As determined by COAG, the review aim for each hazardous material (ammonium nitrate, biological agents, radiological materials and chemicals of security concern) is to *assist counter-terrorism efforts by limiting opportunities for, and enhancing detection of, the illegal/unauthorised use of hazardous materials*. The terms of reference for the review are provided at Appendix 1.

The review process is described in Appendix 2. Taking into account the wide number of stakeholders, extensive consultation was undertaken during this review. The consultation included:

- i. the release of a discussion paper in November 2006, which sought submissions from affected stakeholders
- ii. public meetings in all jurisdictions between December 2006 and February 2007 to consider the discussion paper
- iii. continued input from industry stakeholders through an Industry Consultation Group and a Technical Working Group
- iv. the release of the draft Report in February 2008, seeking submissions from affected stakeholders, and
- v. consultation sessions in all jurisdictions between February and April 2008 to consider the draft Report.

The input from various stakeholders is gratefully acknowledged. It was invaluable and has played a significant role in shaping the review's outcomes.

¹ Chemicals which can be utilised by terrorist individuals or groups in the manufacture of a home made explosive or used due to its toxic potential.

PART 2—CHEMICAL USE AND AVAILABILITY

Chemicals are widely used in Australia. Broadly, they include industrial chemicals, agricultural and veterinary (agvet) chemicals, fertilisers, explosives, those used in food production and processing, therapeutic chemicals and narcotics. Over 40 000 chemicals are approved for use in Australia. These are formulated into over 400 000 trademarked products. Chemicals can be obtained from many sources, including suppliers, industrial sites, farms, research laboratories and retail outlets. Approximately 90 per cent of chemicals are imported into Australia and 10 per cent are manufactured locally. Seventy-five per cent of the chemical manufacturing industry's output is used as inputs to other industries.

There are many legitimate and important reasons for consumers, businesses, industry, researchers and other organisations to possess and use chemicals of security concern across the supply chain. These include the manufacture of consumer products, research and development, scientific and medical applications, and agricultural and veterinary uses. In addition to their use, most chemicals have long supply chains from their manufacture and importation through to their end use and disposal. As a result, the nature of the supply chain provides terrorists with potential opportunities to access chemicals.

The Australian Safety and Compensation Council estimates that in Australia there are 573,700 workplaces with chemical users, 5,340 workplaces that manufacture chemicals, 2,050 workplaces that import chemicals and 640 workplaces that export chemicals.² It is not possible at present to estimate accurately the number of entities in Australia with legitimate reasons for possessing chemicals of security concern. They include, for example, farmers, miners, greenkeepers and hairdressers. It is unlikely, however, that all of these workplaces have a requirement to control their use of, and access to, such chemicals.

There is a large array of industry standards—including guidelines and codes of practice, industry-based self-regulatory initiatives, and government legislation—that control the use and manufacture of chemicals in Australia. More than 140 pieces of Commonwealth, State and Territory legislation exist for the regulation of chemicals. Existing arrangements are primarily in place for human health, occupational health and safety and environmental purposes. The current control measures for chemicals in Australia are described at Appendix 3.

A relatively small proportion of the chemicals in Australia could potentially be used in a terrorist act. This smaller group includes chemicals with a diverse use and distribution profile. Many of the chemicals that terrorists seek are commonly classed as dangerous goods; or have very similar physical and chemical attributes. These chemicals have the potential to cause injuries, illnesses and/or fatalities and mass casualties.

Chemicals identified as being of interest to terrorist groups of concern to Australia include industrial chemicals and agricultural and veterinary chemicals. Industrial

² Australian Safety and Compensation Council, *Draft Regulatory Impact Statement on Proposed Revisions to the National OHS Framework for the Control of Workplace Hazardous Substances and Dangerous Goods*, September 2006.

chemicals are defined under the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwth) by the exclusion of other types of chemicals. Agvet chemicals—including pesticides such as insecticides, fungicides and herbicides, and veterinary medicines—are used to protect crops, livestock and other animals and plants from pests and disease. They control pests and weeds, and help control disease-carrying insects such as mosquitoes. These chemicals are crucial in helping agricultural industries be more productive and competitive on world markets and for improving produce quality.

Recommendation 1: General observations

The Council of Australian Governments notes that:

- (i) there are currently over 40,000 chemicals for approved use in Australia. However, based on their properties and ease of use only a small percentage of these could potentially be used in a terrorist act
- (ii) there are extensive arrangements currently in place in Australia to manage the human health, occupational health and safety and environmental risks posed by hazardous chemicals
- (iii) specific chemicals that may be of interest to terrorist groups are commonly classed as dangerous goods, or have similar physical and chemical attributes. They include industrial and/or agricultural and veterinary chemicals and can be formulated into thousands of products found at any or all components of the supply chain

PART 3—THE NATURE OF THE CHALLENGE

3.1 Threat context

The need for enhanced security surrounding chemicals arises from the threat of terrorism. Australia and its interests overseas remain at threat from terrorists and this threat is expected to continue for some time.

Terrorist attacks using chemicals, particularly in the form of explosives, are feasible in Australia. Examples of known or alleged threats include:

- Faheem Khalid Lodhi—who was sentenced in August 2006 for doing an act in preparation for a terrorist act —sought information on a range of precursor chemicals that could be used to prepare explosives
- Jack Roche pleaded guilty in June 2003 to a charge related to planning a terrorist act—namely conspiring to destroy, by means of explosives, official premises of internationally protected persons
- Willie Brigitte was deported from Australia in 2003 and subsequently convicted by a French court for planning a terrorist attack using chemicals that could be used in the manufacture of home made explosives, and
- twenty-two individuals in Australia are currently on trial on terrorism charges that include the use of explosive chemical precursors. It is a matter of public record that chemicals were seized at some of the residences of those charged.

The threat from a terrorist attack employing chemicals will be considered in the context of the global terrorist threat and the threat to Australia. The main terrorist threat to Australia and its interests for the foreseeable future comes from extremists inspired or directed by al-Qa’ida and like-minded groups, including Jemaah Islamiyah.

Such groups have been known to monitor the counter-terrorism security activities in Western countries and to modify their behaviour and practices in an attempt to avoid detection. They also seek to develop new and innovative attack methodologies to defeat protective security measures and conduct successful attacks.

By the nature of their choice of tactic, terrorists are interested in chemicals and other agents that can be used with high impact (able to cause death and/or serious injury to a significant number of people) and are feasible to use (easy to deploy, difficult to detect and readily accessible).

Terrorist groups of concern to Australia’s domestic security have had the intent and capability to develop and use home made explosives. These explosives can be prepared from chemicals that are commonly available in Australia. The effective deployment of a home made explosive device can range from a small-scale disruption to local services to the substantial loss of human life. This was

demonstrated in Bali in 2002 and 2005. A similar incident could well occur in Australia.

The primary focus of terrorist groups is to utilise chemicals in the manufacture of home made explosives. It is also apparent, however, that some terrorist groups are aware that chemicals can also be misused due to their toxic properties. The isolated events in Iraq that used chlorine gas in combination with improvised explosive devices to augment the explosive effects demonstrate terrorist interest to exploit toxic chemicals.

Toxic chemicals can be used to contaminate air, water and food—some in relatively small quantities. This could occur, for example, through aerial spraying, the release of volatile chemicals into buildings/meeting places, the contamination of water supplies and the deliberate contamination of food that could be circulated widely in a very short period of time. The use of toxic chemicals has the potential to cause large-scale disruption and substantial loss of life. The terrorist attack on the Tokyo subway in 1995 demonstrates the impact of such an incident. This highly publicised attack caused the death of 12 people and resulted in 5 000 people seeking medical care.

Recommendation 1: General observations

The Council of Australian Governments notes that:

(iv) there is sustained terrorist interest in the use of chemicals that is likely to continue for the near to medium-term future

PART 4—CONTROLLING THE USE OF CHEMICALS

Arrangements to provide security for chemicals can vary in their degree of stringency and method of delivery across the supply chain. They may include voluntary control measures—such as industry standards and codes of conduct; or mandatory control measures—such as legislative and regulatory controls. These arrangements can be implemented by industry, government and/or industry-government partnerships.

There are various control measures that could be utilised to mitigate the risks associated with the use of chemicals for terrorist purposes. This report acknowledges that not all security control measures will be appropriate or practical for all chemicals of security concern and their products.

The community, economically and socially, relies on products that may contain chemicals of security concern. The Australian community can take positive steps to help reduce the potential for the use of chemicals for terrorist purposes. However, it is not possible to mitigate all risks and maintain the viability of the industries that rely on chemicals of security concern.

The types and combinations of control measures need to be informed by the assessed risk and based on a cost benefit analysis. Examples of control measures include:

- i. licensing
- ii. user permits
- iii. tracking of chemicals
- iv. reporting of unaccounted losses
- v. security of premises
- vi. vetting people with access to specified chemicals, and
- vii. point-of-sale identification systems.

For some chemicals of security concern, control measures in place for health or safety reasons may provide an incidental security benefit. More appropriate and vigilant management of the security risks may, however, require additional control measures. Incremental steps are being taken to improve the security around chemicals.

As described previously, there is a broad range of arrangements for the use and control of chemicals in Australia throughout the supply chain. An analysis of existing arrangements is provided below.

4.1 Industry arrangements

Industry arrangements already exist across all chemical sectors and all elements of the supply chain. For example, most sectors of the chemical industry have

stewardship programs, codes of practice and training and accreditation programs. These initiatives typically have a health, safety and environmental focus rather than a specific security focus.

Industry arrangements have been effective for improving industry standards. This is especially so when short-term costs and competition issues are seen as a significant barrier to improvements that will lead to long-term industry benefits. Arrangements have proven to be effective in minimising diversion to criminal activities—for example, the illegal manufacture of drugs.

Industry programs also promote industry ownership of solutions to issues. They are often developed in a fully cooperative environment, with success depending on identifying the most effective way of achieving a desired outcome. However, to be successful, voluntary, industry-based programs need clear imperatives, effective communication and industry support.

The Australian Government's Taskforce on Industry Self-Regulation³ concluded that industry self-regulation is often more flexible and less costly for both business and consumers than direct government intervention. The taskforce noted that self-regulatory schemes tend to:

- i. promote good practice
- ii. target specific problems within industries
- iii. impose lower compliance costs on business, and
- iv. offer quick, low cost dispute resolution procedures.

The taskforce supports industry self-regulation. However, it noted that self-regulation is not the answer to every policy objective. It should be appropriately matched to particular industry circumstances that support its likely success. Issues identified by the taskforce that will be assessed when considering industry self-regulation include the:

- i. risk of harm to the community
- ii. degree to which the target industry is organised and communicates
- iii. level of competition in the industry
- iv. extent to which industry understands that its future viability depends not only on its relationships with current customers and shareholders, but also on the wider community, and
- v. level of consumer engagement in promoting the scheme's objectives.

This report acknowledges that voluntary industry programs have less effective compliance mechanisms than government regulation. However, it is clear that industry programs could provide an effective way of introducing a more focused security culture within industry.

³ Taskforce on Industry Self-Regulation August 2000, Final Report available at www.treasury.gov.au

Examples of industry self-regulation programs that include some measures to address security issues include:

- i. Agsafe Guardian—industry self-regulation compliance program for agvet chemicals
- ii. Plastics and Chemicals Industries Association (PACIA)/Science Industry Australia (SIA) Code of Practice for Supply Diversion into Illicit Drug Manufacture
- iii. PACIA Responsible Care® Program, and
- iv. Australian Logistics Council (ALC) Retail Logistics Supply Chain Code of Conduct.

4.2 Industry-government partnerships

Security issues can be addressed very effectively when industry works in partnership with government. Industry has the capacity to assist governments by contributing its valuable knowledge about how its sector operates and how to apply control measures to provide beneficial outcomes while ensuring continued business viability. Government support of industry arrangements can help ensure compliance and the consistent application of control measures across different industry sectors. Industry-government partnerships have the dual benefit of giving industry ownership of the solution.

The use of industry-government partnerships can also minimise costs (including compliance costs) for both industry and governments. Partnership arrangements are more responsive to shifting priorities than regulation. Industry can also assist governments to distribute information to various businesses and disseminate messages quickly using established networks.

Industry-government partnerships offer an opportunity to appropriately control the use of chemicals in Australia. However, as with industry arrangements, industry-government partnerships cannot always achieve full compliance. This means that security risks can remain.

Examples of industry-government partnerships that include security control measures:

- i. the Office of Transport Security in the Department of Infrastructure, Transport, Regional Development and Local Government, is working with ALC members, the Australian Federation of International Forwarders (AFIF) and the Customs Brokers and Forwarders Council of Australia (CBFCA) to instigate the Regulated Cargo Agents Program
- ii. the Australian Customs Service and ALC members, Shipping Australia Limited, AFIF and CFBCA collaboration on the Customs Frontline Program

- iii. the Department of Infrastructure, Transport, Regional Development and Local Government and ALC Collaboration on logistics infrastructure development and the development of a future strategy for the transport and logistics industry, and
- iv. the National Precursor Working Group oversees arrangements for controlling diversion of chemical precursors for the manufacture of illicit drugs. The industry-government partnership developed, and updates, the PACIA/SIA Code of Practice for Supply Diversion into Illicit Drug Manufacture and is currently engaged in national awareness-raising activities.

4.3 Government arrangements

Government regulation is also an important tool for achieving policy objectives. Regulation is efficient and effective if the benefits are maximised, the costs minimised and industry competitiveness is not restricted. Government regulation is beneficial for monitoring and enforcing compliance with control measures. It can also assist in ensuring appropriate coverage of the application of control measures across industry.

Chemicals are regulated to varying degrees of stringency in Australia, across all stages of the supply chain: importation, export, manufacture, transport, storage, sale, use and disposal. Many different government agencies at the Commonwealth, State and Territory level are responsible for chemical regulation. Administrative responsibilities differ. There are, however, jurisdictional forums across responsible portfolios that aim to facilitate consistent approaches and outcomes. The development of nationally consistent spray-drift guidelines and training standards for the aerial application of pesticides are examples of such efforts.

