NATIONAL PROFILE
OF CHEMICAL SAFETY IN HUNGARY

EXECUTIVE SUMMARY

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The National Co-ordinating Team
Who have Prepared and Responsible for the
National Profile of Chemical Safety*

National Co-ordinator: Prof. György Ungváry, MD, Ph.D, D.Sc
Ministerial Commissioner: Péter Lépes, MD

Members

Dr. Zoltán Adamis,
Lajosné Csernátoni,
Dr. Mária Groszmann,
Dr. Ferenc Kápolna,
Dr. Imre Nagy,
Imre Scheuring,
Dr. Lászlóné Tarján

Dr. Edit Bereczki,
Dr. Gyula Dura,
Dr. Péter Józan,
Dr. Kristóf Kozák,
Dr. Zoltán Ocskó,
Dr. Béla Szakál,
Csaba Tövishegyi

Lajos Bujdosó,
Magdolna Gáspárné-Bada,
Dr. Tibor Kaizinger,
Dr. Katalin Mudri,
Tibor Sas,
Dr. Éva Szakmáry

The following persons contributed to compilation of the National Profile:

Tamás Abonyi, Dr. Sándor Antus, Dr. Istvánné Balatoni, Dr. György Balogh, Dr. Tamás Bartik, Dr. Gábor Bernáth, Viktória Bérces, Dr. György Bíró, Julianna Bíróné-Ősz, Botond Bognár, Dr. Ernő Brücher, Dr. László Buzás, Csabáné Csabai, Dr Zsuzsanna Csikósné-Harsányi, Zsuzsanna Csorbáné-Bródszky, Dr. Gyula Deák, Dr. Imre Dékány, Dr. Illés Dési, Mária Devescovi, Dr. László Dinya, Dr. Attila Dobozy, János Doktor, Dr. Mária Domé, Béláné Duli, Dr. Elemér Endrőczi, Dr. András Erdőhelyi, Dr. Gyula Erdős, Dr. Jenő Farkas, Dr. László Farkas, Dr. Edit Fluckné-Papácsy, Dr. Elemér Fogassy, Dr. Zsolt Fonyó, Dr. Fürész Klára, Éva Gárdos, Dr. Zoltán Győri, Péter Haraszti, Dr. Gábor Haubert, Dr. Kálmán Hideg, Dr. Miklós Hollósi, Nándor Hollósi, Dr. Amanda Horváth, Dr. Attila Hováth, Csaba Horváth, Dr. Endre Horváth, Dr. Aranka Hudák, Dr. Ferenc Joó, Dr. Pál Joó, Tünde Kanta, Dr. Béla Kanyár, Dr. Katalin Kárpátiné-Győrffy, Dr. Sándor Kerekes, Dr. Mária Kerekesné-Nemes, Dr. Ernő Keszei, Dr. Ferenc Kilár, Dr. Imre Kiricsi, Dr. Ádám Kiss, Dr. Tamás Kiss, Andrásné dr. Kisvölcsey, Dr. József Kóbor, Dr. Leventéné, Kocsis, Dr. Sándor Kocsis, Dr. László Kollár, Dr. Ferenc Kondorosi, Dr. Aliz Kovács, Dr. Tibor Kovács, Gyula Körtvélyes, Márton Krasznai, Dr. Miklós Kubinyi, Sándor Kulifai, Géza Lantos, Ferenc Léder, Dr. Béla Lévay, Dr. János Liszi, Dr. Jakab Loch, Dr. Katalin Lun, Dr. Ildikó Magasi, Dr. József Mandl, Dr. Gyula Marton, Dr. Imre Melles, Árpád Mészáros, Ferencné Mészáros, Dr. Géza Mezey, Dr. János Mink, Dr. Ilona Molnár, Dr. Jenő Molnár, Dr László. Muszbek, Dr. Géza Nagy, Dr. Miklós Nagy, Dr. Sándor Nagylucskai, Dr. István Nagypál, Tamás Németh, Dr. Tamás Németh, Dr. Judit Nosztrai, Dr. Lajos Novák, Dr. Miklós Orbán, István Öri, Dr. Tamás Paál, Ferenc Pálfi, Dr. Dénes Pápay, Dr. Zoltán Pechó, Dr. Botond Penke, Gyula Pogány, Dr. György Pokol, Dr. István Préda, Dr. Béla Pukánszky, László Rabecz, Dr. Mária Raffai, Dr. Iván Raisz, Dr. Ákos Rédey, Dr. József Réti, István Ruttkai, Dr. András Salgó, György Sárosi, Dr. Ferenc Schnitzer, Dr. Seres László, Dr. Béla Sevella, Dr. Pál Sohár, Dr. Pálné Sohár, Tamás Soket, Dr. Imre Sóvágó, Dr. Ágnes Strohmayer, Dr. László Sujbert, Dr. Miklós Szabó, Dr. Csaba Székely, Dr. Lajos Szita, Tamás Szontágh, Dr. Ferenc Sztaricskai, Béláné Tibiássy, Károlyné Tokaji, Dr. Júlia Tomka, Tibor Tóth, Dr. Antal Tungler, Dr. Ferenc Tüdős, Dr. Enikő Varga, Dr. Adrienn Vámos, Dr. László Várnagy, Dr. Ádám Vass, Ferencné Vereb Dér, Dr. Attila Vértes, Tamás Volly, Aladár Zakar, Dr. Gyula Záray, Dr. Miklós Zrínyi, Dr. Miklós Zsuga

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Introduction

The Intergovernmental Forum on Chemical Safety (IFCS) – the primary goal of which is to complete the tasks and programmes defined in Chapter XIX of Agenda 21* – has emphasised the need to prepare national profiles on the sound management of chemicals. The *National Profile* is the first document in Hungary that summarises the efforts of govern mental bodies and non-governmental organisations (of the industrial sector, the scientific community, special interest groups, environmental groups, public interest groups) to promote chemical safety and the sound management of chemicals. The *National Profile* provides an overview of the life-cycles (import, production, use, disposal, etc.) of the most significant chemicals, by quantity, in Hungary, analyses the national infrastructure meant to ensure the sound management of chemicals, the human resources devoted to making this function, and the regulatory aspects of all this; it also analyses the strong and weak points of these factors, and discusses the possible social and economic advantages, the risks associated with making mistakes, and the need to participate in international co-operation.

Furthermore, it contains recommendations on ways to improve chemical safety in Hungary. It is our hope that the National Profile can be used to inform both members of the professional community and the general public, and that implementation of its recommendations will go a long way towards improving the coordination of relevant tasks, and the level of chemical safety in Hungary.

1. National background information

The infrastructure of chemical safety in Hungary, and its operation and regulation are closely linked to Hungary's geographic, political, demographic, industrial and agricultural characteristics. Hungary is situated in Central Europe, covering about 1% of Europe's total area (93,000 km^2). It shares frontiers with Slovakia to the north, the Ukraine to the northeast, Romania to the east, Yugoslavia to the southeast, Croatia to the south, Slovenia to the southwest, and Austria to the west. It has a temperate climate, is relatively poor in natural resources, and 70% of its area is arable land. Its population is a little more than 10 million people, nearly all of whom speak Hungarian as their mother tongue. Ethnic minorities comprise approximately 2.2% of the population. Less than 1% of those over 10 years of age have not received formal schooling. The workforce numbers 3.6 million people, the rate of unemployment stood at 9.5% in 1996. 1989-1990 saw the start of far-reaching political and social reforms. Hungary's economy was in a period of transition to a market-oriented economy between 1989 and 1995; at the

* The programme that is officially called Tasks for the XXI. Century, and pertains to the basic document of the United Nations Conference on Environment and Development held in Rio de Janeiro on the 14th of June, 1992, is commonly known as *Agenda* 21.

moment, the majority of business entities are small enterprises and are privately owned. The GDP declined over the period between 1989 and 1993; it started growing again in 1994, but the GDP level in 1996 was still some 14% below levels recorded in the latter years of the 1980s (in 1996, GDP per capita was 4402 USD). 1996 saw a significant reduction in internal and external imbalances, which was underscored by improved competitiveness and dynamic export growth. Industry accounted for 28,3 % of GDP in 1995. Agriculture accounted for 7.1% of GDP, employing a little over 10% of the total workforce. Industrial productivity in 1996 was approximately 1.5 times that of the 1989 level.