Australia's regulatory environment, however, is complex. It is often inconsistent across jurisdictional boundaries and is increasingly required to respond to international economic pressures. Harmonisation with standards set by international markets is an important driver for ensuring continued trade competitiveness. It will also encourage national consistency. Regulation also imposes direct costs on those who must comply with regulatory requirements. This, in turn, can affect the productivity and competitiveness of Australian businesses.

In response to the *Banks Review on Reducing Regulatory Burdens on Business*⁴, the Australian Government commissioned a study, being undertaken by the Productivity Commission, on the current arrangements for the regulation of chemicals and plastics in Australia. The study is to identify measures that could be introduced to achieve a streamlined and harmonised system of national chemicals and plastics regulation and any alternatives to regulation. It is also examining arrangements across jurisdictions for access to security-sensitive ammonium nitrate (SSAN). The Productivity Commission is due to complete its final report in July 2008.

⁴ The final report is available at www.treasury.gov.au

Examples of government arrangements that could be applied to security include the:

- i. Agricultural Chemical Users Permit for users of restricted chemical products in Victoria
- ii. Australian Pesticides and Veterinary Medicines Authority (APVMA) Manufacturers' Licensing Scheme and associated Code of Good Manufacturing Practice for veterinary Chemical Products
- iii. National Industrial Chemicals Notification and Assessment Scheme (NICNAS) arrangements to authorise importation or manufacture of certain chemicals
- iv. Australian Safeguards and Non-Proliferation Office (ASNO) permits for producers and importers of CWC-Scheduled chemicals and users/consumers of Schedule 2 chemicals, and
- v. modelling on the (Department of Health and Ageing) Office of Chemical Safety/Australian Customs Service scheme for the control of diversion of chemicals to illicit uses.

Recommendation 1: General Observations

The Council of Australian Governments notes that:

(v) steps are being taken to improve the security of chemicals. It is not possible, however, to eliminate all risks associated with the use of chemicals for terrorist purposes and maintain a viable, effective chemical industry.

PART 5—INTERNATIONAL EFFORTS

Many countries have become increasingly concerned about the possible use of chemicals for terrorist purposes. This review examined security control measures in, or being considered by, other countries with similar security concerns. This examination informed the development of the review's outcomes. Efforts by the United States of America, the United Kingdom and Canada are detailed in Appendix 5. The security outcomes of this review are, of course, aligned to Australia's particular circumstances.

Given the current global security environment and the potential for attacks using chemicals, the United States of America, the United Kingdom and Canada are giving increasing consideration to a broad range of measures to decrease the risks posed by the use of chemicals for terrorist purposes. These countries have developed voluntary and mandatory measures to address risks through a combination of government and industry arrangements.

Measures that countries have introduced comprise broad based measures as well as targeted forms of control, specifically on precursors to home made explosives. They include:

- i. community awareness-raising and incident-reporting programs
- ii. the formation of industry-government partnerships to identify, assess and address vulnerabilities in the security of chemicals
- iii. regular inspections of stock for evidence of tampering, theft, attempted theft, and loss
- iv. denial of sale and reporting if there is reason to believe the chemical will not be used for a legitimate reason
- v. the development of security plans for businesses
- vi. the development of security-related guidance material for industry
- vii. licensing truck drivers who transport hazardous materials
- viii. vetting schemes for personnel who have access to hazardous materials, and
- ix. maintaining lists of sellers and employees who have access to certain restricted chemicals.

The United Kingdom has focused its attention on awareness-raising campaigns to decrease the risk of the use of chemicals for terrorist purposes. These campaigns focus on raising public awareness of suspicious activities to increase the reporting of these activities to security and law enforcement agencies.

In November 2007, the United States Department of Homeland Security released a list of chemicals of interest.⁵ Facilities that possess the listed chemicals in quantities that meet, or exceed, specified threshold quantities attract security regulation. If a facility possesses more than the specified quantity of a chemical, it will be required to report, via an on-line assessment tool, to the Department of Homeland Security. This provides the Department of Homeland Security with a basic understanding of the facility's potential level of consequence if an incident occurred.

The approach adopted in other countries suggests a broad range of measures—from awareness-raising to industry codes of conduct and government regulation—may also be necessary to mitigate the risks in Australia. This report notes that countries have given priority attention to raising awareness in the community, industry and government of the risks surrounding potential misuse of chemicals by terrorists. The importance of establishing partnerships between government and industry to develop appropriate control measures to achieve successful implementation is also noted.

To date, none of the countries identified above have assessed the effectiveness of their arrangements. When practicable, however, the development of control measures in Australia is to consider, and be informed by, the effectiveness of arrangements overseas.

⁵ www.dhs.gov

PART 6—SECURITY POSITION

Most of the control measures currently in place for the use of chemicals in Australia were developed to address human health and occupational health and safety; or to reduce environmental harm from chemical use. These imperatives continue to be a priority for governments. The challenge for governments is to build on these arrangements to address the current and emerging risks from the use of chemicals for terrorist purposes.

There are some examples of controlling chemicals in Australia for security purposes. These were introduced primarily for reducing illicit drug manufacture or misuse of pharmaceuticals; and to implement international treaties for the control of chemical weapons.

Existing safety or environmental controls on chemicals largely seek to prevent harm arising from accidental or negligent misuse of chemicals. Controls of precursor chemicals used in the manufacture of street drugs seek to prevent criminal activities. Terrorism, however, requires a re-examination of these controls from a different perspective—that of intentional misuse. Similarly, the evolving threat associated with terrorism means that risk profiles of some chemicals need to be reconsidered. For example, a chemical may not be of particular concern due to its inherent properties. Rather the concern is due to its status as a key precursor chemical for the development of other high risk, high consequence materials.

There are also various potential vulnerabilities throughout the supply chain that terrorists could exploit to access chemicals of security concern. These include:

| | |
|--|--|
| Import | <ul style="list-style-type: none"> ▪ illegal importation of active ingredient(s) ▪ theft of chemicals at point of importation |
| Transport | <ul style="list-style-type: none"> ▪ theft of chemicals from transport carriers ▪ transport carriers used as modes of attack ▪ transport carriers used as targets of attack |
| Retail / wholesale | <ul style="list-style-type: none"> ▪ purchases, and repeated purchases often at multiple locations, by terrorists ▪ theft of chemicals |
| Storage (could be manufacturing, formulation, storage or disposal facilities) | <ul style="list-style-type: none"> ▪ chemicals stolen or accessed by terrorists ▪ facilities used as targets of attack |
| Sale, use | <ul style="list-style-type: none"> ▪ theft of chemicals from users ▪ purchase of chemicals for illicit use |

As described in Part 2, there is no simple way to illustrate Australia’s approach to the control of all chemicals. Similarly, there appears to be no single arrangement that could be adopted to control chemicals from a security perspective. The most effective control elements for delivering the security objectives for a specific chemical will invariably depend on the nature of the chemical and its current use profile.

Australia's security environment is not static so security strategies must be responsive and flexible. To date, the key preventative counter-terrorism strategy has focused on investigation. Intended attacks have so far been prevented through timely and comprehensive intelligence led counter-terrorism investigations involving the Australian Security Intelligence Organisation, the Australian Federal Police and jurisdictional police.

To strengthen this approach additional work needs to be undertaken and strategies developed, to achieve:

- i. a more informed community, industry and government
- ii. improved security and access controls for chemicals of security concern, and
- iii. increased reporting of relevant information to assist with investigations.

Recommendation 2: Chemical security

The Council of Australian Governments agrees to strengthening the security around chemicals that terrorists are most likely to access or target in Australia, to reduce the likelihood of their use for terrorist purposes. This could be achieved through a combination of appropriate strategies that may be specific to individual chemicals, groups of chemicals or industry.

PART 7—SECURITY OUTCOMES

The security objective for the review, as determined by COAG, is to:

limit opportunities for the illegal/unauthorised use of hazardous materials through improvements in Australia's regulation, monitoring, control and education systems concerning such materials in order to assist counter-terrorism efforts.

In simple terms, the objective in relation to chemicals is to:

- i. reduce domestic access to chemicals of security concern by terrorists, and
- ii. detect preparation for terrorist attacks using chemicals before they occur.

As outlined in Parts 2 and 3, both the Australian security environment and the arrangements for the control of chemicals are complex. To introduce security arrangements in this complex environment, broad measures and specific responses are needed. Broad measures will build capability in the community, industry and government. Specific responses will address vulnerabilities identified and prioritised through an appropriate risk management process.

To meet the security objective, the recommendations of this review seek to achieve the following targeted security outcomes.

7.1 Community

Targeted Security Outcome 1

Community—an informed and vigilant community that is able to assist jurisdictional police and security agencies in deterring, and/or detecting the use of chemicals for terrorist purposes.

The community is an important participant in, and beneficiary of, the management of the security risks posed by the use of chemicals for terrorist purposes. Community members can play a valuable role. They can help prevent potential acts of terrorism using chemicals by protecting chemicals of security concern and providing information on suspicious activities to jurisdictional police and security agencies.

Informing the community and encouraging community members to report suspicious activities to jurisdictional police and security agencies and will help achieve the security objective. It will also provide important reassurance that the risks posed by the use of chemicals for terrorist purposes can be actively managed. Increased community awareness of how to identify suspicious behaviour is likely to result in a greater incidence of reporting to the appropriate authorities. This could assist jurisdictional police and security agencies by providing investigative leads and preventing the use of chemicals for terrorist purposes.

7.2 Industry (the whole supply chain including users)

Targeted Security Outcome 2

Industry—an informed and vigilant industry that understands the security risks associated with the use of chemicals for terrorist purposes and has appropriate measures in place to prevent, detect and deter such use.

Industry holds information about businesses, sectors and customers that could be useful in a security context. Through a consistent approach to security, enhancing monitoring and implementing control measures around chemicals of security concern, the potential for chemicals to be accessed by terrorists groups will be decreased, and industry's ability to assist jurisdictional police and security agencies in their investigations, both prior to and post-incident, will be increased.

A cooperative partnership between government and industry will be important for raising the awareness of, and developing tailored security training for, businesses, managers and their employees.

7.3 Government agencies

Targeted Security Outcome 3

Government agencies—informed agencies that act, in partnership with industry and the community, in a coordinated manner to manage the security risks from use of chemicals for terrorist purposes.

Governments, through jurisdictional police and security agencies, have key roles in preventing, and providing warning of, possible attacks using chemicals. Greater community and industry understanding of the risks associated with the use of chemicals for terrorist purposes, and an increase in rates of reporting can provide investigative leads to jurisdictional police and security agencies. These leads assist security agencies to identify threats and enable jurisdictional police to respond appropriately.

Controlling chemicals of security concern will create a new area of attention to be managed by a wide range of government agencies. Jurisdictional police and security agencies already play a central role in detecting and deterring the use of chemicals for terrorist purposes. Other areas of government can support these efforts through:

- i. coordinating and maintaining an appropriate suite of controls
- ii. ensuring coverage and compliance across industry sectors
- iii. facilitating communication between and within industry and government, and
- iv. maintaining industry support and capability building programs.

7.4 Chemicals

Targeted Security Outcome 4

Chemicals—appropriate security around priority chemicals of security concern.

Appropriate levels of security around chemicals of security concern will be achieved through balancing the security risks posed by the use of chemicals for terrorist purposes with potentially competing community, industry and government interests. A coordinated approach between the community, industry and governments is essential for meeting the security objective.

Recommendation 3: Security outcomes

The Council of Australian Governments agreed to the following security outcomes:

- i. General community—an informed and vigilant community that is able to assist jurisdictional police and security agencies in deterring, and/or detecting the use of chemicals for terrorist purposes
- ii. Industry—an informed and vigilant industry that understands the security risks associated with the use of chemicals for terrorist purposes and has appropriate measures in place to prevent, detect and deter such use,
- iii. Government agencies—informed agencies that act, in partnership with industry and the community, in a coordinated manner to manage the security risks from use of chemicals for terrorist purposes, and
- iv. Chemicals—appropriate security around priority chemicals of security concern.

Based on the feedback from government, industry and community stakeholders, principles that will guide the development of strategies to achieve the security outcomes are:

- i. control measures should be *proportionate to the assessed risk* of the use of chemicals for terrorist purposes
- ii. the development of strategies for control measures should be *nationally coordinated* and agreed outcomes *nationally consistent*
- iii. control measures should, where possible, be *built on existing industry and/or government arrangements*
- iv. proposed control measures should be *cost effective* and subject to a cost benefit analysis

- v. control measures should be *developed in partnership between government and industry* so that appropriate knowledge and needs can be effectively and efficiently integrated, and
- vi. Australia should *take account of arrangements applied in other countries* to achieve common security outcomes that do not restrict industry competitiveness and the trade of chemicals.

7.4 Proportionate to the assessed risk

A risk-based approach will be undertaken and will inform the development of control measures. This will ensure control measures are focused on appropriate areas along the supply chain and are proportionate to the assessed security risk of the use of chemicals for terrorist purposes. It will aim to minimise the impact on legitimate users of chemicals and formulated products⁶ of security concern.

7.5 Nationally coordinated and nationally consistent

Achieving security outcomes that are nationally consistent will provide a cohesive approach to managing the risks posed by the use of chemicals for terrorist purposes. A nationally coordinated approach will help minimise confusion and cost to stakeholders. Strategies for control measures will be developed in line with this principle.

There will be circumstances, however, when the implementation of control measures will need to be tailored to meet unique requirements. This could arise because of differences in existing arrangements, infrastructure, geography and/or changes to the security environment.

7.6 Built on existing arrangements

Many existing industry and government arrangements are effective for achieving their intended objectives for safety, health and the environment. Wherever possible, building on existing industry and/or government arrangements will ensure that controls for chemicals of security concern do not conflict with current arrangements for chemicals, avoid the unnecessary introduction of new controls and minimise the impact on stakeholders.

7.7 Cost effective

An effective approach must balance achieving the security outcomes against the financial impact on governments and stakeholders, particularly businesses. Australian businesses must be allowed to remain viable and competitive in the domestic and international markets. A cost benefit analysis will be undertaken on proposed control measures.

⁶ A chemical product that is prepared or mixed with other ingredients, according to a specified formula and includes more than one ingredient.

7.8 Developed in partnership between government and industry

There are many government and industry arrangements in place for controlling chemicals. It is essential that government and industry work together to build on these to achieve security outcomes effectively and efficiently. Industry has an extensive understanding about the use of chemicals and their availability through the supply chain. Through appropriate consultation, engagement and partnership arrangements, industry knowledge and needs for chemicals can be integrated into control measures.

7.9 Take account of arrangements applied in other countries

Many other countries have control measures in place and/or are considering new arrangements for chemicals of security concern. Australia needs to be cognisant of successful developments overseas to achieve common security outcomes. An effective Australian response should not disadvantage Australia's competitiveness on the world market or impact negatively on the trade of chemicals.

Recommendation 4: Overarching principles

The Council of Australian Governments agrees that the development of strategies to achieve the security outcomes be guided by the following principles:

- i. control measures should be *proportionate to the assessed risk* of the use of chemicals for terrorist purposes
- ii. the development of strategies for control measures should be *nationally coordinated* and agreed outcomes *nationally consistent*
- iii. control measures should, where possible, be *built on existing industry and/or government arrangements*
- iv. proposed control measures should be *cost effective* and subject to a cost benefit analysis
- v. control measures should be *developed in partnership between government and industry* so that appropriate knowledge and needs can be effectively and efficiently integrated, and
- vi. Australia should *take account of arrangements applied in other countries* to achieve common security outcomes that do not restrict industry competitiveness and the trade of chemicals.

PART 8—CHEMICAL SECURITY MANAGEMENT FRAMEWORK

The critical issue for this review was the establishment of a Framework that, sets the process for achieving the identified security outcomes, and embodies the proposed principles. The Framework will also operate alongside the complex systems that currently exist for managing chemicals in Australia.

8.1 Parameters of the Framework

All sectors of industry are interested in, and responsible for, ensuring the security of their chemicals. The social and economic consequences flowing from the use of chemicals for terrorist purposes may be highly detrimental to individual businesses, the economy and the nation. Efforts to secure chemicals must therefore be broadly applied and minimise any points of weakness that could be exploited by terrorists.

Reducing the risks surrounding the use of chemicals for terrorist purposes throughout Australia requires consideration of all elements of the supply chain:

- i. import and export
- ii. manufacture
- iii. transport and storage
- iv. distribution and sale—both retail and wholesale
- v. use, and
- vi. disposal.

8.2 Components of the Framework

The Framework components are:

- i. a process for ongoing assessment and management of security risks associated with the use of chemicals for terrorist purposes
- ii. the development of capability building measures for the community, industry and governments, and
- iii. coordination and consultation arrangements between, and within, governments and industry.

It is important that arrangements introduced as part of the Framework are evaluated against the security outcomes.

Recommendation 5: Chemical Security Management Framework

The Council of Australian Governments agrees to a Chemical Security Management Framework that includes:

- i. a process for the ongoing identification of security risks associated with specific chemicals, groups of chemicals or components of the supply chain of potential security concern. This process will also identify appropriate controls to assist with managing these risks (recommendation 6)
- ii. the development of capability building measures for the community, industry and governments that seek to prevent the use of chemicals for terrorist purposes (recommendations 7 and 8), and
- iii. appropriate management and governance arrangements (recommendation 9).

8.3 Assessing risk

A key principle of the review is that a risk-based approach is essential. To give effect to this principle, the first element of the Framework is a process for identifying and managing the risks posed by the use of chemicals for terrorist purposes. Given that this risk will continue to evolve, the risk assessment process will continue on an ongoing basis.

The risk assessment will be used to underpin capability building measures in the community, industry and government that address the identified risks and achieve the agreed outcomes. The establishment and maintenance of the risk management process and the implementation of the measures will require dedicated resources within governments. It will also require the development, and implementation of, coordination and consultation arrangements between governments and with stakeholders.

As described in Part 2, chemicals are generally controlled in Australia to manage the health, safety and environmental risks they may pose. The processes used to assess health, safety and environmental risks, however, may not be appropriate in a security context as terrorist incidents are intentional events rather than the result of accidental or negligent misuse. An ongoing risk assessment process is required to determine the risks associated with the use of chemicals for terrorist purposes and assess whether existing control measures in Australia are adequate to manage these risks.

This review included a preliminary assessment of chemicals to identify those that could be potentially accessed by terrorists in the Australian context. Only those chemicals known to be of credible interest to terrorists of concern to Australia were considered. This process, described further in Appendix 4, identified 96 chemicals

(Table 1) from the 40 000 approved for use in Australia—based on terrorist interest and technical assessment. This preliminary approach was useful in providing a guide to the range of chemicals that may require further attention. However, it does not fully assess the consequences of an attack using a particular chemical; or the vulnerabilities through the supply chain that might enable access of chemicals for terrorist purposes.

A detailed risk assessment is therefore required that considers threat, vulnerability, likelihood and the consequences of specific priority chemicals, groups of chemicals or component of the supply chain of potential security concern. These more detailed risk assessments will provide the specific information required for governments and industry to identify and implement appropriate capability and control measures to manage risk.

Prioritisation of chemicals, groups of chemicals or components of the supply chain of potential security concern will be based on advice from, and reviewed by, Commonwealth, State and Territory Government agencies. This will ensure that the development of capability and control measures is well grounded in consideration of the current security environment and potential points of vulnerability across Australia's chemical supply chain.

With regard to immediate priorities, in consideration of security agency advice, it is recommended that priority attention for risk assessment be given to chemicals of potential security concern that are precursors to home made explosives and chemicals in bulk storage and transport.

The risk assessment methodology will be based on the Australian and New Zealand Standard AS/NZS 4360:2004 (current version) and Security Risk Management Handbook 167:2006 (current version). The application of the standard to the management of the risks associated with the use of chemicals for terrorist purposes is described in Appendix 6.

Risk assessments (including assessment of the adequacy of existing control measures) will be conducted by government experts with relevant experience in areas including chemical regulation, security and law enforcement. The development and finalisation of the risk assessments will be independent of the development of control measures.

Users of chemicals typically understand the risks and vulnerabilities in the environment in which they operate. This knowledge is essential when assessing the risks of chemicals being used in a terrorist incident. Most measures identified in the risk assessment process are likely to be implemented by modifying existing safety, health or environment control measures, or measures for controlling the diversion of chemical precursors into illicit drug manufacture. It is critical that industry and existing Commonwealth, State and Territory Government regulators are fully engaged throughout the development and implementation phases. This includes the risk assessment process, identifying appropriate modifications to existing control measures to decrease the identified risk, and in the absence of suitable alternatives, developing new control measures.

Table 1 Current assessment of pure/concentrated chemicals that have a potential security concern

| | | | | | |
|-----------------------|--------------|---------------------------|--------------|--------------------------|--------------|
| A | CAS # | E | CAS # | O | CAS # |
| Aldicarb | 116-06-3 | Endosulfan | 115-29-7 | Omethoate | 1113-02-6 |
| Ammonia (anhydrous) | 7664-41-7 | Ethion | 563-12-2 | Osmium tetroxide | 7446-13-1 |
| Ammonium nitrate* | 6484-52-2 | Ethyl mercury chloride | 107-27-7 | Oxamyl | 23135-22-0 |
| Ammonium perchlorate^ | 7790-98-9 | Ethyldiethanolamine | 139-87-7 | | |
| Arsenic pentoxide | 1303-28-2 | | | P | |
| Arsenic trioxide | 1327-53-3 | F | | Paraquat | 2074-50-2 |
| Arsine | 7784-42-1 | Fenamiphos | 22224-92-6 | Parathion methyl | 63653-66-7 |
| Azinphos methyl | 86-50-0 | Fluorine gas | 7782-41-4 | Perchloric acid^ | 7601-90-3 |
| | | Fluoroacetic acid | 144-49-0 | Phorate | 298-02-2 |
| B | | Fluoroethyl alcohol | 000371-62-0 | Phosgene | 75-44-5 |
| Bendiocarb | 22781-23-3 | Fluoroethyl fluoroacetate | 459-99-4 | Phosphide Al | 8005-48-9 |
| Beryllium sulphate | 13510-49-1 | | | Phosphide Mg | 12057-74-8 |
| Bromine | 7726-95-6 | H | | Phosphide Zn | 12037-79-5 |
| | | Hydrochloric acid | 7647-01-0 | Phosphine | 7803-51-2 |
| C | | Hydrogen chloride | 7647-01-0 | Phosphorus | 7723-14-0 |
| Cadusafos | 95465-99-9 | Hydrogen cyanide | 74-90-8 | Phosphorus oxychloride | 39380-77-3 |
| Carbofuran | 1563-66-2 | Hydrogen peroxide^ | 8007-30-5 | Phosphorus pentachloride | 10026-13-8 |
| Carbon disulphide | 75-15-0 | Hydrogen sulfide | 7783-06-4 | Phosphorus trichloride | 37231-52-0 |
| Carbon monoxide | 630-08-0 | | | Potassium chlorate^ | 7790-93-4 |
| Chloropicrin | 76-06-2 | M | | Potassium nitrate^ | 96193-83-8 |
| Chlorfenvinphos | 470-90-6 | Mercuric chloride | 7487-94-7 | Potassium perchlorate^ | 7778-74-7 |
| Chlorine gas | 7782-50-5 | Mercuric nitrate | 8046-70-6 | Propoxur | 114-26-1 |
| Cyanide calcium | 592-01-8 | Mercuric oxide | 8028-34-0 | | |
| Cyanide mercury | 592-04-1 | Mercurous nitrate | 7782-86-7 | S | |
| Cyanide potassium | 151-50-8 | Methamidophos | 115182-35-9 | Sodium azide^ | 26628-22-8 |
| Cyanide sodium | 143-33-9 | Methidathion | 950-37-8 | Sodium chlorate^ | 7775-09-9 |
| Cyanide zinc | 557-21-1 | Methiocarb | 716-16-5 | Sodium fluoroacetate | 62-74-8 |

| | | | | | |
|--------------------|----------|---------------------------|------------|---------------------------------|------------|
| Cyanogen bromide | 506-68-3 | Methomyl | 16752-77-5 | Sodium perchlorate [^] | 7601-89-0 |
| Cyanogen chloride | 506-77-4 | Methyl fluoroacetate | 453-18-9 | Sodium nitrate [^] | 7631-99-4 |
| D | | Methyldiethanolamine | 105-59-9 | Strychnine | 6899-11-2 |
| Diazinon | 333-41-5 | Mevinphos | 7786-34-7 | Sulfur dichloride | 39461-36-4 |
| Dichlorvos | 62-73-7 | N | | Sulfur monochloride | 12771-08-3 |
| Diethyl phosphite | 762-04-9 | Nitric acid [^] | 78989-43-2 | Sulphuric acid | 7664-93-9 |
| Dimethyl phosphite | 868-85-9 | Nitric oxide | 90880-94-7 | T | |
| Dimethyl mercury | 593-74-8 | Nitromethane [^] | 75-52-5 | Terbufos | 13071-79-9 |
| Dimethyl sulphate | 77-78-1 | | | Thallium sulfate | 87993-82-6 |
| Disulfoton | 298-04-4 | | | Thionyl chloride | 7719-09-7 |
| | | | | Thiophosphoryl chloride | 3982-91-0 |
| | | | | Triethanolamine | 7376-31-0 |
| | | | | Triethyl phosphite | 122-52-1 |
| | | | | Trimethyl phosphite | 121-45-9 |

[^] explosive precursor

* security-sensitive ammonium nitrate (SSAN) [ammonium nitrate, ammonium nitrate emulsions and ammonium nitrate mixtures containing greater than 45 per cent ammonium nitrate, excluding solutions]

Note: CAS means the Chemical Abstracts Service, a division of the American Chemical Society

As outlined in Part 5 chemicals in Australia are controlled through a combination of industry programs and government regulation. It is likely that, in most instances, modifying these control measures to manage the new security risks will be the most effective strategy for improving security outcomes. It will also be the least costly option and will cause the least disruption to industry. Modifying existing arrangements minimises the chance of conflict between control measures for safety, security and environmental purposes. It also enables government to build upon existing relationships in industry and between industry and government regulators.

There may be some circumstances where existing capability and control measures cannot be modified sensibly to manage the identified risks. In these circumstances new regulation, informed by a cost benefit analysis, would be introduced as a last resort.

The Productivity Commission released its *Draft Research Report on Chemicals and Plastics Regulation* on 19 March 2008. It recommends that State and Territory Governments should not add any additional chemicals of security concern to the current SSAN regulations. It also makes separate recommendations to improve the national consistency of these regulations. These include improving the background checking and other features affecting the national consistency of the current SSAN regime.

Currently, there are no plans to add further chemicals to the regulatory regimes established for SSAN. The guiding principles of the proposed Framework suggest that a decision to do so would be taken as a last resort. Governments could be required to respond urgently to a future high threat involving a particular chemical. Given this, it is sensible to retain the option of using the SSAN regime as one of the potential means to act expediently to mitigate such a threat. Any such decision would have to consider the difficulties that have been experienced by SSAN users, the potential market consequences and any modifications of these arrangements arising from the Productivity Commission report.

Recommendation 6: Assessing risk

The Council of Australian Governments:

- i. agrees the Commonwealth Government, in collaboration with State and Territory Governments and industry, develop agreed methodology based on the Australian and New Zealand Standard AS/NZS 4360:2004 (and its successor standards), for conducting assessments of the risks posed by the use of chemicals for terrorist purposes, that will be tailored to meet the unique challenges of counter-terrorism. The methodology would include an assessment of threat, vulnerability, likelihood and consequence across all elements of the supply chain
- ii. notes that a range of chemicals have been identified as potentially of security concern based on terrorist interest, technical assessment and accessibility
- iii. agrees that, as an initial priority, a risk assessment be undertaken on chemicals of potential security concern that are precursors to home made explosives and chemicals stored and/or transported in bulk
- iv. agrees that future priorities for risk assessment be informed by advice from security and law enforcement agencies, and
- v. agrees that based on the outcomes of those assessments, appropriate and targeted security measures to address the risks will be recommended for implementation by the Commonwealth, State and Territory Governments and industry.

The following section outlines several general community, industry and government capability building initiatives. These initiatives will broadly increase the level of control of chemicals in Australia through education, awareness and training. They will also enable government and industry to provide more focused attention on priority chemicals, groups of chemicals and components of the supply chain of security concern.