2. Production, import, export and use of chemicals

17.1% of total industrial production in 1995 was produced by the chemical industry, making it the third most significant industry after food-processing and engineering. In 1995, 62.3% of its production was sold on the domestic market, while 37.7% was exported. The chemical industry employs some 82,800 people, or 2.3% of the total workforce, and 12.7% of those employed in manufacturing industries. It is concentrated primarily in Budapest and Borsod-Abaúj-Zemplén and Veszprém counties, but it's also significant in the northeastern region of the country (Debrecen, Tiszavasvári), and around the town of Szolnok. In 1995, 41.1% of the chemical industry was state-owned, while foreign ownership was 38.9%.

Value of the production of the sector in 1995 amounted to 666,460 million Hungarian Forints (HUF), imports to 277,051 million HUF, and exports to 232,606 million HUF. The most significant products were petroleum products, industrial chemicals, pesticides, artificial fertilisers, and consumer chemicals. The most significant industries in terms of export were petroleum processing, pharmaceuticals, and the production of base materials for plastics – together, these accounted for 170.4 billion HUF of exports in 1996. Investment in 1995 amounted to 36.1 billion HUF, value added by the industry to 280 billion HUF.

Business prospects for the chemical industry are bright; pharmaceuticals, petroleum processing, production of plastic basic materials and products and rubber industry, which currently account for over two-thirds of the production value of the chemical industry (not counting power-generation related production), are in a strong position, and are set for further growth in the future. Chemicals in Hungary are used in countless aspects of everyday life, and a highly diverse range of industrial workplaces; use of pesticides and artificial fertilisers in agriculture is significant. Some 109 million tonnes of waste is generated annually – of this, almost 20 million m^3 is treated effluent, and approximately 4 million tonnes is solid communal waste; the rest is generated by production, more than half of it by agriculture – the larger portion of the rest is non-hazardous waste from mining and metallurgy. Some 3.5 million tonnes of production waste is hazardous, of which 1.5 million tonnes is "red mud" a by-product of bauxite processing. Over

the years, some 106 tonnes of non-hazardous waste has accumulated in factories – of this, approximately 38 million tonnes could be put to use.

The quality of statistical data gathering is inadequate. Processing of data supplied by commercial enterprises regarding hazardous waste (HAWIS) is slow, and the scope of data processed is too narrow.

3. Primary concerns and priorities concerning the production, import, export and use of chemicals

Hungary's chemical industry is significant and rather sophisticated. There are four primary problems associated with the life-cycles of chemicals in Hungary:

a) risk of health damage is associated with certain groups of chemicals;

b) the risk of serious chemical accidents occurring is significant;

c) the number of areas contaminated with chemicals and other chemical-type wastes pose a risk of environmental damage;

d) the factors noted above can combine.

Ad a. The following groups of chemicals cause the most problems:

- *Toxic substances*
  - *Acute poisonings* primarily occur as a result of attempted suicides, but the incidence of accidental poisonings is relatively high, and the incidence of poisonings caused by drug overdose is also on the rise; occupational poisonings do not occur in significant numbers thanks to appropriate workplace regulations and suitable labour protection measures. The vast majority of poisonings are caused by medicines, a smaller number by pesticides and commercial chemicals meant for domestic use (a significant portion of accidental pesticide poisonings result in death).
- *Substances that cause occupational and environmental health problems*
  - *Asbestos.* There are no asbestos mines in Hungary, but asbestos processing is significant, environmental contamination caused by asbestos is not adequately known, but may be significant. The number of people who have been exposed to asbestos, and the incidence and prevalence of asbestos-induced lung cancer and mesothelioma are not known with adequate accuracy. Disposal and neutralisation of asbestos waste is not performed in a satisfactory manner.
  - *Lead.* In the past few years, occupational lead poisonings have resurfaced as a result of the inadequate regulation of the world of work (i.e. a surge in unemployment and the size of the "black" [illegal or semi-legal] economy, inadequate regulatory oversight of non-organised work, inadequacies in the supervision of chemical safety). Lead contamination of the environment is

declining (more cars are equipped with catalytic converters, the lead content of petrol [gasoline] has been reduced, and metallurgy is on the decline).

- *Carcinogenic chemicals.* The expected value of the number of tumors of occupational origin is 1,200. The number of tumors of occupational origin actually diagnosed and reported is less than 30 per year. There is no register of cases of occupational cancers.
- *Persistent organic pollutants (POPs).* When getting into the living organisms, these pollutants are hardly excreted or not at all. Of the 12 substances of this category, hexachloro-benzene, polychlorinated biphenyls (PCBs), dioxins, and furanes cause problems in Hungary. The environmental contamination caused by POPs is not adequately known.
- *Sensibilizing chemical substances.* The majority of allergic afflictions of occupational origin (dermatitis, asthma bronchiale) are caused by chemicals. It is primarily cases of asthma bronchiale that go undiagnosed and unreported.
- *Endocrine disruptors.* Not a lot is being done to deal with these substances which play a role in inducing infertility, not even at the research level – their practical relevance is unknown.

Ad b. Production and storage facilities, and transport by road, rail and pipeline puts the general public at increased risk of serious accidents (havarias, catastrophes) involving chemicals in Budapest and several counties (primarily Borsod-Abaúj-Zemplén and Veszprém counties). Settlements, regions, and transport routes have been classified according to the degree of danger.

With respect to the prevention of accidents, attention should be focused on flammable and explosive substances; the amount of petroleum products produced annually exceeds that of all other types of chemicals combined – there is a significant risk of accidents occurring at oil refineries, pipelines, and fuel storage facilities.

Ad c. Following the survey and registration of contaminated areas, a "governmental" programme was started in 1996 to counter the effects of environmental damage; in this context, emergency measures have been taken in 8 areas, while fact-finding work has been carried out in 15, and preparatory work in 17 areas. The chapter examines and ranks the most important problems.

Ad d. In regions that were expressly noted for the increased level of danger (e.g. Budapest, and Borsod-Abaúj-Zemplén and Veszprém counties), the problems mentioned in paragraphs 1-3 exist side-by-side, despite significant efforts by governmental and municipal authorities, and large chemical and pharmaceutical companies to decrease risks of a chemical origin.

4. Legal instruments and non-legal regulatory mechanisms regarding the use and handling of chemicals

The different life-cycle phases of the various groups of chemicals in different sectors of the national economy are regulated by a number of laws, governmental and ministerial decrees, while technical specifications are governed by standards, technical guidelines, and safety regulations. The National Profile summarises the relevant legal instruments in tables. It lists 163 regulations in all; of these, the largest group deals exclusively or primarily with the various groups of chemicals and their use/handling. The rest deal with food safety, the safety of various elements of the natural (the air, water, soil) and urban (residential areas, workplaces) environment, and aim to promote chemical safety either by direct regulation, through international agreements, or indirectly, through associated laws and regulations.

As far as the legal instruments are concerned, we can say that, *on the one hand*, their volume is too large, their transparency leaves a lot to be desired, and several pieces of regulation are still decidedly paternalistic. *On the other hand*, although there are few unregulated aspects of chemical safety, the quality of regulation differs, it is fragmented, supervision rights are split between several authorities, and supervision in general is not effective enough. That said, we must also state that Hungary has taken significant steps towards adopting European Union (EU) and OECD regulations regarding chemicals, and the process of legal harmonisation is well under way.

"Non-legal" regulatory mechanisms. There have been several initiatives, especially from representatives of the *industrial sector* (the chemical industry) that – much like those started by industrial circles in EU and OECD countries – put great emphasis on the safety and health of people, the integrity of the environment, and the quality of products (e.g. The Programme for Responsible Care, the operation of the Chemical Industry's Warning and Information Centre, the APELL Programme). Unfortunately, currently only large enterprises take part in these programmes.

The formation of *civil organisations* that aim to promote chemical safety has begun, and these have started active participation in efforts to establish chemical safety. At the moment, their participation in the legislative process, and the impact analyses preceding the introduction of new regulations is only sporadic, and they often feel that they do not receive adequate support from the government.

Basic laws and regulations

Pesticides, artificial fertilisers. Their sale, use, and the supervision of their use is governed by a decree of statutory force. It vests the authority to direct, regulate and supervise plant protection in the Minister of Agriculture, makes the sale and use of pesticides and artificial fertilisers conditional upon obtaining the appropri-

ate license, which, in turn, requires the applicant to submit the specified information; supervision is handled by the regional centres for plant and soil protection.

Detailed regulation in accordance with the more general provisions of this decree is actually achieved by a decree issued by the Minister of Agriculture. This has three main sections:

– rules governing the operation of the internal and external phytosanitary quarantine service,
– rules governing the approval of pesticides,
– rules governing, and the supervision of the use of pesticides (transport, storage, dispersal, usage, disposal).