8.4 Community awareness

There have been examples of aware individuals notifying law enforcement and security agencies of suspicious activities. This has at times resulted in investigations that have disrupted terrorist activity.

A community awareness-raising initiative can educate the community about the risks posed by the use of chemicals for terrorist purposes, increase vigilance and encourage the reporting of suspicious activities.

A national community awareness program will be implemented. To ensure a common awareness approach, and to avoid duplication, community awareness-raising will be undertaken by the Australian Government rather than separate awareness-raising initiatives in each jurisdiction.

The awareness-raising initiatives will have the scope and flexibility to work with all sectors (industry, community and all levels of government). They will also include:

- i. clear and appropriate security objectives
- ii. a thorough analysis of the policy environment and be based on independent communication research and stakeholder consultation, and
- iii. a matrix of measures to address the specific security objectives, target audiences and timing requirements.

8.5 Industry capability building

Parts 2 and 3 describe the various arrangements industry has for controlling chemicals for health, safety and environmental reasons. Security measures—access controls, monitoring, reporting—exist within industry arrangements in Australia. The review acknowledges that these could be further enhanced to build a security culture within industry and achieve the security outcomes. Specific arrangements that could be enhanced include:

- i. targeted awareness programs
- ii. training and guidance materials, and
- iii. security measures to limit access to chemicals of security concern.

The enhancement of existing industry arrangements and the development of new industry capability building measures can, where necessary, be tailored to meet jurisdictional needs.

Targeted awareness programs

A *targeted awareness program* would help educate industry sectors about the terrorist risks posed by chemicals. It would also help in the development of a security culture in industry and across the supply chain. This would increase awareness of suspicious activities as well as deter and potentially reduce the theft and diversion of chemicals for terrorist purposes.

To maximise effectiveness, targeted awareness programs would use and build upon existing industry activities where possible. To ensure national consistency and coordination, governments would need to work closely with industry to develop and assist the implementation of these programs.

For example the Transport Security Awareness Program—a joint initiative of the Australian Trucking Association and the Department of Infrastructure, Transport, Regional Development and Local Government—aims to raise the trucking industry’s awareness of security at both a national and personal level. Under this program, several printed materials have been developed for the trucking industry. They include an in-cab booklet, a guide for trucking operators, a poster and sticker.

Training and guidance materials

Targeted training and guidance materials—developed and applied across industry sectors and throughout the supply chain—can help manage security risks in workplaces.

The development of these training programs will be coordinated on a national basis with a view to achieving a nationally consistent security outcome. The detailed supporting material will be able to be tailored to meet the different needs of industry, specific points in the supply chain and jurisdictions.

Government(s) will be able to assist industry associations by providing advice on developing, and incorporating, security components into training and guidance

For example, the Swimming Pool & Spa Association of Victoria is commencing a review of training. It intends to design, and recommend to its board, an industry training strategy over the next three to five years. It has had discussions with Commonwealth and State Government officials about training aspects for the security of chemicals to ensure that the training targets the necessary issues.

material.

Security measures

Depending on the risks associated with the use of chemicals for terrorist purposes, specific *security measures* may be required to mitigate the assessed risks.

Specific control measures cannot be determined at this time for each chemical and its products as this is dependent on the finalisation of risk assessments as discussed in Part 8.3. However, depending on the assessed risks, control measures may be required, including:

- i. no cash sales
- ii. monitoring of chemicals
- iii. security plans
- iv. security measures around transportation of chemicals
- v. reformulation and packaging to lower security risks
- vi. record keeping, and
- vii. enhanced physical security around infrastructure.

The Commonwealth Government, in consultation with State and Territory Governments and industry, would develop advice or security guidance material to facilitate the introduction of security measures.

Whilst this may not be mandatory, industry would be encouraged to introduce self-regulation and initiatives to maximise compliance. The extent to which the security outcomes are achieved, and risks reduced, would depend on the degree of industry compliance in addressing the risks.

Enhancing industry specific initiatives could include stewardship programs and codes of practice to include security. For example:

- i. the risk assessment completed for chemical A has identified that there is a certain product that has a significant risk of being accessed for terrorist purposes while being transported by road. Through consultation with industry it is found that fewer than five companies transport the chemical product in Australia. After consultation between government and industry, it is proposed that industry introduces measures to reduce the risk of illegitimate access to the chemical product. These measures could include driver cabin locks, GPS tracking and engine immobilisers. Governments consider these voluntary measures to be sufficient to address the assessed risk
- ii. a chemical product B has been assessed as being at significant risk of being accessed by terrorist groups through retail outlets. The product can be purchased with cash and no identification is required. Through collaboration between government and industry, a code of conduct is implemented to reduce the risks associated with the availability of the product. The code includes no cash sales, keeping sales records and photo identification requirements. Governments consider these industry measures to be sufficient to address the assessed risk, and
- iii. the risk assessment process identified that chemical C is available in a certain product that enables it to be easily used for terrorist purposes. To mitigate this risk the company(s) that manufactures the product reformulates it, or changes its packaging to decrease the risks. This would make it harder for it to be used for terrorist purposes. Any reformulation of products would need to ensure that the chemical is still effective for its intended legitimate use(s).

8.6 Government capability building

As noted previously, governments have various programs and arrangements in place for controlling chemicals for health, safety and environmental reasons. In the same way that industry arrangements could be enhanced, government programs and arrangements could also be enhanced to address security risks. If industry arrangements are unable to reduce, to the extent required, the assessed risks associated with the terrorist use of chemicals, governments could consider enhancing their existing arrangements. Enhancing existing government arrangements, and developing new government capability building measures, will be tailored to meet jurisdictional needs where necessary.

The appropriateness of using regulation to achieve security objectives for a specific chemical will be assessed based on the level and nature of the risk associated with that chemical. Government regulation can achieve greater levels of compliance and therefore reduce assessed risks. As noted in Part 3 however, government regulation is costly to introduce for both government and industry and

it can be difficult to effect change in a timely manner. Therefore, new government regulation, or enhancing existing regulation would only be considered after the effectiveness of industry arrangements and industry–government co-regulation is analysed. The consideration of a regulatory approach would be informed by a cost benefit analysis.

To enhance the capability of government agencies to achieve the security outcomes, *appropriate training* needs to be provided to government policy, regulatory, security and law enforcement agencies about the risks surrounding possible terrorist misuse of chemicals. It would also contribute to achieving the outcomes by improving the capability of government agencies to understand and manage the risks posed by chemicals of security concern.

To prevent the duplication of effort, national inconsistencies and the need for industry to engage with numerous bodies, it would be appropriate that there be efforts to achieve complementary training outcomes between the Commonwealth, State and Territory Governments.

Recommendation 7: Capability building

The Council of Australian Governments agrees that the Commonwealth Government, in consultation with State and Territory Governments, will enhance the capability of the general community, industry and government to contribute to limiting opportunities for, and improving the detection of, the use of chemicals for terrorist purposes that is both responsive to and flexible in the current security environment.

General community

The Council of Australian Governments agrees that the Commonwealth Government, in consultation with State and Territory Governments, will develop and implement a national community awareness program to increase the likelihood of members of the community identifying and reporting suspicious behaviour and activities to relevant authorities.

Industry

The Council of Australian Governments agrees that the Commonwealth Government, in collaboration with State and Territory Governments and industry, will coordinate initiatives to assist with the development of a security culture in industry by developing:

- i. targeted awareness programs based on the identified risks of the use of specific chemicals or group/s of chemicals for terrorist purposes
- ii. security advice or security standards for introduction into existing industry codes; and measures to enhance early detection of, and limit access to, the use of chemicals for terrorist purposes that can be tailored to meet jurisdictional needs, and
- iii. relevant training and security guidance materials for all elements of the supply chain for use by industry bodies that can be tailored to meet jurisdictional needs.

Government

The Council of Australian Governments agrees that the Commonwealth Government, in collaboration with State and Territory Governments will:

- i. develop security guidance and training material for inclusion in relevant existing government standards. This material would be used by government agencies responsible for the management of chemicals and be tailored to meet jurisdictional needs, and
- ii. provide specialised information to government policy and regulatory agencies, jurisdictional police and security agencies on the risks of the use of chemicals for terrorist purposes.

8.7 Sharing information

Legal impediments

Government regulators currently hold a large amount of information on chemicals across the supply chain. Depending on the circumstances of its collection and the its nature, this information—in common with government-held information generally—is likely to be subject to statutory secrecy, confidentiality and privacy regimes. These regimes allow for disclosure to other government agencies in appropriate circumstances. However, it is possible that some legitimate situations are not presently covered. This could prevent the appropriate assessment of the risks of the misuse of chemicals for terrorist purposes. To identify if this is the case, all jurisdictions should review their existing legislative regimes to identify whether there are any statutory impediments to sharing relevant data between regulators and other nominated government agencies for the implementation of the Framework.

Communication arrangements

Appropriate arrangements are required to share information between industry and government agencies about chemical security and changes to risk. These arrangements would help governments to provide updates to industry about imminent threats. They would also enable government to effectively investigate an incident.

Effective communication also ensures that jurisdictional police and security agencies have ready access to the information they may need.

Appropriate arrangements could be established in each jurisdiction and/or by the Commonwealth Government. Appropriate arrangements would need to be established or maintained between jurisdictional police and security agencies to ensure the timely and relevant flow of information between agencies and that the appropriate message is being conveyed to industry.

Recommendation 8: Sharing information

The Council of Australian Governments agrees that all jurisdictions will:

- i. review relevant legislation and policies that control the sharing of related information and data between government agencies with a view to facilitating the exchange of information necessary to implement the Chemical Security Management Framework, and
- i. consistent with the National Counter-Terrorism Plan, maintain or establish appropriate arrangements to share information between security and law enforcement agencies, government policy and regulatory agencies, industry and the community as required to implement the Chemical Security Management Framework.

PART 9—COORDINATION ARRANGEMENTS

The delivery of the Chemical Security Management Framework will rely on the involvement of the community, industry and all Australian governments. Appropriate resources and governance arrangements are required to ensure a nationally consistent approach is delivered and the security outcomes achieved. There are three components to the governance arrangements to ensure appropriate collaboration across governments and effective consultation with stakeholders:

- i. the coordination of the elements of the Chemical Security Management Framework
- ii. ongoing coordination and collaboration across governments, and
- iii. consultation with industry.

9.1 Coordination of the Chemical Security Management Framework

Implementing the Chemical Security Management Framework will require ongoing government oversight, including significant coordination across governments and industry. This will include policy consideration of the findings of risk assessments and development of control measures. As noted in Part 2, the management of chemicals in Australia is the responsibility of the Commonwealth, State and Territory Governments. Therefore, ministerial support and commitment to the Framework by all jurisdictions is necessary to enable each government to commit to appropriate courses of action to manage security risks.

A chemical security coordination unit will be established in the Commonwealth Government to coordinate the national implementation of the Framework. There are several Commonwealth Government ministers who are responsible for chemical usage in Australia. However, as the Chemical Security Management Framework is focused on security, the Commonwealth Attorney-General will be the responsible Commonwealth minister. State and Territory Governments will nominate an appropriate minister to represent their jurisdiction.

The Commonwealth Attorney-General and nominated State and Territory Government ministers will oversee coordination and implementation of the Framework within their jurisdiction. They will also make decisions about national capability measures and control measures, including responsibility for their implementation, in response to risk assessments.

9.2 Collaboration across governments

As noted in Part 2, there are numerous arrangements across all jurisdictions that could be utilised in the management of chemicals. No single government can effectively manage the risk surrounding the use of chemicals for terrorist purposes in isolation. A coordinated effort is needed. A national government advisory group will be established to assist effective and efficient collaboration across the Commonwealth, State and Territory Governments. This group would comprise representatives from each jurisdiction who are able to facilitate government agreement of appropriate risk mitigation measures at a senior officials' level.

This national government advisory group would not replace the need to engage with existing regulators of chemicals to develop appropriate control measures and the steps to implement them.

9.3 Consultation with industry

Governments need industry engagement to facilitate the successful implementation and management of the Framework. Industry has a significant amount of information about chemicals, their products, and their availability throughout the supply chain. It is also able to work with governments to develop appropriate risk mitigation measures and advise governments on the possible cost implications of any proposed measures. A national industry reference group(s) will be established to enable governments to consult with industry on an ongoing basis and to help develop appropriate enhancements to existing arrangements.

As with the national government advisory group, this reference group would not replace the need to engage with particular industry stakeholders when completing risk assessments, developing appropriate control measures or making recommendations about appropriate steps to implement the agreed control measures.

9.4 Intergovernmental agreement

Due to the need for extensive collaboration across governments, an intergovernmental agreement has been developed for consideration by the Council of Australian Governments. This agreement defines the governance arrangements for coordinating and implementing the Chemical Security Management Framework. The agreement outlines the roles and responsibilities of the Commonwealth, State and Territory Governments in developing and implementing appropriate and nationally consistent actions for chemical security.

Recommendation 9: Governance arrangements

The Council of Australian Governments agrees that:

- i. the Commonwealth Government will establish a chemical security coordination unit to:
 - a. coordinate the national implementation of appropriate controls to address any identified gaps between the risks and existing controls (recommendation 6), and
 - b. coordinate the national implementation of capability building measures (recommendations 7 and 8) with, and for, the community, industry and government. The chemical security coordination unit will work with reference groups comprising security and law enforcement agencies, industry and existing Commonwealth, State and Territory Government regulators of chemicals
- ii. the Commonwealth Attorney-General and nominated Ministers from each State and Territory Government will agree to national capability building measures and control measures, including responsibility for their implementation in response to risk assessments conducted on chemicals, groups of chemicals or components of the supply chain of potential security concern, and
- iii. that an intergovernmental agreement be established which describes the roles, responsibilities and mechanisms by which governments will agree to develop and implement appropriate, and nationally consistent, actions for chemical security.