In order to receive approval for a specific pesticide, the party requesting the approval must submit relevant data, as specified in the annex of the decree (data on general, physical, chemical, toxicological and ecotoxicological properties, data regarding efficacy). The Ministry of Welfare (MW) and the Ministry of Environmental Protection and Regional Development (MEPRD) also give their expert opinion in the process of approval.

This decree regulates the categorisation of pesticides (on the basis of toxicity, public health risk, risk to fish and bees), their packaging, labeling, the scope of those who are allowed to obtain them, the training requirements necessary for working with them, and the general and detailed rules governing their transport, storage, usage, and disposal.

Separate decrees govern the usage/handling of substances used for extermination (*insecticides, rodenticides*) and *repellents*.

Industrial substances and petroleum products. Regulations pertaining to these have been changed by a governmental decree issued in 1996. Its effect covers dangerous substances and preparations (as they are called) that may harm people and the environment, and activities involving such substances/preparations. There is a difference between old and new dangerous substances with respect to official procedure; old substances must be registered, while in the case of new substances, a so-called notification process is necessary. Preparations may only contain old substances that have been registered, and new substances that have gone through this process of notification.

The most significant elements of regulation:

– It is the duty of the Minister of Welfare to regulate and supervise activities involving dangerous substances and preparations, but the Minister of Labour also has authority over regulation involving relevant labour issues, and the Minister of Agriculture, the Minister of Industry, Trade and Tourism, and the Minister of Environmental Protection and Regional Development have authority in questions of restricting or banning certain dangerous substances;

- The sale and use of dangerous substances is conditional upon the obtainment of the appropriate license(s);
- The prerequisite of issuing a license is the provision of specified data by the applicant – the producer or importer of the dangerous substance must provide the applicant with the relevant information upon request;
- Authority to supervise the execution of the provisions of the governmental decree that concern dangerous substances and preparations is vested in the National Public Health and Medical Officers' Service (NPHMOS).

Regulation in detail (concerning registration, notification, classification, packaging, labeling, storage, oversight) is achieved by a decree issued by the Minister of Welfare pertaining to the execution of the governmental decree. Provisions concerning the classification, packaging and labeling of dangerous substances and preparations are in accordance with EU regulations. Provisions pertaining to the process of notification and the handling of confidential data are also in accordance with EU regulations to a great extent.

Supervision. In Hungary, currently the NPHMOS is authorised to supervise compliance with regulations pertaining to occupational and environmental health in all workplaces throughout the entire country (with the exception of the armed forces and the police). With respect to activities performed within the framework of a legal relationship aimed at performing work in an organised fashion, compliance with occupational safety regulations (aimed at preventing accidents) is supervised by the National Labour Inspectorate (NLI), compliance with environmental regulations is supervised by the inspectorates for environmental protection, and compliance with fire prevention regulations is supervised by the fire department.

The tasks performed by the national and county (regional) institutes of the NPHMOS include – among others – the following: registration and notification of substances, registration and supervision of activities, supervision concerning technical and technological issues, supervision of compliance with regulations governing (the medical aspects of) a person's fitness for a particular job, etc. If regulations are breached, *sanctions* may be enacted. If the provisions of this decree are breached, the authority that issued the license may

a) revoke the activity or nation-wide sales license it issued;
b) restrict production;
c) prohibit the activity – without actually revoking the license – until a specified future date, or until certain specified conditions are met;
d) initiate legal proceedings in accordance with the general rules governing procedures used to deal with legal transgressions, or, in certain cases specified by separate regulations, may initiate criminal procedures.

Sanctions a)-d) mentioned above may be used together, as appropriate.

Besides the aforementioned sanctions, the NPHMOS may also levy labour protection fines up to a maximum of 3 million HUF in certain aggravated cases of breach of regulations pertaining to the conditions of work, according to statute No. XCIII of 1993 (the so-called Labour Protection Act).

Regulations will soon be introduced governing the so-called Prior Informed Consent (PIC) procedure formulated in accordance with the London Guidelines.

Foodstuffs, food additives. Statute No. XC. of 1995 regulating foodstuffs aims to provide Hungarian consumers with a level of safety similar to that of the EC, by adopting relevant EC regulations.

The essence of the regulation is that only food additives approved by the Minister of Welfare may be used to produce foodstuffs. The setting up and operation of production facilities is also regulated, as is the obtainment of a production license for a new additive. The most important criteria of using food additives is that they may not pose a risk to consumers' health, and, in accordance with accepted purity requirements, may only be used in justified cases and quantities.

Testing of imported food additives to ensure that they pose no risk to public health is also regulated.

Also regulated, is the way in which food additives – and other ingredients – must be noted on the packaging of foodstuffs.

The list of permitted additives, their scope of use and their concentration are specified by the provisions of the Hungarian Food Register. Production and use of additives not mentioned in the Hungarian Food Register is conditional upon obtaining the appropriate permit, which requires the applicant to submit specified data.

Controlling is the task of regional centres for veterinary and food safety, the institutes of the NPHMOS, and the National Consumer Protection Inspectorate.

Animal feed additives, wood conservation agents, disinfectants, detergents. These are regulated by separate decrees, that currently do not conform to relevant EU regulations. Modernisation of these regulations is under way.

Medicines, drugs, psychotropic substances, preparations of medicinal effect. Production licenses for medicines may only be issued with the consent of the Ministry of Industry, Trade and Tourism (MITT) and the Ministry of Welfare (MW) on the basis of expert opinion given by the National Pharmaceutical Institute. *Medicines* are regulated by statutes; the registration process, clinical trials, and the wholesale of medicines is regulated by ministerial decrees. Sale of medicines is conditional upon obtaining the appropriate license in advance. Conducting the procedure preceding, and the act of issuing the license is the task of the National Pharmaceutical Institute (NPI). The production, storage, sale, export, import, and disposal of *drugs* and *psychotropic substances* in Hungary is re-

stricted to those producers who have obtained the necessary license(s). License to operate drugs production facilities may be issued by the Ministry of Welfare with the consent of the Ministry of Interior. Export and import is regulated separately. The new pharmaceuticals act will establish regulation in accordance with EC regulations.

New regulations concerning *veterinary products,* introduced in 1996, conform to EC regulations.

Transport of dangerous products (by road, rail, inland water, air, and sea). Establishing the order of procedures governing the transport of dangerous products is the task of the Ministry of Transport, Telecommunications, and Water Management (MTTWM).

The transport of dangerous products is regulated by international agreements – on a branch-by-branch basis – Hungary has signed. With respect to transport by road, rail, and inland water, the Hungarian legal system specifies that the provisions of international agreements should be applied to internal (domestic) transport too, unless they contradict other regulations. It is important to note, that these provisions apply only to products (substances, objects, wastes) whose transport is considered dangerous.

When Hungary joined international agreements, these were usually promulgated by high-level regulations, which delegated the task of formally announcing the agreements and the transport regulations contained in their annexes (including their modifications, which happen about once every two-three years), plus the task of signing bilateral agreements, to the MTTWM.

The regulations governing the transport of dangerous products also include the rules of expediting them for transport (e.g. the material tests necessary to determine whether the product can be transported, classification according to the degree of danger in accordance with relevant rules, selection of appropriate packaging materials and transport vehicles and the labeling thereof, rules specifying the necessary papers and documents, regulations governing packages and containers, their manufacture, labeling, and inspection, etc.).

Official tasks pertaining to classification (with the exception of explosives), containers and other modes of packaging have been delegated to the National Technical Safety Inspectorate (NTSI), which is under the supervision of the MITT. Classification of explosives is done by the National Mining Authority.

Approval of vehicles (based on the expert opinion of the NTSI), the issuance of certificates proving compliance, and of vehicle drivers' ADR training certificates, is the task of the National Transport Inspectorate (NTI), which is under the supervision of the MTTWM. Regulating *mobile sources of air pollution* also falls under the authority of the MTTWM.

According to regulations currently in effect, implementing agreements is the task of the MTTWM, which also takes part in the work of international organisations aimed at updating regulations, and regulates and supervises tasks pertaining to transport in general. The Ministry does not have the power to regulate tasks pertaining to expedition, the effective regulation of which has yet to be achieved.

All issues concerning *hazardous wastes* are governed by a governmental decree issued in 1996.

The main purpose of the decree is the regulation and supervision of activities pertaining to production, management, neutralisation, etc. It regulates all activities involving hazardous wastes, and specifies the necessary conditions for import, export, transit, and work performed under contract for foreign entities. It also regulates the records to be kept on hazardous wastes, and the transmission and accessibility of the data, allowing wastes to be traced, thereby ensuring completeness of information regarding their life-cycle. A government resolution addresses the need to formulate special rules to deal with hazardous wastes that require special treatment, in particular, pesticides and medical wastes. A directive issued by the Minister of Health governs the records to be kept on, and the neutralisation (disposal) of hazardous wastes generated by health institutes.

Applied criteria: according to the definition used by the decree, waste must be considered hazardous if it, or any of its components or transformation products possesses at least one of the dangerous properties defined in the annex of the decree, and the dangerous component is present in a concentration that poses a risk to living things, human beings and their health, or any element of the environment, or if it has a harmful effect if not stored and handled properly.

The criteria for classifying waste as hazardous are defined by the governmental decree. Hazardous waste may only be brought into the country for the purposes of further use, and only if the National Environmental Protection Inspectorate (NEPI) has approved this together with the NPHMOS. All aspects of supervision are handled by the NEPI and the NPHMOS.

The governmental decree issued in 1996 requires further modernisation (EU harmonisation).

To summarise, we must note that as far as the legal instruments regulating chemical safety are concerned, older regulations, formulated before the process of legal harmonisation began, and newer, modern regulations that conform to EU norms, exist side-by-side. Continuation of legal harmonisation according to the timetable drawn up by the government, and – also in accordance with a government resolution – the passage of an "umbrella act" aimed at regulating chemical safety in a comprehensive manner, are of vital importance. This latter will make legal regulation simpler, clearer, more transparent, and will ensure conformity with the legal system of the EU and OECD regulations.

Supervision. It can be seen from the short description of the basic regulations that oversight authority is split between a number of agencies, inspectorates, and other bodies (NPHMOS, NPI, NLI, centres for plant and soil protection, centres for veterinary and food safety, NEPI, the customs and excise police, fire departments, etc.) that fall under the supervision of several different ministries (MW, MEPRD, Ministry of Agriculture (MA), MITT, Ministry of Interior (MI), MTTWM, Ministry of Labour (ML), Ministry of Finance (MF)). Their roles are generally well-defined, but are also fragmented, and licensing procedures (e.g. regarding activity and sales licences) can sometimes be described as paternalistic. Most of these agencies lack the sufficient number of staff, and also, expertise required for special chemical safety supervision. The fact that in some areas sanctions do not serve as an effective deterrent, makes work even harder.

5. Ministries, agencies, and other institutions that play a role in the management of chemicals

This chapter provides an overview of the tasks and activities of the various ministries with respect to the individual life-cycle phases of the different chemical groups, including the tasks and activities of the agencies that fall under their supervision.

The regulation of pesticides in Hungary is the domain of eight ministries/agencies (MI, MA, MITT, MTTWM, MEPRD, ML-NLI, MW-NPHMOS, MF), the regulation of artificial fertilisers the domain of six (MA, MITT, MTTWM, MEPRD, ML-NLI, MW-NPHMOS), regulation of petroleum products, industrial chemicals and consumer chemicals the domain of seven apiece (MI, MITT, MTTWM, MEPRD, ML-NLI, MW-NPHMOS, MF), while the regulation of other chemicals concerns 4-6 of the aforementioned eight ministries/agencies in some form. The MTTWM, ML-NLI, and the MW-NPHMOS have tasks in connection with all groups of chemicals; of these, the MW-NPHMOS has the broadest range of tasks. Regulation of the individual life-cycle phases (import, production, storage, transport, sale, use/handling, disposal) of individual chemical groups also involves several of the aforementioned eight ministries/agencies (MI, MA, MITT, MTTWM, MEPRD, ML-NLI, MW-NPHMOS, MF). *The MW-NPHMOS plays a role in the regulation and supervision of all life-cycle phases of all chemicals.*

The role and authority of the individual ministries. – Ministry of Transport, Telecommunications, and Water Management: its job is the regulation and supervision of the transport of dangerous products by road, rail, inland water, air, and sea. The regulations were formulated on the basis of international agreements that Hungary has signed. The MTTWM also has a role in protecting the integrity of sources of potable water.

Ministry of Environmental Protection and Regional Development. This body, comprising three offices, a number of bureaux, and functional units designed to support its activities, was created in 1987. The regional bodies of the offices cover the entire country, and function as administrative authorities of first instance, while the centre in Budapest functions as the higher-level authority of second instance. The role of the ministry is to safeguard the quality (purity) of the air in accordance with the provisions of the environmental act – in co-operation with other ministries that may be affected – by specifying and monitoring emission and immission limits with respect to all non-stationary sources of pollution, and also, air quality threshold limits (health, ecological, smog-emergency thresholds). The ministry also specifies the obligations and rights of those who operate sources of air pollution.

In cases of serious levels of air pollution, the Environmental Protection Inspectorate and the NPHMOS co-operate with local municipal, and other affected authorities. The ministry operates a monitoring system to monitor the levels of background pollution, and formulates the policy, strategy, and tactical programmes aimed at reducing the levels of pollutants in the air.

Regulating, monitoring, and sanctioning emissions of sewage to *safeguard the purity of waters* (by specifying limits on emissions, and categorising pollutants according to geographical regions) is also the MEPRD's task.

With respect to surface waters that are suited to human activity, the ministry works in conjunction with the NPHMOS. In the case of licensing procedures, it co-operates with the NPHMOS, the Inspectorate for Water Management, municipal authorities, and the Ministry of Interior.

The MEPRD also has the task of preventing harm caused by *wastes*. It is responsible for regulating all aspects of waste management (and especially use and neutralisation). It works in conjunction with other ministries and agencies under their supervision (MI, MA, MITT, MW-NPHMOS, MF) during the course of various activities pertaining to waste management. Specific regulations govern the responsibilities and obligations of producers, and the tasks of the environmental authorities.

Regulations pertaining to waste management specify the scope of wastes, the criteria of classifying wastes as hazardous, the technical requisites of issuing a license for activities involving the treatment, use, and neutralisation of wastes, the role and form of supplying required information, and the obligations of preparing a waste management plan and keeping specified records. They also govern the transport, export and import of wastes. It is the MEPRD's task to formulate a strategy of waste management, and tactical plans to manage wastes from specific product categories in an environmentally sound manner.

The specialised administrative duties of the Minister of Environmental Protection are fulfilled through the *National Environmental Protection Inspectorate* and the environmental inspectorates under its direction.

Ministry of Culture and Education. This ministry's role may only be defined as a participant in the process of legal regulation.

Ministry of Agriculture. The role of this ministry is the approval of pesticides, artificial fertilisers, veterinary products, food additives, animal-feed additives, and wood conservation agents, and also, the supervision of their sale and use. It is assisted in this role by regional (county) veterinary and food control centres, as well as, centres for plant and soil protection under its supervision.

Co-ordination of the approval of pesticides and artificial fertilisers, and the issuing of license documents takes place in the ministry itself. The ministry is assisted in this task by designated bodies under the direction of the MW and the MEPRD, that participate as specialised administrative agencies.

The storage, transport, and sale of pesticides and artificial fertilisers, the general rules regarding their use, and the management (treatment) of waste are governed by a decree issued by the minister. These areas are also affected by regulations drawn up by other ministries, which also participate in supervision (e.g. MW-NPHMOS).

There are parallelisms in the activities of the different ministries with respect to environmental impact analyses (e.g. toxicological studies involving wild animals, natural waters, bees, ecotoxicological and degradation-accumulation studies.)

The centres for plant protection oversee certain phases of the sale, use, and management of wastes, although the latter is primarily the task of the network of environmental institutions.

Although their roles overlap in several areas, the co-operation of the MW, the MEPRD, and the MA in the area of agrochemicals can be considered satisfactory. It should be noted however, that the role of the ministries in the process of licensing is not defined properly.

The Ministry of Finance – and the customs and excise police under its supervision – primarily plays a role in overseeing the cross-border trade of dangerous substances (products), and the production, storage, export and import of petroleum products and derivatives that are liable to excise, and are thus taxed heavily.

Personnel who possess special knowledge of customs administration are available to carry out the above tasks, and this work is also aided by the operation of a customs laboratory.

The customs and excise police has jurisdiction over the cross-border trade (export and import) of chemical products, and, in the case of petroleum products which are liable to excise, it has oversight authority over the entire life-cycle.

The customs authority has complete oversight authority over the import of chemical products.

Products which require an import license – the scope of which is specified by the MITT on an annual basis – are especially closely monitored by the customs and excise police.