PART 10—IMPLEMENTATION

Within the first two years:

- i) each State and Territory Government will nominate a Minister to represent their jurisdiction
- ii) the chemical security coordination unit will be established
- iii) the national government advisory group will be established
- iv) the work program will be developed
- v) the national industry reference group will be established
- vi) the risk assessment methodology will be developed
- vii) a national community awareness strategy will be developed and implemented
- viii) industry and government capability building programs and security advice will be developed and implementation will commence
- ix) risk assessments will commence on priority chemicals (including groups of chemicals and components of the supply chain) that are precursors to home made explosives, and chemicals stored and/or transported in bulk, and
- x) risk mitigation strategies will be developed, and implementation will commence, based on the outcomes of the risk assessments.

The implementation of risk mitigation strategies will occur on an ongoing basis as appropriate control measures are developed in consultation with Australian governments, industry and other stakeholders. The security mitigation strategies will remain under review to ensure they reflect the risk environment surrounding chemicals of security concern.

Table 2 provides indicative timelines for implementing the recommendations, assuming a start date of 3 October 2008.

Implementation of the recommendations contained in this Report is complicated by uncertainties surrounding the length of time it will take to complete a risk assessment on different chemicals or groups of chemicals; and the work involved in implementing a broad range of risk mitigation strategies. For that reason, the implementation of the recommendations will be reviewed on an ongoing basis.

Table 2 Indicative timelines for implementation

| Task | Schedule start | Schedule finish |
|---|-----------------------|------------------------|
| Ministers nominated | | |
| Nominate Ministers | November 2008 | December 2008 |
| Work program | | |
| Develop and agree the work program | November 2008 | Ongoing |
| Unit establishment | | |
| Establish chemical security coordination unit and consultation mechanisms | October 2008 | February 2009 |
| Committees establishment | | |
| Establish national government advisory group | November 2008 | December 2008 |
| Establish national industry reference group | January 2009 | February 2009 |
| Community awareness strategy | | |
| Develop national community awareness strategy | November 2008 | April 2009 |
| Implement national community awareness strategy | May 2009 | June 2010 |
| Risk assessment | | |
| Develop risk assessment methodology | November 2008 | May 2009 |
| Conduct risk assessments | April 2009 | Ongoing |
| Control and capability building measures | | |
| Develop security mitigation strategies | June 2009 | Ongoing |
| Develop industry and government capability building programs | February 2009 | Ongoing |
| Review | | |
| Review Chemical Security Management Framework | May 2012 | November 2012 |

APPENDIXES

Appendix 1: Terms of Reference for the COAG Review of Hazardous Materials

Appendix 2: Review process

Appendix 3: Current control measures for chemicals in Australia

Appendix 4: Individual chemical assessment

Appendix 5: Approaches to controlling chemicals of security concern in other countries

Appendix 6: Risk management process for the identification and control of chemicals of security concern

APPENDIX 1: TERMS OF REFERENCE FOR THE COAG REVIEW OF HAZARDOUS MATERIALS

1. To examine and report on controls of:

- i. Readily available explosives precursors, including fertilizers
- ii. Radiological sources
- iii. Harmful biological materials (primarily pathogens and toxins), and
- iv. Other hazardous substances and dangerous goods

to determine those that are comprehensively regulated (e.g. radiological materials), those that are partly regulated but where there may be a case for more comprehensive regulation, and those that are not regulated at all.

2. To make recommendations to ensure that, in respect of these goods:

- i. Regulations and controls are effective and sufficient to prevent their procurement or possession for illegal purposes
- ii. Offences and penalties for illegal possession and use are appropriate
- iii. There are no gaps in the current regulatory provisions governing their possession, storage and transport, or if so identify what these gaps are and how they could be addressed
- iv. Attempts to acquire them for illegal purposes can be detected early
- v. Measures are in place to report to relevant authorities their illegal procurement, possession and transport, and
- vi. Any non-regulatory means which might promote better security (e.g. education campaigns or voluntary reporting schemes) are identified.

Terms of Reference for the Review of Chemicals of Security Concern

To develop a control framework for the identification prioritisation and management of chemicals (including hazardous substances and agvet⁷ chemicals and dangerous goods) of national security concern by:

- i. using intelligence as the primary driver in developing the control framework.
- ii. examining and reporting on existing controls for chemicals of security concern and to determine, in relation to security risks, those that are:
 - a) sufficiently well controlled, or
 - b) controlled but may require more comprehensive arrangements, or
 - c) not sufficiently controlled.
- iii. providing options to ensure that, in respect of these chemicals the risks are adequately mitigated.

⁷ Agvet chemicals are agricultural chemicals (including pesticides) and veterinary medicines

APPENDIX 2: REVIEW PROCESS

COAG Review of Hazardous Materials Steering Committee and its Sub-Groups

The *COAG Review of Hazardous Materials Steering Committee* (Steering Committee) was responsible for the oversight of, and policy proposals regarding, the COAG Review of Hazardous Materials. The Steering Committee comprised representatives from State and Territory Governments and relevant Commonwealth agencies. The Steering Committee was supported by a number of sub-committees, including the:

- i. *Technical Working Group* – comprising industry and government representatives with expertise in agricultural and veterinary chemicals, industrial chemicals and/or explosive precursors. The Technical Working Group provided advice on technical matters to the Steering Committee, and the
- i. *Industry Consultation Group* - comprising 14 national peak bodies representative of the chemical sector. The Industry Consultation Group provided the Steering Committee with industry views on the development of the review of chemicals of security concern.

Organisations represented on the Steering Committee and its sub-groups are provided below.

COAG Review of Hazardous Materials Steering Committee

| Organisation |
|---------------------|
|---------------------|

| |
|--|
| Australian Government Department of the Prime Minister and Cabinet |
| ACT Department of Justice and Community Safety |
| NSW Department of Premier and Cabinet |
| NSW Police Force |
| NT Chief Minister's Department |
| Queensland Department of the Premier and Cabinet |
| SA Department of the Premier and Cabinet |
| Tasmania Department of Premier and Cabinet |
| Victorian Department of Premier and Cabinet |
| Victorian Workcover |
| WA Department of the Premier and Cabinet |
| Australian Federal Police |
| Australian Government Attorney-General's Department |
| Australian Government Australian Customs Service |
| Australian Government Department of Agriculture, Fisheries and Forestry |
| Australian Government Department of Health and Ageing |
| Australian Government Department of Infrastructure, Transport, Regional Development and Local Government |
| Australian Government Department of Innovation, Industry, Science and Research |

Technical Working Group

Government Members

Organisation

Australian Government Department of the Prime Minister and Cabinet
Australian Federal Police
Australian Government Attorney-General's Department
Australian Government Department of Agriculture, Fisheries and Forestry
Australian Government Department of Defence
Australian Government Department of Foreign Affairs and Trade
Australian Government Department of Health and Ageing
ACT Cabinet Office
Chemistry Centre WA
Emergency Management Queensland
NSW Workcover
Queensland Department of Natural Resources, Mines and Water
Queensland Department of Primary Industries and Fisheries
SafeWork SA
Victorian Department of Human Services
Victorian Department of Primary Industries

Industry Members

Organisation

ACCORD Australasia Limited
Animal Health Alliance (Australia) Limited
Australian Vegetable and Potato Growers Federation (AUSVEG)
CropLife Australia
Fertilizer Industry Federation of Australia (FIFA)
National Farmers' Federation (NFF)
Nufarm Australia
Plastics and Chemicals Industries Association Inc (PACIA)
Veterinary Manufacturers and Distributors Association (VMDA)

Industry Consultation Group

Organisation

ACCORD Australasia Limited
Animal Health Alliance (Australia) Limited
Australian Chamber of Commerce and Industry
Australian Logistics Council
Australian National Retailers Association
Australian Paint Manufacturers Federation
Australian Vegetable & Potato Growers Federation (AUSVEG)
CropLife Australia
Fertilizer Industry Federation of Australia
Minerals Council of Australia
National Farmers' Federation
Plastics & Chemicals Industries Association Inc
Universities Australia
Veterinary Manufacturers and Distributors Association

Identification of chemicals of security concern

A process for identifying chemicals of security concern based on terrorist interest was developed and reviewed by the Technical Working Group. This technical analysis identified 96 chemicals of interest to terrorist groups of concern to Australia out of over 40,000 chemicals approved for use in Australia. This assessment considered chemicals in their most pure or concentrated form. Further information about this process is provided in Appendix 4.

Discussion Paper on the Control of Chemicals of Security Concern

The first phase in the review of chemicals of security concern was the release of the *Discussion Paper on the Control of Chemicals of Security Concern* in November 2006. The discussion paper was developed by the Steering Committee in consultation with the Industry Consultation Group. It was available for a three-month public consultation period and was significant in shaping the way forward for the review.

The discussion paper presented:

- i. guiding principles for the control of chemicals of security concern
- ii. current arrangements for controlling chemicals in Australia
- iii. approaches by some other nations to the control of chemicals of security concern
- iv. a risk assessment to identify chemicals of security concern; and groupings of chemicals of similar security risk
- v. an indicative draft model framework for prioritising the assessment of formulated chemical products containing chemicals of security concern
- vi. a range of possible security control measures, and
- vii. mechanisms for managing security control measures.

The discussion paper phase was supported by a series of information sessions held in every state and territory. These sessions provided stakeholders with an opportunity to gain a greater appreciation of the issues raised in the discussion paper. They also provided an opportunity for stakeholders to provide feedback without making a formal submission. Table 3 lists the information sessions held.

Table 3 **Dates and locations of information sessions held during the discussion paper phase**

| Date | Session | Location |
|------------------|------------------------------|-----------|
| 24 November 2006 | ACCORD Board Meeting | Melbourne |
| 1 December 2006 | NT Intergovernmental Meeting | Darwin |
| 1 December 2006 | NT industry consultation | Darwin |
| 5 December 2006 | CropLife Board Meeting | Canberra |

| | | |
|------------------|---|------------|
| 5 December 2006 | PACIA Regulatory Affairs Network | Melbourne |
| 6 December 2006 | PACIA Board Meeting | Melbourne |
| 7 December 2006 | Australian Paint Manufacturers Council Meeting | Melbourne |
| 7 December 2006 | PACIA Regulatory Affairs Network | Sydney |
| 8 December 2006 | SA industry consultation | Adelaide |
| 14 December 2006 | Qld Interdepartmental Hazardous Substances Coordinating Committee | Brisbane |
| 14 December 2006 | FIFA Board Meeting | Melbourne |
| 29 January 2007 | WA industry consultation | Perth |
| 30 January 2007 | PACIA Meeting | Perth |
| 1 February 2007 | Vic industry consultation | Melbourne |
| 5 February 2007 | PACIA Meeting | Brisbane |
| 5 February 2007 | Qld Commerce | Brisbane |
| 9 February 2007 | NFF Farm Chemicals Committee Meeting | Canberra |
| 15 February 2007 | Tasmanian Farmers and Graziers Association | Hobart |
| 16 February 2007 | NSW Farmers Association | Sydney |
| 19 February 2007 | Vic regional consultation | Irymple |
| 19 February 2007 | Vic regional consultation | Swan Hill |
| 20 February 2007 | Vic regional consultation | Horsham |
| 20 February 2007 | Vic regional consultation | Ballarat |
| 21 February 2007 | Vic regional consultation | Tatura |
| 21 February 2007 | Vic regional consultation | Myrtleford |
| 22 February 2007 | Vic regional consultation | Moe |
| 22 February 2007 | Vic regional consultation | Cranbourne |
| 27 February 2007 | VFF Horticulture Council and Policy Council Meeting | Melbourne |

Stakeholder feedback on the discussion paper

The discussion paper generated considerable public interest in the review and 102 submissions were received from a wide range of stakeholder groups. The feedback contained in submissions and expressed during the information sessions was crucial in preparing the recommendations contained in this Report. The Steering Committee carefully considered the issues raised in response to the discussion paper. The key issues raised were:

- i. arrangements for security-sensitive ammonium nitrate (**SSAN**) **should not be replicated**
- ii. control measures can have **unintended consequences** which must as far as possible be anticipated
- iii. close examination of the **costs and impacts** on industry and the end users is needed

- iv. more **effective communication** on the terrorist threat and risks posed by chemicals of security concern is needed
- v. many **existing government and industry arrangements** could be utilised or enhanced to address security risks
- vi. there was strong support for a **mix of industry and government arrangements**
- vii. a desire for **national consistency** in achieving a security environment was emphasised
- viii. suggestions to **reward** those businesses that operate with security in mind
- ix. a need for **appropriate distribution of compliance costs**, and
- x. any new measures need to be **cognisant of** arrangements in place or being considered **overseas**.

Report on the Control of Chemicals of Security Concern

This Report expands on the security objective determined by COAG. It defines the targeted security outcomes that the review seeks to achieve for chemicals of security concern. The Report also presents a Chemical Security Management Framework for the ongoing treatment of assessed risks.

The draft Report was available for a two-month public consultation period during which a series of consultation sessions was held in every state and territory. The sessions provided stakeholders with an update on the progress of the review since the discussion paper phase—including how their feedback shaped the direction of the Report. They also gave stakeholders an opportunity to provide feedback on the draft Report. Table 4 lists the consultation sessions held.