The Ministry of Welfare. This ministry plays an important role in defining the requirements of safeguarding the health of workers and the public in general, and thus also has a role in managing risk posed by chemicals. It has the task of regulating the use of dangerous substances and dangerous preparations (their registration, notification, classification, labeling, packaging), and also plays a role in the formulation of health regulations pertaining to other chemical groups (medicines, preparations of medicinal effect, drugs, psychotropic substances, pesticides, artificial fertilisers, wood conservation agents, substances used for extermination (e.g. rodenticides), disinfectants, foodstuffs, animal feed additives). The coordination of tasks is, in most cases, achieved by way of decrees (e.g. in the case of protection against risks posed by carcinogenic substances, and prevention of occupational poisonings). This ministry is also responsible for organising and operating various health institutions (ambulance service, basic care, specialised care, hospitals) for the treatment of chemical-related diseases and poisonings.

National Public Health and Medical Officers' Service (NPHMOS). This institution is under the direction of the Minister of Welfare, and is headed by the Chief Medical Officer of State. The NPHMOS comprises a) national institutes (of which the National Institute of Occupational Health (NIOH), the National Institute of Public Health (NIPH), and the National Institute of Food and Nutrition (NIFN) directly participate in the theoretical and methodological research of chemical safety issues), b) the Office of the Chief Medical Officer of State, c) 19 county institutes and the Budapest institute, and d) 136 local institutes in towns, and 23 district institutes in the individual districts of Budapest.

The Budapest and the county institutes are divided into departments. Tasks pertaining to chemical safety are part of the everyday tasks of the department of public health and the chemical laboratory.

Local town institutes, and district institutes in Budapest do not have departments – personnel working here may take part in all tasks.

Tasks pertaining to chemical safety are a part of the basic scope of tasks of the NPHMOS.

The NPHMOS performs tasks pertaining to public health (environmental, community, food, occupational, and radiation health, epidemiology), health promotion (health protection, health education), health administration and coordination. Sub-tasks pertaining to chemical safety that fall under the authority of

the NPHMOS pertain to environmental, community, occupational, and food health.

As part of its duties as an administrative agency, the NPHMOS oversees the general state of public health in Hungary. As part of this role, it supervises compliance with regulations pertaining to environmental, community, food, and occupational health (plus radiation health and epidemiology) in the entire country, with the exception of the armed forces. It also oversees those who are required to comply with these regulations, and takes or initiates the necessary measures if the need arises. As part of this role, it also supervises chemical safety in the aforementioned areas it oversees.

Its tasks include: providing certain services (setting limits, taking measurements, conducting analyses, tests), and supervision (inspections, taking necessary measures, sanctioning, licensing). These are carried out with respect to a number of areas. The following are the most noteworthy as far as chemical safety is concerned: the air (both indoors and outdoors), drinking water, public baths with pools, sewage, the soil, workplaces, foodstuffs meant for consumption by the public, drinks, consumer goods (e.g. coffee, alcoholic beverages), food wrapping materials, cosmetics, children's toys.

The NPHMOS carries out its legally designated tasks pertaining to dangerous substances and dangerous preparations, oversees the execution of regulations relating to these substances, and keeps the toxicological records and operates the information service pertaining to dangerous substances and preparations.

In compliance with separate regulations, it also makes decisions in cases involving the production, use and sale of new substances, preparations, and products meant to be used by the general public.

It also functions as a specialised administrative agency where required by ordinance. As such, its tasks include enforcement of occupational, food, community, and environmental health requirements, and participation in environmental tasks specified by other regulations.

Besides all this, it continuously monitors and evaluates the population's general state of health, and the environmental (in the natural, artificial, and work environment), lifestyle, and other risks that it sees as a health hazard. It also makes assessments regarding risks posed by environmental factors.

It lays the groundwork for requirements whose enforcement is meant to prevent health damage, preserve working capacity, safeguard the health of the individual, the community, and certain endangered groups of people within it, ensure the uninterrupted physical, emotional, and psycho-social development of future generations, and ensure that the environmental conditions necessary for all this are present.

In its activities pertaining to chemical safety, the NPHMOS is assisted by the national institutes of hygiene (NIOH, NIPH, NIFN). These provide laboratory services (conduct measurements, methodological work, provide quality control), provide expert opinion, training, information, and conduct research. They participate in formulating regulations and laying the professional groundwork necessary for conducting administrative activities. The NIOH houses the Health Toxicological Information Service which provides toxicological information to the general public free of charge.

National Pharmaceutical Institute. Its job is the administrative oversight of pharmaceuticals (medicines), and is under the direction of the Ministry of Welfare. Its tasks include: approving pharmaceuticals (medicines) for the market and conducting the evaluation procedures necessary for this, approving clinical tests for use, compiling and keeping records on the side-effects of medicines, investigating possible cases of quality problems regarding medicines and taking the necessary administrative measures if needed, scientific processing of data regarding the consumption of medicines, professional supervision of all informational activities involving pharmaceuticals, conducting professional administrative activities, and providing independent information regarding medicines (publications, operation of an information service). Its special tasks include the on-site inspection of good manufacturing practices with respect to the manufacture of pharmaceuticals (GMP), and taking part in international co-operation pertaining to this topic. It has the same duties and authority regarding so-called *preparations of medicinal effect* (that are not classified as medicines) as regarding medicines. It also conducts methodological activities with respect to all aspects of pharmacology, and scientific and educational activities regarding all of the above. A GLP compliance inspection department also operates in the Institute, it controls the laboratories performing the safety examinations of medicines (and, according to the agreement between the MA and MW, of agrochemicals, in case of reports to be sent to the OECD Member States).

Ministry of Justice. The Ministry of Justice plays a role in the preparation of regulations (laws, decrees) pertaining to chemical safety, pursuant to Statute No. XI of 1987, which regulates the legislative process. It does not have an operative or supervisory role as far as the management of chemicals is concerned.

Ministry of Labour and the National Labour Inspectorate. The Ministry of Labour does not have an explicit role as far as the import, production, storage, transport, sale, and use of chemicals, or supplementary activities linked to any of these are concerned, nor does it have any tasks in connection with activities involving chemical wastes.

According to Statute No. XCIII of 1993 dealing with labour protection, general supervision of compliance with labour protection regulations is the task of the NLI, together with the NPHMOS and the National Mining Authority.

Ministry of Industry, Trade, and Tourism. Its tasks include the regulation and approval of the import, export of chemicals. These include banned and severely restricted pesticides and other chemicals subject to the PIC procedure, certain petroleum products, specified by ordinance, that are known to harm health and/or the environment, plus some 630 industrial chemicals, also specified by ordinance, together with the substances on the NPHMOS's list of dangerous substances. These are the following:

- substances classified as very toxic (T^+);
- substances in less severe danger categories that are noted in the Basel Convention to produce hazardous wastes, and which are also regarded as priority substances for the purposes of environmental protection (on the basis of quantity);
- products which are to be controlled pursuant to various international agreements;
- substances that harm the ozone layer, and substances (called precursors for short) controlled pursuant to the Vienna UN Convention of 1988. An import license is required furthermore for medicines, psychotropic substances, drugs, and wastes.

One of the new tasks of the MITT is the execution of the Treaty on the Ban of Chemical Weapons. The MITT's operative body in this context is the Office for the Ban of Chemical and Biological Weapons.

Ministry of Interior. The MI is the administrative body that supervises the Civil Defence Force and the Fire Department. Both organisations are under the central direction of the Minister of Interior, but he has delegated this task to the municipal deputy under-secretary of state. Both organisations, by their very nature, play a role in the prevention of catastrophes, including those that involve dangerous chemicals.

The creation and operation of the *Civil Defence Force* is an administrative task, carried out by administrative and municipal bodies. Besides their basic roles, the armed forces and the forces that uphold law and order also participate in civil defence activities, which include disaster and damage control following accidents involving dangerous chemicals. In the interest of the success of these efforts, citizens and their organisations (including business enterprises) can be required to provide their services and material possessions.

The central body of the CDF on the national level is the National Headquarters of Civil Defence, its regional bodies are the county headquarters and the Budapest headquarters, and its local bodies are the regional headquarters and offices. Regional and local bodies are under the direction of the NHCD, which also handles planning and organisation tasks in connection with the prevention of disasters and catastrophes (which may involve chemicals). In case of chemical danger, regional headquarters of the CDF will operate monitoring teams that will supply measurement data (meteorological, chemical) from the polluted area.

Regional, local, and workplace units of the Civil Defence handle the actual civil defence work.

The Fire Department. Professional firefighting units under state or municipal control, volunteer units, and units that protect specific buildings/facilities have the task of fighting fires and conducting rescue operations to prevent dangerous chemicals from being discharged into the environment.