Table 4 Dates and locations of consultation sessions held on the draft Report

| Date | Organisation | Location |
|----------------------------------|--|-----------------|
| 21 February 2008 | NT First Minister's Department | Darwin |
| 26 February 2008 | SA Department of Premier and Cabinet | Adelaide |
| 26 February 2008 | ACCI OHS Working Party | Melbourne |
| 28 February 2008 | Victoria Department of Premier and Cabinet | Melbourne |
| 29 February 2008 (2 sessions) | WA Department of Premier and Cabinet | Perth |
| 29 February 2008 | NSW Department of Premier and Cabinet | Armidale |
| 3 March 2008 | NSW Department of Premier and Cabinet | Bathurst |
| 4 March 2008 | NSW Department of Premier and Cabinet | Dubbo |

| | | |
|---------------|---|-------------|
| 4 March 2008 | Victoria Department of Premier and Cabinet | Irymple |
| 4 March 2008 | Victoria Department of Premier and Cabinet | Swan Hill |
| 4 March 2008 | PACIA Regulatory Affairs | Brisbane |
| 5 March 2008 | Victoria Department of Premier and Cabinet | Horsham |
| 5 March 2008 | Victoria Department of Premier and Cabinet | Ballarat |
| 5 March 2008 | NSW Department of Premier and Cabinet | Wagga Wagga |
| 6 March 2008 | Victoria Department of Premier and Cabinet | Tatura |
| 6 March 2008 | Victoria Department of Premier and Cabinet | Myrtleford |
| 6 March 2008 | NSW Department of Premier and Cabinet | Newcastle |
| 6 March 2008 | PACIA Regulatory Affairs | Melbourne |
| 7 March 2008 | Victoria Department of Premier and Cabinet | Ellinbank |
| 7 March 2008 | Victoria Department of Premier and Cabinet | Knoxfield |
| 7 March 2008 | NSW Department of Premier and Cabinet | Sydney |
| 7 March 2008 | NSW Department of Premier and Cabinet | Wollongong |
| 11 March 2008 | PACIA Regulatory Affairs | Sydney |
| 12 March 2008 | Tasmania Department of Premier and Cabinet | Launceston |
| 13 March 2008 | PACIA | Melbourne |
| 13 March 2008 | Fertiliser Industry Federation of Australia | Melbourne |
| 17 March 2008 | NSW Department of Premier and Cabinet | Ballina |
| 18 March 2008 | Queensland Department of Premier and Cabinet | Brisbane |
| 19 March 2008 | Veterinary Manufacturers and Distributors Association | Sydney |
| 31 March 2008 | CropLife Australia Members Forum | Canberra |

Stakeholder feedback on the draft Report

Fifty submissions were received from a wide range of stakeholder groups and individuals in response to the draft Report. The feedback provided in submissions and at consultation sessions was important in finalising this Report. The key issues raised were:

- i. **risk assessment**—there is a need to consider priority of chemicals, commonalities of use, concentrations, volumes, storage and supply chain vulnerabilities
- ii. **control and capability building**—there is a need to avoid undue burden, particularly in relation to security checking and the monitoring and capturing of data
- iii. **SSAN**—a repeat of SSAN arrangements should be avoided
- iv. **information sharing and reporting mechanisms**—information sharing needs to be appropriate, expedient, accurate and accessible
- v. **governance and coordination**—agreement between governments is important, as are partnerships between industry and governments that extend beyond peak bodies
- vi. **costs and impact**— costs associated with control and capability building measures should be shared and minimised. Efficiency losses and loss of access to chemicals should also be minimised
- vii. **national consistency**— the security objective cannot be met without a nationally consistent and coordinated approach
- viii. **consultation**—stakeholders want to be consulted on the risk assessment process and the development of capability building and control measures for those chemicals that they handle and the parts of the supply chains in which they are involved, and
- ix. **review of implementation**— it is essential that the progress of the Framework and effectiveness of implementation are reviewed on an ongoing basis to ensure that the security objective is being achieved.

Implementation

Ongoing stakeholder consultation will occur during implementation of the Framework. The security objective can only be achieved with the full support of all sectors of the chemical industry and the community.

APPENDIX 3: CURRENT CONTROL MEASURES ON CHEMICALS IN AUSTRALIA

International and Border Security

A range of initiatives and programs are being undertaken to secure the supply chain on an international level, as those was recently discussed at a recent Asia-Pacific Economic Cooperation (APEC) Conference. Initiatives discussed included:

- i. latest tools and technology in security
- ii. public-private sector partnerships
- iii. capacity building in developing trading economies, and
- iv. future directions for security of trade.

Maritime transport security

The Australian Government has implemented a maritime transport security regime to help safeguard Australia's maritime transport system and offshore facilities from terrorism. Under this regime, all security-regulated ports, port facilities and ships undertake risk assessments and implement security plans to address identified risks. The regime is underpinned by the International Ship and Port Facility Security Code and the *Maritime Transport Security Act 2003*.

Australian Customs Service prohibited and restricted imports and exports

The Customs (Prohibited Imports) Regulations 1956 prohibits the import of all Chemical Weapons Convention (CWC)-Scheduled chemicals unless permission is granted in writing by the Minister for Foreign Affairs or an authorised person within the Department of Foreign Affairs and Trade (DFAT). A system of permits has been developed to allow the Australian Safeguards and Non-Proliferation Office (ASNO) to collect import information relevant to Australia's declaration to the Organisation for the Prohibition of Chemical Weapons.

Australia controls the export of certain chemicals that could be used in weapon of mass destruction programs, including mixtures or finished products that contain equal to or greater than 25 per cent concentration of a controlled chemical (some chemicals being exported to non-state parties the threshold is 10%). This includes equipment, facilities, technologies and materials that have a valid civil application, but which may be diverted for use in weapon of mass destruction programs.

The legal framework for this is provided by the *Customs Act 1901* and the Customs (Prohibited Exports) Regulations 1958. Exports of all items covered by the Regulations require an export permit or licence approved by the Minister for Defence or a delegate of the Minister. All CWC-Scheduled chemicals are included in this framework.

Those goods that require a Defence permit or licence are listed in the Defence and Strategic Goods List.⁸ The genesis of this list is the international export control regimes of which Australia is a member. The Australia Group is one of these regimes.

Chemical Weapons Convention

The main international chemical security-related regime is the CWC. Like the Australia Group, the main purpose of the CWC is to prevent the development and use of chemical weapons by countries. Australia's obligations under the CWC are implemented primarily under the *Chemicals Weapons (Prohibition) Act 1994*, which is administered by ASNO. The CWC's main focus is on controlling and verifying activity associated with listed CWC-Scheduled chemicals.

The controls on chemicals in the three Schedules to the CWC vary as the security risk of the chemical decreases from Schedule 1 to Schedule 3. Controls on the import of any CWC-Scheduled chemical are required under the Customs (Prohibited Imports) Regulations 1956. Importers of Schedule 1 and 2 chemicals and facilities producing them must provide ASNO with details of the first users of the chemicals they supply.

Under the *Chemical Weapons (Prohibition) Act 1994*, all Schedule 1 chemicals trigger permit requirements, regardless of quantities. Schedule 2 chemicals require permits to authorise production, processing and consumption activities above certain threshold quantities. Permits are also required for domestic acquisition, on-selling and storage of Schedule 1 chemicals above 100 grams per annum. These chemicals may be used only for research, medical or pharmaceutical purposes. A zero threshold quantity is applied to permit requirements for Schedule 1 activities if they apply to protective purposes (no production for such purpose is permitted outside Australia's only Schedule 1 facility for protective purposes).

The Convention requires reporting only on the manufacture and international transfers of Schedule 3 chemicals, due to the large quantities of these chemicals used in industry. There is no current regulation in Australia of Schedule 3 chemical usage and no tracking of on-selling or notification of security requirements apart from the importers and producers of Schedule 3 chemicals.

All types of facilities regulated for various activities involving CWC-Scheduled chemicals and the operators of importer warehouses are required to complete a security measures advice to raise awareness about the need to secure these chemicals to prevent unauthorised access. As a condition of holding a permit, permit holders must notify ASNO immediately if there are any unexplained losses, thefts or suspicious incidents.

Narcotics and their precursor chemicals

Australia is a signatory to the *United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988 (1988 Convention)* and the *1961 United Nations Single Convention on Narcotic Drugs (as amended by the*

⁸ http://www.defence.gov.au/strategy/dtcc/links/links_ext_dsgl.htm

1972 Protocol). These agreements establish international systems for managing the potential risks of diversion, abuse and the illicit use associated with access to pharmaceutical substances and medicines, while enabling legitimate use. These agreements impose certain obligations on Australia, including the need to restrict access to these chemicals and other controlled substances, to record and monitor their use, and to control their manufacture.

The states and territories are responsible for licensing formulators, distributors and wholesalers of drugs and chemicals covered by United Nations Conventions on Narcotics, and for controlling availability within their borders.

The Australian Government is responsible for monitoring and controlling the imports and exports of all substances listed in the Conventions. Under the *Narcotics Drugs Act 1967*, the Customs (Prohibited Imports) Regulations and Customs (Prohibited Exports) Regulations, the Australian Government Department of Health and Ageing, through the Office of Chemical Safety, is the agency that issues licences to those engaged in the manufacture, import and export of substances covered by this legislation.

Strict security checks are made of personnel involved in the handling of the substances as well as the premises where the substances will be stored. All importers and exporters are obliged to observe certain requirements. A separate permit is issued for each import and export. Licensed companies are also obliged to maintain records and provide reports to the Office of Chemical Safety on domestic movements of drugs up to the pharmacy door.

The Australia Group

The Australia Group is an informal forum of 39 countries and the European Commission that aims to prevent the spread of chemical and biological weapons through harmonised export controls. It has increasingly taken chemical and biological terrorism issues into account in its work.

Members of the Australia Group participate in exchanges of information and experiences. They share intelligence, discuss domestic controls applied to sensitive chemical and biological materials, consider terrorism-related risks as a part of outreach activities, and make additions to the lists of controlled agents to reflect the different threats posed by terrorism. However, the main focus of the Australia Group is on state-based proliferation activities. The Department of Foreign Affairs and Trade is the lead agency in Australia.

Industry

Most sectors of the chemical industry have a number of stewardship programs, codes of practice, training and accreditation programs. Many of these initiatives have a health, safety and environmental focus. These initiatives traditionally focus on the management of chemicals during their life-cycle through the chain of supply and use.

Agricultural sector

In the agricultural chemical sector, examples of stewardship and industry codes include:

- i. drumMUSTER for the collection and recycling of empty, cleaned and non-returnable farm chemical containers
- ii. ChemClear® for the collection of unwanted agvet chemicals
- iii. Agsafe Guardian program for the training and accreditation of personnel and premises that handle agvet chemicals
- iv. Fertcare® for the training and accreditation of fertilizer and soil ameliorant industry businesses and staff involved in the supply and distribution of fertilizers
- v. Security guidelines for agricultural distributors to assist agricultural retail facilities to secure their businesses and products. The guidelines also assist businesses to communicate effectively with local enforcement and first responders, and
- vi. Veterinary Chemical training Course coordinated by the Veterinary Manufacturers and Distributors Association.

Industrial chemical sector

In the industrial chemical sector, examples of stewardship and industry codes include:

- i. Plastics and Chemicals Industries Association (PACIA) Carrier Accreditation Scheme and Responsible Care® Storage and Transport Safety Code of Practice for the improved safety performance of transport carriers for the chemical industry
- ii. Code of Practice for Supply Diversion into Illicit Drug Manufacture to protect against the diversion of chemicals and scientific equipment, cooperate with government and law enforcement agencies and education and training on correct procedures
- iii. PACIA Responsible Care® Site and Supply Chain Security Guidance that outlines typical elements of a good security program and suggests security practices that can be tailored to facility and supply chain circumstances, and
- iv. International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold to assist the global mining industry in improving cyanide management, thereby minimising risks to workers, communities and the environment, and reducing community concerns about its use.

Explosives

The Australian Explosives Industry Safety Group is a recently formed explosives industry group consisting of seven companies. The group facilitates industry communication and improves standards on safety, regulatory, environmental and other issues related to explosives. The group supports its members through building networks with government and industry.

Transport

The Australian Trucking Association has been working closely with the Department of Transport and Regional Services to develop communication materials to increase the security awareness of truck drivers.

Government

Chemicals are regulated in Australia primarily to achieve health, safety and environmental protection during all stages of chemical use, including manufacture, transport, storage, formulation, sale, use and disposal. Australia, like most Organisation for Economic Co-Operation and Development (OECD) countries, has developed separate assessment and registration regulatory schemes for each major class of chemical.

More than 140 pieces of Commonwealth, state and territory legislation exist in Australia for the regulation of chemicals. Controls vary between jurisdictions and are covered by a variety of regulatory bodies that deal with different aspects of regulation, such as occupational health and safety (OHS) (controls for hazardous substances in the workplace), the environment (legislation may apply for the control of release and/or disposal), and public health (e.g. consumer products that may have controls over supply, packaging and labelling through poisons legislation).

State and territory governments regulate chemicals, both in collaboration with Commonwealth agencies and also in their own right. Various agencies within each jurisdiction have responsibility for chemicals regulation: for example, the health portfolios, workcover/worksafe agencies, environmental protection agencies and primary industry departments. While administrative responsibilities may differ, there are national and jurisdictional fora across responsible portfolios that aim to facilitate consistent approaches and outcomes, for example development of nationally consistent spray-drift guidelines and training standards for the aerial application of pesticides.

Agvet chemicals

Agvet chemicals are regulated at the Commonwealth level by the Australian Pesticides and Veterinary Medicines Authority (APVMA), which is responsible for administering and managing the 'National Registration Scheme for Agricultural and Veterinary Chemicals'. APVMA does this in partnership with the states and territories. It regulates the manufacture and supply of agvet chemicals and their products up to and including the point of retail sale. The states and

territories are responsible for control of the use of agvet chemical products according to the APVMA-approved label and instructions.

Industrial chemicals

Industrial chemicals are subject to notification and assessment in Australia but are not subject to product registration. This reflects the large number of chemical entities that can be formulated into hundreds of thousands of trade marked products. At the Commonwealth level, the National Industrial Chemicals Notification and Assessment Scheme (NICNAS) registers individuals or businesses proposing to introduce (import and manufacture) industrial chemicals. The quantities and descriptions of imported and manufactured chemicals are reported to NICNAS. The purpose of the scheme is to protect the Australian people and the environment by identifying the risks to occupational health and safety, public health and the environment potentially associated with the importation, manufacture or use of the chemicals.

Transportation of chemicals

Legislation relating to the transport of chemicals is a mixture of both Commonwealth legislation and state/territory based legislation. It relates mainly to dangerous goods.

All states and territories have dangerous goods legislation underpinning the Australian Dangerous Goods Code. This legislation is nationally consistent, based on model national legislation that was developed under the National Transport Commission process. All states and territories generally follow the Australian Explosives Code. The transport of explosives is regulated in all states and territories. Each state and territory has a number of agencies that deal with the transport of dangerous goods.

Surface transport security cooperation, particularly in prevention and preparedness, is guided by an Intergovernmental Agreement on Surface Transport Security. The Commonwealth Government is responsible for working with State and Territory Governments to assist in the development of a national approach to preventative surface transport security and develop guidelines and other materials to support consistent measures.

Security-sensitive ammonium nitrate

On 25 June 2004, COAG agreed to limit access to SSAN (greater than 45 per cent concentration) to specifically authorised users, the first decision arising from the COAG Review of Hazardous Materials. COAG gave priority to the regulation of SSAN, given its history of use by terrorists and ready availability in Australia.

A licensing regime for SSAN is currently being implemented in all states and territories. In establishing the licensing regime, the government consulted with representatives from the mining, explosives, fertilizer, agricultural, veterinary and chemicals industries.

In response to the Banks Review on Reducing Regulatory Burdens on Business, the Australian Government agreed to a review, undertaken by the Productivity Commission, to examine the arrangements and across jurisdictions for access to SSAN. This is part of the broader review of regulation of the chemicals and plastics industry that the Productivity Commission is undertaking. The purpose of this study is to inform the work of the COAG Ministerial Task Force on Chemicals and Plastics Regulation Reform to develop measures to achieve a streamlined and harmonised system of national chemicals plastics regulation. The study is expected to be completed in July 2008.

Explosives

Each state and territory has legislation in place to control explosives. Controls are in place in each jurisdiction to limit access to explosives. Authorisation is required in every jurisdiction for their import, export, transport, storage, sale and use. The Australian Customs Service requires businesses to be licensed by their relevant state or territory in order to import explosives.

APPENDIX 4: INDIVIDUAL CHEMICAL ASSESSMENT

The assessment process for individual chemicals consisted of four steps:

- i. identification of chemicals of potential security concern based on terrorist interest and technical assessment
- ii. assessment of certain regulated classes of chemicals to determine whether the existing regulatory arrangements adequately treat security risks
- iii. assessment of the risk of use by terrorists for each remaining chemical, and
- iv. ranking of those chemicals according to security concern.

The individual chemical assessment process considered chemicals to be in their most pure or concentrated form. An assessment of formulated chemical products needs to be undertaken as part of a risk management process.

A whole-of-government approach has been taken to the identification of chemicals of security concern. The Australian Security Intelligence Organisation is responsible for coordinating security intelligence advice on chemicals with technical expert assistance from the Defence Intelligence Organisation and the Australian Federal Police.

Lists of chemicals were assessed for their level of interest to terrorist groups of concern to Australia. The lists were sourced from the Australia Group, US Federal Bureau of Investigation, US Centers for Disease Control and Prevention, National Institute of Forensic Science, Australia's Federal and State Police, and those identified in intelligence information. The level of interest assigned to each chemical was based on the nature and history of interest by terrorists.

Assessment of Regulatory Arrangements to Treat Security Risks

Certain regulated classes of chemicals were assessed to adequately treat security risks and were therefore excluded from further consideration. Some toxic chemicals were of potential security concern but their regulatory arrangements were assessed as adequately treating security risks and thus, were not considered further. They included therapeutic agents, chemicals in Schedules 1 and 2 of the Chemical Weapons Convention (CWC), and narcotics and their precursors. Similarly, some chemical precursors to home-made explosives (such as ammonium nitrate) have regulatory arrangements that adequately treat security risks. Those chemicals were also excluded from further consideration. Chemicals that are explosives were also excluded from further consideration.

A number of factors were considered in this assessment, including source controls, sale and supply controls and the capacity to monitor and report access.

Individual Chemical Assessment

The remaining chemicals were subject to an individual assessment that was performed and reviewed by the Technical Working Group.

This assessment was performed to establish their level of security risk. Three key factors were considered in the assessment of pure chemicals:

- i. impact of use
- ii. feasibility, and
- iii. terrorist interest.⁹

An assessment formula was used to derive the security risk for toxic chemicals and chemicals that are precursors to home-made explosives. The formula is:

| | | | | |
|----------------------|---|---------------|---|---------------|
| Security Risk | = | Impact | x | Threat |
|----------------------|---|---------------|---|---------------|

The formula was devised for the specific purpose of providing a quantifiable risk assessment for each chemical of security concern. In analysing each chemical, a score was attributed to each of the key factors, resulting in an overall score. The *impact* of toxic chemicals was based on two parameters:

- i. acute toxicity of the chemical, and
- ii. disruption/public concern.

| | | | | |
|---------------|---|-----------------|---|----------------------------------|
| Impact | = | Toxicity | + | Disruption/Public Concern |
|---------------|---|-----------------|---|----------------------------------|

Impact of use is defined as the extent of death and/or serious injury to a significant number of people, due to acute toxicity caused by the chemical. Disruption/public concern reflects the impact of panic and social and economic disruption that the deployment of chemicals may cause. Disruption/public concern is not necessarily proportional to the public health and safety risk posed by that chemical.

The *threat* of toxic chemicals was based on two parameters:

- i. feasibility, and
- ii. terrorist interest.

| | | | | |
|---------------|---|--------------------|---|---------------------------|
| Threat | = | Feasibility | + | Terrorist Interest |
| | | 2 | | |

Feasibility takes account of the availability of the chemical, the ease of its use/preparation and its detectability. Ease of use is defined as the relative

⁹ As provided by security agencies.

difficulty of handling a chemical without causing self-harm, or for which the handling requires specialist equipment and/or specialist skills. Detectability is a measure of the physicochemical properties of the chemical (for example odour, colour and volatility) and the capacity of people to detect them.

Chemical precursors to home-made explosives

Impact of use of these precursors was based on the relative estimate of the destructive power of an explosive material made from that chemical, reflecting power and velocity of detonation.

The *threat* of the precursors was based on two parameters:

- i. feasibility, and
- ii. terrorist interest.

| | | |
|---------------|---|--|
| Threat | = | $\frac{\text{Feasibility} + \text{terrorist interest}}{2}$ |
|---------------|---|--|

Feasibility takes account of availability, utility, capacity to up-scale, acquisition and detectability. Availability is a measure of the capacity of a chemical to be diverted into the construction of a large device, measured as the amount of chemical imported into and manufactured in Australia. Utility is an estimate of the ease with which the chemical in question can be converted into an improvised explosive. Capacity to up-scale estimates the ability to make large devices. Acquisition relates to ability to obtain the chemical without being detected or harmed. Finally, detectability addresses the capacity to pick up the chemical through screening.

The list of chemicals of security concern that were identified in the discussion paper is shown in Table 1. The list of chemicals of security concern is a “living list” and is only relevant on the context of the current security environment.

APPENDIX 5: APPROACHES TO CONTROLLING CHEMICALS OF SECURITY CONCERN IN OTHER COUNTRIES

The United States of America

United States chemical security regulations aim to secure critical infrastructure and protect the United States by working in partnership with the chemical sector. The chemical sector plan is part of the national infrastructure protection plan, the framework for managing risks to the United States' critical infrastructure.

The United States approach emphasises working in partnership with state and local governments and with the chemical sector. As first responders, state and local governments have an important role in helping to prevent, protect against and recover from incidents. The United States also emphasises the need for all businesses across the chemical sector to invest in security. It acknowledges that many facilities have invested substantially to ensure the security of their businesses voluntarily. Their approach relies on continued efforts by the chemical sector, in partnership with government, to facilitate a universal approach to managing security risks.

The United States is focused on whole-of-chain processes to ensure there are no significant vulnerabilities. This includes the security of chemicals in transit between fixed facilities and at ports.

In December 2006, the United States Department of Homeland Security (DHS) put forward a proposed regulation to reduce the stand still time for rail cars that are carrying toxic inhalational hazards (TIH chemicals) around major cities. This regulation formalised a set of agreements between the United States government and rail carriers that also ensure:

- i. rail cars carrying these chemicals are never left unattended
- ii. real-time tracking can occur, and
- iii. the safest and most economically practicable routes are taken.

The United States is taking a risk-based approach to protecting the chemical sector. This involves evaluating risks posed by different sites, facilities and chemicals. The level of protection assigned is intended to be commensurate with the risk posed by each of them. The United States is also mindful of legitimate industry needs.

The Chemical Facility Anti-Terrorism Standards took effect on 8 June 2007. This regulation established risk-based performance standards for the security of chemical facilities in the United States. Chemical facilities covered by the regulation are required to:

- i. prepare Security Vulnerability Assessments, which identify facility security vulnerabilities, and
- ii. develop and implement Site Security Plans, which include measures that satisfy the identified risk-based performance standards.

The list of DHS chemicals of interest contains approximately 300 chemicals and forms Appendix A of the Chemical Facility Anti-Terrorism Standards. If a facility possesses these chemicals in a specified quantity, it is required to complete and submit an easy-to-use, online consequence assessment tool called a Top-Screen.

To determine the type and quantity of chemicals that will be subject to the preliminary screening process, DHS examined the following three security issues:

- i. release – quantities of toxic, flammable, or explosive chemicals that have the potential to create significant adverse consequences for human life or health if intentionally released or detonated
- ii. theft and diversion – chemicals that have the potential, if stolen or diverted, to be used or converted into weapons, and
- iii. sabotage and contamination – chemicals that, if mixed with other readily available materials, have the potential to create significant adverse consequences for human life or health.

The United States chemical industry has voluntarily developed and implemented vulnerability/security plans that were assessed and verified by the government. It has also been proactive in attempting to address the possibility of chemical terrorism, often in the context of identifying and managing vulnerabilities to attack. Chemical industry associations have taken the lead in these endeavours through the development of security-related guidance material and enlisting the support of member companies.

Several years ago, the United States Federal Bureau of Investigation initiated a commercial, community awareness-raising and incident-reporting program for suspicious activities, including those associated with chemical and biological agents. An outreach brochure listed some chemicals of security concern and biological agents. The brochure also included indicators of what may constitute suspicious activities and the means to report such incidents.

Since 10 August 2006, the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users* (SAFETEA-LU) has required some drivers to undergo background checks. This requirement applies to drivers licensed in Canada or Mexico who handle hazardous materials. Before transporting placarded amounts of hazardous materials in the United States, they must undergo a background check under the Bureau of Customs and Border Protection's Free and Secure Trade program.

In 2004, the Transport Security Administration initiated the Hazardous Materials Threat Assessment Program. It requires commercial truck drivers applying to obtain, renew or transfer the hazardous materials endorsement on their state-issued commercial drivers' licences to undergo security threat assessments conducted by the administration. The SAFETEA-LU requires commercial vehicle operators registered to operate in Mexico or Canada to satisfy specific vetting requirements. The Transport Security Administration accepts that the Bureau of Customs and Border Protection's Free and Secure Trade card satisfies those requirements.

The Free and Secure Trade program coordinates processes for the clearance of commercial shipments at the border. It is a cooperative effort between the Bureau of Customs and Border Protection and the governments of Canada and Mexico. Northern and southern border Free and Secure Trade driver cards are valid at any Bureau of Customs and Border Protection land border crossing where the technology currently exists.

The United Kingdom

The National Counter-Terrorism Security Office (the Office) is responsible for implementing United Kingdom regulations on the management of security sensitive chemical, biological, radiological and nuclear (CBRN) materials. It considers that effectively regulating widely used chemicals would be virtually impossible without industry support. The United Kingdom has therefore focused less on regulation and more on outreach and working with industry on measures it could implement.

The Office has launched several awareness-raising campaigns targeting industry, farmers and retailers. These include Know your Customer and Secure your Fertiliser. They outline chemicals of concern and provide a helpline number that can be contacted to raise concerns. The Office has also produced a leaflet, *Secure Storage of Fertiliser on Farms*, which seeks to remind farmers about the need to secure their fertiliser and to report thefts and losses promptly. The United Kingdom also has a Fertiliser Industry Assurance Scheme. This is a voluntary assurance scheme initiated by the Department for Environment, Food and Rural Affairs and supported by the Office. It seeks to address some of the security issues around fertiliser by requiring members to submit an annual independent audit of their operations.

The United Kingdom has concentrated its effort on six home made explosive precursor chemicals based on known terrorist interest either in the United Kingdom or elsewhere. at the same time it has pursued awareness-raising across a wide range of chemicals. The United Kingdom has not yet turned its attention to toxic chemicals of security concern.

As a result of the anthrax attacks in the United States in 2001, the British Government introduced legislation intended to enhance the security of certain pathogens and toxins held within the United Kingdom. The *Anti-Terrorism, Crime and Security Act 2001*, and the Security of Pathogens and Toxins (Exceptions to Dangerous Substances) Regulations 2002, focus on biological agents. The legislation currently applies to pathogens and toxins that potentially pose the greatest risk to human life if misused by terrorists. The legislation has been amended to include provisions to control 'dangerous substances'. The Secretary of State is empowered, by order, to modify the list of substances. Schedule 5 of the Act allows for the addition of toxic chemicals, animal and plant pathogens and pests to the list. The Act also empowers to the Secretary of State to request information about the security of dangerous substances. It mandates that parties notify the Secretary of State before keeping or using any dangerous substances; and imposes duties for compliance with security directions.

Police Counter-Terrorism Security Advisers (Security Advisers) provide protective and counter-terrorism security advice to United Kingdom chemical sites believed to be potential targets for terrorist/criminal activities/acquisitions. They review site procedures and security arrangements and contribute to general awareness programs. Qualifying sites must be able to demonstrate that they are operating securely before they are granted authority by the Office on behalf of the Home Office.

The Office and the Security Advisers network seek to identify actual or potential weaknesses in the movement of hazardous materials. They then work with the different transport sectors and officials to minimise the risk of compromise. Controls on the transport of hazardous goods include driver vetting. A United Kingdom Ministry of Transport regulation for the security of dangerous goods carried by road and rail transport took effect on 1 July 2005. This work is centred on the protective security of loads such as radiological and chemical cargo movement around the United Kingdom. The regulation is underpinned by European Commission legislation that gives effect to the United Nations Model Regulations on the Transport of Dangerous Goods. It applies to dangerous goods and the sub-category of high-consequence dangerous goods. Higher security levels are required for high-consequence dangerous goods.

The Office works closely with emergency services and local authorities to ensure that decommissioned vehicles are disposed of securely and that they are secure when temporarily out of service. It also assists other security agencies in the protection of seaports around the United Kingdom. Security Advisers support Transport Security Inspectors with security advice that complements measures imposed by regulations issued through the International Ship and Port Facility Security Code codes of practice.

Canada

Canada's CBRN Strategy comprises four strategic objectives to enhance its ability to mitigate and prevent CBRN incidents from occurring. They are:

- i. prevention and mitigation
- ii. preparedness
- iii. response, and
- iv. recovery.