Firefighting encompasses preventing fires, putting out fires, and conducting safety checks.

Rescue operations are aimed at protecting human life, human health and material wealth by intervening in case of an emergency caused by a natural disaster, accident, some form of damage, abnormal technical process, technical failure, *the discharge of a dangerous substance*, or some other factor.

Ministry of Foreign Affairs. This ministry handles the issue of chemical safety through the co-ordination of the execution of the Treaty on the Ban of Chemical Weapons, which bans the development, production, stockpiling, and use of chemical weapons, and requires their destruction.

The responsibility for executing the provisions of the Treaty lies with the National Authority (MITT – Office for the Ban of Chemical and Biological Weapons), the MITT's Export Control Office, and the Inter-Ministerial Commission for Non-proliferation and the Ban of Weapons co-chaired by persons from the Foreign Ministry and the MITT.

To summarise, we can note the following: seven ministries (MI, MA, MITT, MTTWM, MEPRD, MW, MF) have explicit tasks with respect to the management of chemicals; The ML does not have explicit tasks, but participates in the oversight of the management of dangerous chemicals through the NLI; three ministries (MJ, MCE, MFA) have no explicit or operative tasks, but are involved with chemical safety through their participation in the legislative process. No data is available with respect to the Ministry of Defence. The most comprehensive oversight authority regarding chemical safety lies with the NPHMOS, the NLI, and the Environmental Protection Inspectorate; *of these, the NPHMOS plays the largest role, and also provides relevant services in this area.*

6. Activities of industry, public interest groups, and the research sector

This chapter contains information on non-governmental organisations and institutions, and programmes organised and/or directed by them that aim to promote chemical safety and the sound use and management of chemicals.

Industrial and agricultural organisations, units. Besides the production, formulation, sale, import, export, transport, storage and disposal of chemicals for business reasons or in compliance with relevant regulations, industrial organisations also run a number of programmes on a voluntary basis.

Their purposes include:

- promoting professional interests in the legislative process and in dealing with the various authorities,
- promoting the interests of employers operating in the industry,
- professional representation of the industry on an international level,
- operating information and forecast systems in the interest of the industry in general,
- co-ordinating certain environmental and safety activities,
- co-ordinating commercial policy in general,
- public relations activities, and maintaining contacts with the mass media.

Of the programmes meant to promote the sound management of chemicals, we should mention the following:

- *Responsible Care.* The Hungarian Association of the Chemical Industry committed itself to the Programme of Responsible Care in 1991. It took on the task of formulating the national programme, and co-ordinating its execution at the corporate level. The directives governing the Programme of Responsible Care were drawn up in accordance with CEFIC directives.

As part of the programme, several meetings are held each year for high- and mid-level corporate environmental and safety managers, to discuss problems and exchange ideas. Progress in the areas of health, environmental protection and safety are measured with the use of questionnaires.

Since the start of the programme, most chemical companies have instituted a system of "open days", to help build better relations with representatives of the public and environmental groups. This has palpably reduced the level of fear, but much work needs to be done until the chemical industry gains the complete trust of the public.

Companies need to focus more on education, the dissemination of information, and solving problems jointly, both inside the company and outside of it, in order to promote safety and the protection of health and the environment.

Surveys conducted since the programme started show that the chemical industry's record on health protection, safety and environmental protection has improved steadily.

- *The Chemical Industry's Warning and Information Centre (CIWIC).* The CIWIC is an organisation formed by Hungarian chemical companies on a voluntary basis, aimed at assisting other organisations and persons in preventing and dealing with accidents during the transport of dangerous substances. There are three levels of assistance: consulting, sending experts to the site of the accident, and taking part in rescue efforts.

- *The APELL Programme in Hungary.* APELL stands for "Awareness and Preparedness for Emergencies at Local Level". The aim of the programme is to help decision makers and technical personnel at the local level gain awareness of the dangers associated with specific facilities and activities, and assist them in the formulation of plans to deal with them. The programme could be useful in providing assistance to handle cases of emergency quickly and with expertise, in case of an accident. As far as we know, execution of the programme has stalled.

Universities, research institutes, private laboratories and libraries play an important role by conducting impact analyses and routine toxicological studies to gain better knowledge of dangerous substances. However, they come into contact with mainstream chemical safety information only sporadically, unlike *interest groups (trade unions)*, which consciously strive to establish continuous contact between the government and employees. Ever more numerous *social, public interest, and environmental groups* play an increasingly important role in the facilitation of information exchange. This is important, since the considerable expertise and intellectual capacity of these groups is currently not utilised in promoting chemical safety.

Summary: Co-operation of the government and non-governmental organisations in promoting the sound use of chemicals is systematic and increasingly successful in the case of industry and trade unions, but only sporadic as far as the academic and research sectors – both rich in intellectual and technical capacity – are concerned. Social and public interest groups play an increasingly important role primarily in the dissemination of information and education.

7. Inter-ministerial commissions and co-ordinating mechanisms

This chapter uses tables to list commissions, activities and co-ordination mechanisms in Hungary that are meant to promote sound management of chemicals. It describes the activities of the Inter-Ministerial Commission on Chemical Safety, the PIC Commission, the Environmental Sub-Commission of the Inter-Ministerial Commission on Public Health, the Commission on Chemical Accidents that Span Borders, the Inter-Ministerial Commission on Drugs, and the Inter-Ministerial Commission on European Integration. It contends that these commissions play a significant role in helping and speeding the development of chemical safety, but new regulations should be introduced to strengthen the position of the Inter-Ministerial Commission on Chemical Safety, and it should be provided with the human and infrastructural resources necessary for its activities.

This chapter also states that NGOs play a significant role in chemicals management as well, but it blames the printed and electronic (television, radio) media for rarely discussing issues of chemical safety and sound chemicals management, and contends that the public is not informed adequately.

8. Access to, quality and quantity of information required by ordinance

This chapter provides an overview of access to data regarding chemicals management and its infrastructure, and analyses the use of information pertaining to the reduction of risk posed by chemicals at the national and local levels. It demonstrates that the classification, registration, notification and emission control of pesticides, industrial chemicals, consumer chemicals and waste chemicals is required by ordinance; activities involving such chemicals are conditional upon obtainment of appropriate licences; the issue of their oversight and supervision is resolved; and employees and the public are required to be informed of such activities, or at least this information is available to them.

It is mandatory to evaluate the effects of pesticides, and certain industrial and consumer chemicals under local conditions; to assess the risk they pose to human health and the environment; to formulate risk control programmes with respect to such chemicals; and to provide medical services in case of an accident. Also, persons concerned must have access to data regarding all this. Furthermore, it can be said that the information of the public is currently sporadic; although the HTIS provides information continuously 24 hours a day, the public does not take advantage of this opportunity, probably because it does not understand fully the meaning of this information, due to deficiencies in education.

Types and sources of data are presented in a separate sub-chapter; the Profile also notes who may access this data, and how. It concludes that most of the data is accessible only to members of the professional community – registers and other sources of data are not, or not readily accessible to the public.

It is unfortunate that the scope of data collected on a nation-wide basis is not adequate (it is done only with respect to sales of pesticides [broken down according to products, complete with value and mass figures], poisonings, occupational diseases/poisonings, accidents), and the nation-wide dissemination of information is only done in a few areas (approval of pesticides, approval of substances for extermination (e.g. rodenticides), register of dangerous chemicals).

The chapter notes that international literature – books, journals, primarily in libraries – is readily accessible; there are a number of databases in the country that cater to the information needs of specific groups.

A number of possibilities – data, databases – are available for the purpose of organising a system of information exchange within the country.

No national exchange system exists with respect to any group of dangerous chemicals for information regarding all life-cycle phases of chemicals, how individual life-cycle phases are managed, and with what degrees of success. There are numerous cases where a given piece of information never leaves the sector that the given ministry oversees, and the flow of information is usually only one-way.

A similar problem is the fact that information coming into the country from an international organisation frequently never makes it past the Hungarian contact point of the given organisation. This usually happens because difficulties – caused by inadequate funding – of translating the given piece of information into Hungarian prevent the contact point from relaying the information to affected parties in sectors under the supervision of its own ministry, and the inter-sectorial exchange of information is not even considered a goal.

9. Technical infrastructure

This chapter provides an overview of the infrastructure used to manage chemicals. It describes the laboratory facilities that make possible the implementation of directives and programmes dealing with the management of chemicals in Hungary, specifically, the laboratories affiliated with the Hungarian Academy of Sciences, the Ministry of Culture and Education, Hungarian universities, the NPHMOS, and NGOs. These laboratories are capable of performing chemical analyses that – among other things – help control the quality of chemicals. They are capable of analysing the remnants of chemicals, identifying unknown substances, monitoring harmful effects, and conducting toxicological studies. Due to the sophistication of Hungary's chemical industry and the diversity of laboratory activity going on in the country, we were not able to list all laboratories, and thus the fact whether a laboratory is listed or not, does not indicate its quality, or that of the work carried out there.

At the moment, the accreditation of laboratories and the fulfilment of quality control requirements are under way at a heightened pace in Hungary. It can be seen that the government guarantee of chemical safety is based primarily on the laboratories of the NPHMOS, and that the well-equipped laboratories of non-governmental organisations and institutions participate in solving problems related to chemical safety only sporadically.

Use of computers is commonplace at both governmental and non-governmental organisations (including chemical companies, regardless of size). A sizeable proportion of computers are high-performance (fast), but most are not used to serve the needs of chemical safety, are not connected to databases on chemicals in Hungary or abroad, and are not used to link governing, decision-making and operative bodies. In the case of companies, the usual practice is that computers are used to store the data sheets (records) of chemicals produced and marketed by the company.

Training and education programmes are implemented by specialised schools, universities and colleges in Hungary, that are highly active, and perform high-quality work both in the field of health and environmental protection, and the sound management of chemicals.

Also of high quality is the training of experts in the fields of plant protection, environmental protection, occupational safety and health protection.

To summarise: the cornerstone of chemical safety in Hungary is the *organisation of NPHMOS laboratories*, and their *specialisation* in performing special chemical safety tasks. *The intellectual resources and equipment* available at *academic institutions* can be used to tackle unexpected problems. The *laboratory infrastructure of the chemical and pharmaceutical industries* make possible *work of a high standard* to be carried out with respect to both occupational safety, environmental protection and product quality control.

Availability of computers is generally adequate, but they are not utilised to their potential (with respect to information exchange and widespread access to databases) – this should be remedied.

Training of experts takes place in specialised schools, colleges and universities; its quality is above average. High quality post-graduate training in chemical safety is available for engineers, biologists, doctors, and other graduates. A priority task is the inclusion of chemical safety in the curriculum of compulsory primary, and general secondary schools.

10. International linkages

This chapter lists cases of Hungarian participation in various international cooperations that were formed, or operate to promote the sound management of chemicals. These operate in part through governmental and non-governmental organisations. Of the relevant international governmental and non-governmental organisations, Hungary has current, fruitful ties with the following: IFCS, UNEP (IRPTC), WHO, ILO, IPCS, UNIDO, FAO, EPPO, OECD, UNITAR, NATO, CEFIC, EuPC, ICE, GCPE, ECPA, IVSS, IFOAM. The most important programmes that Hungary participates in are: London Directives, PIC implementation, EHC, HSG (reviewing, distributing papers), Agenda 21 implementation, Environmental and Health Programme of OECD, EURO-Health programme, integrating the CIWIC system into the international ICE information system, APELL programme, international technical aid programme, PHARE, German Chemical Association's Eastern Europe programme.

We can thus say that Hungary actively participates in the implementation of international agreements. This is done through the introduction of appropriate internal regulations. To facilitate implementation, designating the institutions and agencies responsible for individual areas and providing them with the necessary means, is done within a reasonable amount of time. We consider the implementation of international agreements to be satisfactory or successful (depending on case). A key problem hampering the implementation of international agreements – primarily concerning investments – is the lack of funds. This could be solved by acquiring funds from international sources.

Work done with the purpose of achieving international goals is integrated into a comprehensive national programme within the framework of the National Programme for Environmental Protection, or – in some cases – other national programmes (e.g. Programme of Labour Protection, Environmental Health Programme).

Co-operation with international organisations at the national level in the field of chemicals management could be realised most successfully through the co-ordination of the Inter-ministerial Commission on Chemical Safety; introduction and implementation of agreements could be speeded up considerably with the help of this commission.

Co-operation between authorities in charge and those responsible for environmental protection and environmental health within the framework of aid programmes could be facilitated by starting projects co-financed by PHARE.

11. Awareness/understanding of employees and the public

This chapter discusses the mechanisms that enable workers and the public to acquire information and training regarding the production and use of chemicals and their wastes. It summarises the regulations, programmes and activities aimed at achieving the following:

- providing workers/employees with information on how to protect their own health and safety, and how to guard against risks posed by chemicals;
- providing the public with information regarding the environmental and health risks posed by chemicals, and ways to guard against them and their harmful effects that endanger their own safety (including ways to guard against the acute and chronic effects of chemicals);
- increasing public awareness, and educating the public to participate in national environmental initiatives.

The right or duty of workers (employees and those involved in non-organised work) and the public to acquire the most important information is regulated (guaranteed) by laws (on labour protection, environmental protection, the NPHMOS, and health), decrees of statutory force (in the case of plant protection), or adopted international agreements (in the case of transport).

So-called national programmes (Public Health Programme, National Environmental Health Programme, National Environmental Programme, National Labour Protection Programme), and chemical accident and havaria exercises conducted by the chemical industry are aimed at achieving similar goals.

This chapter draws the conclusion that the standard of professional training provided by the school system is satisfactory. Significant, high-quality training is provided by vocational, specialised, industrial technical schools and colleges/universities in the field of chemical safety. The work that forms the basis of

chemical safety, the training of chemical engineers, chemists, teachers of chemistry and specialised chemists (in agriculture, healthcare, etc.), takes place at universities and colleges.

We must also note however, that chemical safety is not included in the curriculum of compulsory education.

Compulsory education is where general habits and attitudes regarding the use of chemicals should be formed, where general (not specialised) knowledge of chemicals should be taught. These should be included in the relevant sections of the Kindergarten Training Programme and the Basic National Curriculum.

Interest groups and employers are increasingly active in supporting training outside of the school system: these training schemes are successful.

Information on chemical safety appears in the printed and electronic media only sporadically.

NGOs (public interest groups, professional interest groups) are increasingly active and successful in their activities; in particular, the high-quality work of the academic sector should be noted.

12. Resources available and needed for chemicals management

This chapter attempts to provide a nation-wide overview of the resources utilised for the purposes of chemicals management. It notes that the tasks of governmental bodies – ministries, agencies, authorities and background institutes – in connection with the management of different groups of chemicals are governed by regulations. Their expenses are generally financed by the state budget. In certain cases the costs of an administrative procedure are borne by the requesting party (applicant).

The chapter uses tables to list available resources.

The activities and tasks pertaining to chemicals management and chemical safety are manifold. The Profile attempts to assess the number and the qualifications of people working in this area, but variations in the content and structure of data supplied, and problems associated with extracting the necessary data mean that this is incomplete. The structure of resources available at governmental institutes and the NGO operated laboratories they have ties with can be assessed relatively accurately. In saying this, we must note that laboratories operated by the academic sector also receive most of their funding from the government, although their main areas of activity are different, and their sources of financing (work done under contract, or as part of an enterprise) are more varied. Because (and in part, in spite) of this, it can be seen that data from governmental institutions should form the basis of estimates regarding the costs of establishing and operating a system of sound chemicals management and chemical safety, all the more so, because the majority of relevant tasks are concentrated in these institutions.

We have estimated the necessary resources – on the basis of data on resources available at governmental institutions – to be between 4500-6500 million HUF. This figure may be modified by eliminating overlaps between activities of different institutions, and by taking into account solutions necessary to fulfil the requirements of joining the EU.

Of course, this does not mean that safety expenditures in the "regulated sphere" – the production, import, processing, use, etc. of chemicals – do not form the basis of the general level of chemical safety in Hungary.

These expenditures are many times those that are financed by the government.

Recommendations for the Government of the Hungarian Republic regarding the development of chemical safety

Having regard to the document of the World Conference on the Environment and Development Tasks for the XXI. Century (known as Agenda 21) which was adopted by the World Summit in Rio de Janeiro on the 14th of June, 1992,

having regard to the recommendations of the Intergovernmental Forum for Chemical Safety (IFCS) established for the implementation of Chapter XIX of Agenda 21,

having regard the commitments of Hungary in relation to Agenda 21 in IFCS,

The Hungarian National Profile has been prepared[+]

Having analysed the infrastructure and human resources on the basis of the National profile - including the technical and intellectual capacities of the governmental and non-governmental organisations responsible for chemical safety (industry, scientific sector, special interest groups, public interest groups) -, furthermore having analysed and evaluated the regulatory mechanism of chemical safety (legal instruments and non-legal mechanisms), as well as, the most alarming health and environmental damaging risks, the priority objectives of the global chemical safety and the international commitments of Hungary, the following recommendations are made to the Government of the Hungarian Republic by the National Co-ordinating Team on behalf of the more than 100 experts, representing more than 70 governmental and non-governmental organisations, institutions, undertaking the preparation of the National Profile and electing the National Co-ordinating Team:

1. Chemical safety should be treated as a strategic element of sustainable development

– Maintaining a balance between improving the quality of human life, satisfying human needs, and preserving and protecting natural resources, the environment, and health is of global, national and local interest.