The Canadian Emergency Management College, part of Public Safety Canada, is responsible for ensuring consistent CBRN training across the country. Training courses are aimed at different levels: awareness, basic, intermediate and advanced. Awareness training is designed for individuals who may be in a position to recognise a CBRN incident, but would not be in a position to respond. This training provides individuals with information on how to recognise potential CBRN threats, protect themselves, and alert those who need to respond. Basic training is designed for 911 operators, police, fire-fighters and emergency medical personnel first arriving on scene. It assists individuals with assessing the scene. Intermediate and advanced-level courses are aimed at specialised first responders who mitigate, neutralise and resolve an incident.

The CBRN Response Team provides guidance materials, personal protective equipment, training and mitigation tools in preparedness for conducting limited, controlled responses to chemical terrorist attacks.

Transport Canada has a new initiative to coordinate a vetting scheme for all personnel who have access to dangerous pathogens and hazardous goods. It has worked with other departments—including the Public Health Agency of Canada, the Canadian Food Inspection Agency and the Department of Foreign Affairs and International Trade—to coordinate a vetting scheme for drivers under the Transportation of Dangerous Goods Regulations.

The regulations outline measures aimed at reducing the risks associated with transporting dangerous goods. They contain many exemptions including owners of registered farm vehicles as well as vehicles carrying loads of less than 500 kilograms and for distances of less than 100 kilometres.

On 19 March 2008, Natural Resources Canada announced that new regulations for restricted chemicals—known as chemical precursors—would be implemented under the Explosives Act. The nine chemicals identified to be controlled under the new regulations are:

- i. ammonium nitrate in solid form at a concentration of 28 to 34 per cent nitrogen
- ii. nitric acid at a concentration of at least 68 per cent
- iii. nitromethane
- iv. hydrogen peroxide at a concentration of at least 30 per cent
- v. potassium nitrate
- vi. sodium nitrate in solid form
- vii. potassium chlorate
- viii. sodium chlorate in solid form, and
- ix. potassium perchlorate.

The regulations require anyone who sells ammonium nitrate—or any of the other eight chemicals listed above—to be enrolled with Natural Resources Canada. They must also comply with security measures for storage, record keeping and customer identification. In addition, the resale of ammonium nitrate by customers will also be prohibited. All sellers of ammonium nitrate must be in full compliance with the regulations. Sellers of any of the other eight restricted components must be fully compliant by no later than 1 March 2009.

The Government of Canada will provide registration and annual reporting procedures and services. It will also undertake outreach activities to raise awareness of the regulations with both sellers and end users. Compliance inspections will also be carried out for ammonium nitrate.

The key components of this regulatory framework for sellers of restricted components are:

- i. enrolment on the list of sellers of restricted components
- ii. maintenance of a list of employees who have access to restricted components
- iii. examination of purchaser identification prior to sale
- iv. maintenance of detailed sales records
- v. provision of secure storage
- vi. weekly inspection of stock to determine if there has been tampering, theft or loss; and reporting of thefts and attempted thefts to law enforcement agencies, and
- vii. denial of sale if there is a reason to believe the product will be used for a criminal purpose; and reporting instances when a sale is denied to the Chief Inspector of Explosives and local police.

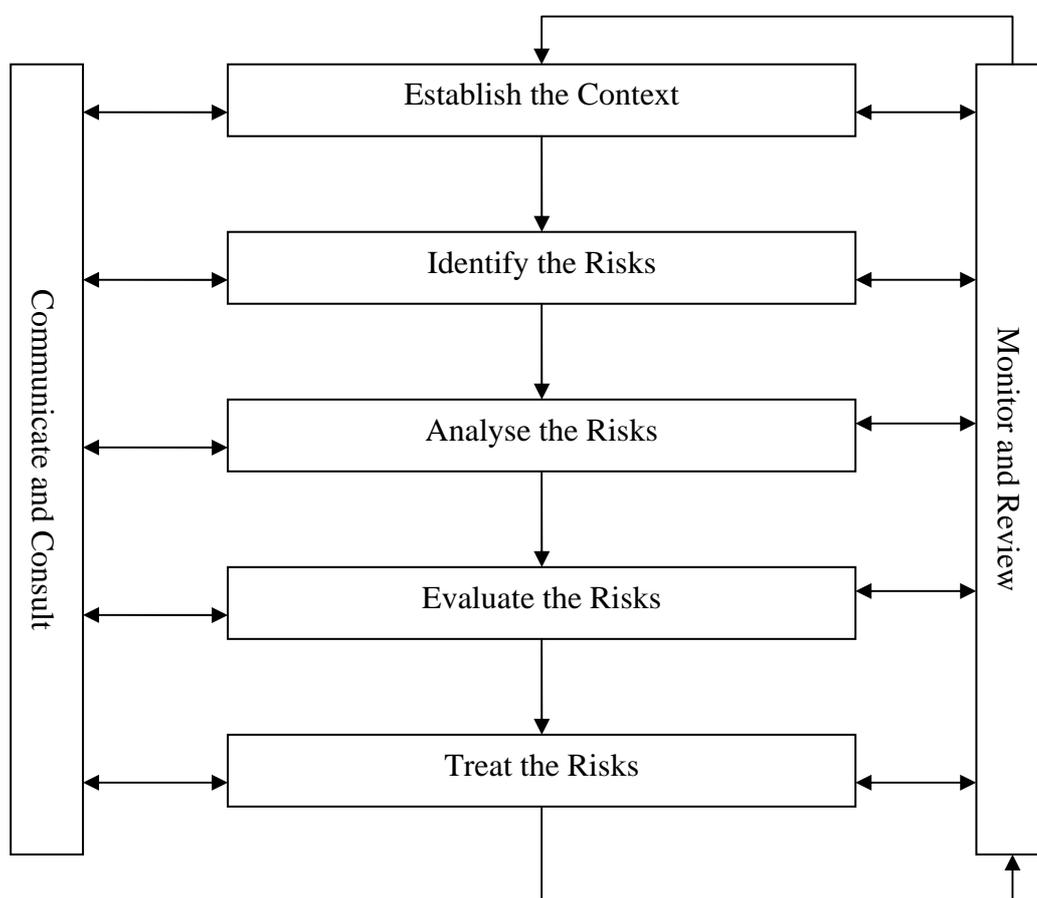
The Canadian Fertilizer Institute has a voluntary program called On Guard for Canada and a code of good practice for securing ammonium nitrate that is consistent with the regulatory requirements.

APPENDIX 6: RISK MANAGEMENT PROCESS FOR THE IDENTIFICATION AND CONTROL OF CHEMICALS OF SECURITY CONCERN

The standard process for undertaking security risk management in Australia is described in the Australian and New Zealand Standard AS/NZS 4360:2004. To provide further assistance in the undertaking security risk management, HB167:2006 'Security Risk Management', provides the structure and means to determine the nature of threats, assess vulnerabilities, understand potential consequences and, where appropriate, develop appropriate risk mitigation measures.

The major components of the AS/NZS 4360:2004 Risk Management process are presented in Figure 1.

Figure 1



Establish the context

Security risk management needs to be appropriate to the prevailing and emerging risk environment. Establishing the context is critical because it sets the basis on which all subsequent security risk management activities are conducted. It is the principal activity in developing the scope for security risk management. Establishing the context also provides the scope, parameters and plan for

undertaking the proposed security risk activities. The major components in establishing the context are to:

- i. determine the goals and objectives for security risk management
- ii. determine the process or program for the conduct of security risk management
- iii. identify the key internal and external stakeholders and sources of data and information
- iv. define the structure and resourcing required for conducting the risk management activities
- v. decide upon the tools and techniques that will be used
- vi. assign accountabilities and responsibilities for activities
- vii. identify any constraints to the proposed activities, and
- viii. detail any assumptions made.

Identify the risks

Risk identification is concerned with creating a well thought out and comprehensive determination of the sources of risks and potential events. It can be assisted by considering threat and vulnerability.

This stage of the framework would identify the threats from chemicals of potential security concern based on security intelligence and technical assessment. It would be informed primarily by the Australian intelligence community. ASIO provides assessments on threats from terrorism and advice is issued as the threat environment dictates. Industry experts are well placed to advise on industry use of chemicals and the relative ease of use and availability of the chemical.

The risks to be managed must first be identified. AS/NZS 4360:2004 defines risk as 'the chance of something happening that will have an impact upon objectives'. It is not the purpose of this framework to undertake an in-depth study of each chemical and its use. However, it provides a mechanism for that assessment to be undertaken by an appropriate body.

A vulnerability analysis would consider how each of the threats could be realised. In terms of chemicals of security concern vulnerabilities are weaknesses in the supply chain that could be exploited by a threat. Some vulnerabilities may be easily exploited while others may take a considerable level of skill and planning to exploit. It might not be possible to mitigate some vulnerabilities; or it might be uneconomic and impractical to rectify.

Vulnerability could be assessed against criteria including the following:

- i. Identity and Record Keeping

a. Baseline

- i. The product is sold without any existing requirement for verification of identity or presentation of a license or permit.
- ii. The product is not usually sold by mail order.
- iii. The product is usually sold over the counter or by delivery to repeat customers.
- iv. Cash transactions are less common than payment by invoice.
- v. The product is not usually on public display but is available by request of counter staff.

b. High

- i. The product is on public display with purchases taken to the cashier for payment.
- ii. Cash sales are common.
- iii. The product is commonly sold by mail order.

c. Low

- i. Purchasing the product requires presentation of a licence or permit or requires a record to be taken of purchasers' details.
- ii. The product is usually only supplied on special order.
- iii. Ordering usually requires interaction with staff to establish requirements.
- iv. Cash transactions by off-the-street purchasers are highly unusual.

ii. **Accessibility**

a. Baseline

- i. Points of sale are usually specialist outlets selling agricultural, industrial or scientific supplies.
- ii. Supply chains are reasonably short with a small number of importers and manufacturers.
- iii. There is a limited number of transport companies that handle distribution.
- iv. Retailers are not located in suburban shopping centres.

- v. Sales for home use are less common than sales for industrial use.
- vi. Usual sale quantities are of use in making a plausible weapon.

b. High

- i. Points of sale are general retailers carrying a range of merchandise and located in suburban shopping centres.
- ii. Supply chains are long and diverse with extensive use general transport contractors carrying mixed loads.
- iii. Sales for home or personal use are common.

c. Low

- i. Distribution is limited to a very small number of outlets and a small number of purchasers per outlet.
- ii. Sale is generally wholesale only.
- iii. Usual sale quantities are insufficient for weaponisation.

iii. **Handling**

a. Baseline

- i. The product is classed as a hazardous or toxic material under occupational health and safety, product safety, fire and building codes.
- ii. The product is sold in packaging that would allow carriage by hand and transport in passenger vehicles.
- iii. Purchasers are not required to demonstrate knowledge or training in the handling of the product.

b. Low

- i. The product requires specialist vehicles for transportation and/or requires special equipment to accept delivery.
- ii. The product is sold in specialist packaging that requires deposit and/or requires special cargo handling equipment and commercial vehicles for transport.
- iii. Purchasers are regularly required to demonstrate an understanding of specific handling requirements or present evidence of training.

iv. **Likelihood of raising suspicion**

a. Baseline:

- i. The product has common industrial uses but is rarely used in the home.
- ii. Sales staff are familiar with the product's common uses.
- iii. Unusually large purchases would be likely to be noticed.
- iv. A particularly naive or poorly informed customer would be unusual.

b. High:

- i. The product has commonly known domestic uses.
- ii. Sales staff have little or no understanding of the products uses.
- iii. Unusual purchasing activity would rarely be noticed.

c. Low:

- i. The product has a limited number of industrial uses and no domestic use.
- ii. Sales staff are very familiar with all industrial applications of the product.
- iii. Unusual purchase quantities, patterns of purchase, or purchases by poorly informed customers would be highly likely to be noticed.

Analyse the risks

The aim of undertaking risk analysis is to:

- i. determine the adequacy and appropriateness of existing controls to manage identified priority risks
- ii. prioritise for subsequent evaluation of tolerance or need for further treatment, and
- iii. provide an improved understanding of the vulnerability of the chemical supply chain to identified risks.

The output of this analysis should provide decision makers with sufficient information to make an informed decision on the need for increasing or decreasing the control measures for chemicals.

The risk analysis should determine how these factors interact to determine on overall level of risk through a combination of the consequences of the event occurring combined with the likelihood of the event with that consequence. There have been, and continue to be numerous concepts about the composition of security risk and numerous approaches to describing, measuring and analysing it. There is no commonly accepted way of undertaking a security risk analysis.

The risk analysis would be based on an assessment of likelihood and consequence, where likelihood is a combination of threat and vulnerability, to give a resulting risk level. The resulting risk can then be identified through a risk matrix as described in Figure 2.

Figure 2 Risk Rating Matrix (illustrative purposes only)

| | | Consequence | | | | |
|------------|----------------|-------------|----------|----------|----------|--------------|
| | | Minimal | Minor | Moderate | Major | Catastrophic |
| Likelihood | Almost Certain | Moderate | High | High | Extreme | Extreme |
| | Likely | Moderate | Moderate | High | High | Extreme |
| | Possible | Moderate | Moderate | Moderate | High | High |
| | Unlikely | Low | Moderate | Moderate | Moderate | High |
| | Rare | Low | Low | Moderate | Moderate | Moderate |
| | | | | | | |

Evaluate the risks

Evaluating the security risk involves determining which risks are tolerable and which ones require further attention (mitigation). Risk criteria should be defined in the security risk context but can be reconsidered. Evaluation criteria may include the:

- i. prevailing political, stakeholder or community sensitivities and expectations
- ii. nature of types of the security incident involved
- iii. existing or emerging security incident trends, and
- iv. resources available for mitigation.

Treat the risks—identify options

Where a security risk has been determined as intolerable, some form of risk mitigation may be required. It will never be possible to completely remove all forms of the security risk. The aim is to manage the level of risk to a tolerable level. A cost benefit analysis could be undertaken to assess the treatment options.

Monitor and review

The security risk environment is not constant. Continual monitoring of the risk is required to effectively respond to the complex security environment and persistent threat from terrorism. There should be an ongoing assessment of the performance of the risk management process.