– Chemical safety and sound management of chemicals (Agenda 21) required for the above mentioned balance should be pursued during the whole life-cycle of chemicals (transformation of natural resources into factors of production, establishment of industries, creation of workplaces, development of in-

[+] The Profile has been prepared according to the Guidance and with financial support of UNITAR.

dustry, agriculture and services, widening the scope of products and services, regional development, etc.).

2. A policy of chemical safety should be developed

The policy, strategy to be developed should be appropriate for the protection of human health and the integrity of the environment against the increasing chemical risks, characteristic to our time, simultaneously ensuring the sustainable development of industry, agriculture and the service sector.

The participation of all parties responsible for chemical safety and those suffering from the lack of it (governmental and non-governmental organisations - industry, science sector, special interest groups, public interest groups, general public) should be ensured in the process of policy formulation.

3. Development of the Chemical Safety Act is essential

In accordance with Governmental Resolution No. 2282/1996 (X. 25.), the Chemical Safety Act, reflecting the policy of chemical safety and ensuring comprehensive regulation regarding all phases of the life-cycle of chemicals, in line with the requirements of legal harmonisation with EU, the OECD recommendations and our commitments to other international organisations (IFCS, WHO, ILO, UNEP), should be formulated and published. This act is suggested to be an "umbrella act" to which the regulations (decrees) regulating the sub-tasks of the relevant ministries can be attached.

During the preparation of the National Profile it seems advisable to review the situation of the Hungarian regulation of chemicals to evaluate the experiences gained during the impleme ntation of the regulations, their advantages and disadvantages, the availability of the conditions for the implementation, the preparedness of the relevant authorities and to examine the possibility of meeting the international and European requirements. Following the above mentioned, it is advisable to work out the concept and deemed content of the Chemical Safety Act, the conditions of implementation at the interested business organisations and supervising authorities, the effects and costs, as well as the time-table and deadline of its introduction. The next step may be the formulation of the Act within the prescribed national system. This way the final deadline of its completion may be the third quarter of the year 1998.

4. The national co-ordination of chemical safety should be ensured by the establishment of the Inter-ministerial Commission

The establishment of the *Inter-ministerial Commission for Chemical Safety* is essential for the co-ordination of the divided control of chemical safety, for overview of the tasks of the individual ministries, and for harmonised and effective decision drafting.
The importance of the Inter-ministerial Commission is stressed, its establishment is recommended in Agenda 21 and is included among the priorities of IFCS. All interested ministries would appoint and delegate representatives to the Inter-ministerial Commission (MW, MEPRD, MITT, MA, MTTWM, MI, M MD, ML); the president of the Inter-ministerial Commission would be appointed (as a high ranking government official) by the prime minister. The high ranking government official should be a "full time" president. The president of the Inter-ministerial Commission should represent Hungary in IFCS (Hungary is one of the elected vice presidents of IFCS).
In the event that the government accepts the present recommendations, the Inter-ministerial Commission will be responsible for elaboration of the details and for the implementation.

Note: an Inter-ministerial Commission has been working already on the initiation of the Minister of Welfare. For more effective work, however, the reorganisation and legal strengthening of the commission is essential, as it has been outlined above.

5. The information system of chemical safety must be developed

The IFCS Contact Point (at present the NIOH) should be made suitable for receiving *great amounts of international information*, for translation of the information into Hungarian and passing it to all interested governmental and non-governmental organisations. It should be connected to the Internet. On the other hand, the information centre should be made suitable for receiving, analysing, and evaluating *domestic data*, for drawing conclusions from the data and passing it on to decision makers, furthermore, for wide-scale dissemination and distribution of the necessary information to all interested parties. (The system and resources of data collection should be elaborated.)

Operational expenses of the IFCS contact point developed into an information centre shall be covered by the state budget. The information centre shall be supervised by the president of the *Inter-ministerial Commission.*

6. The creation of integrated, comprehensive chemical safety based on the principle of graduality (priorities) is not a one-time, finished process;

strengthening of the authorities, establishment of the Chemical Safety Inspectorate

Organisation and control of chemical safety requires continuous control. Transparent and accountable administrative and supervision practices are required with uniform approach and efficiency at the sectorial, regional and local levels of the implementation of the requirements related to the protection of human health, future generations and the environment (licensing, administrative procedures, inspections, investigations, situation evaluations, etc.). [++]

For this reason, it is essential to include the requirement of the strengthening of official activity regarding chemical safety into the ideas of the transformation of administration.

For this, the activity of the already operating authorities with competence and jurisdiction in the field of chemical safety should be examined regarding the task to be fulfilled, and the human and material resources necessary for closing up in case operational resources proportional to task are available, and in case they are not.

Taking into account the experiences gathered, and the international experiences establishment of a National Chemical Safety Inspectorate for the integrated supervision of dangerous industrial activities should be taken into consideration.

7. Development of chemical safety is a task for the whole society, co-operation of governmental and non- governmental organisations

All interested parties of the society and economy should accept the principle of necessary care for prevention, and within this, for the reduction of socially acceptable risk. This includes banning or restricting certain chemicals, replacing them with less dangerous ones, or determining limit values for their polluting concentration. It should be achieved, that these principles which do not bring short term benefit for those involved, do not fall victim to the value judgement of the market. Increased involvement of non-governmental organisations in the development and implementation of chemical safety policy should be facilitated.

Chemical safety activity of the *industry* should be supported (responsible care, APELL, etc.); participation of the corporate sector in implementation should be increased through support of the activities, developments, modernisation of products with direct or indirect beneficiary effects on chemical safety. The interest

[++] At the authorities responsible for chemical safety, the often experienced isolated and - regarding the quality of work and operational possibilities - very variable and this way less effective work practice, do not promote chemical safety.

and sense of responsibility for chemical safety of the *scientific "world"* should be raised; *educational and cultural institutions* should participate more consciously and actively in forming public awareness, the work of *special interest groups*, *environmental protection and public interest groups* for chemical safety should be supported both professionally and financially. Conditions of continuous co-operation among administrational levels should be established, including its institutional practice in areas where it is extremely important. It is advisable to elaborate a programme for the development of partner-connections.

8. Right to chemical safety should be a basic civil right*

To attain this, the importance of chemical safety should be conveyed to, and understood by students and the general public. It would be wise to incorporate chemical safety into the national educational curriculum. Effective ways of *information* should be found. Continuous PR activity (and not only campaigns) is needed for efficiency. The Inter-ministerial Commission (and its independent secretariat) should be a forum where all parties involved can report their problems related to the topic. Discussion of the reported problems and suggestions should be obligatory within a time limit. The outcome of the discussion and the recommended solution to the problems should be communicated to the interested parties and information should be given on the measures implemented.

9. The playing of an active role by Hungary in the development of the Central and East European (regional) chemical safety should be ensured

Hungary should be supported both organisationally and financially in helping the development of chemical safety in the CEE Region and in playing an active role in the work of the Region.

Note: Hungary is carrying out active organising work in the region as the elected vice president of IFCS and member of the IFCS Standing Committee. To make this work more efficient, financial support is needed (e.g. organisation of regional meetings).

* The adoption of the recommendation to make the right to chemical safety a basic 'civil right' was not unanimous decision. The main reason of this is that the content of the present recommendation does not cover coompletely the „civil right".

10. Further programmes, tasks

- the possible contact points between the National Profile and other national, sectorial programmes should be made operational as soon as possible,
- implementation of the chapters relating to chemical safety of the ongoing national programmes (environmental protection and environmental health action programmes),
- automatic follow up of dangerous goods consignments and emergency alarm should be introduced,
- based on the currently effective version of the Seveso directive on the *prevention* of major industrial accidents (catastrophes) the Hungarian legal regulation should be published too, as soon as possible.
- the separate treatment of production wastes within the hazardous wastes should be arranged very quickly, processing of information on hazardous wastes collected from enterprises should be accelerated and widened regarding accessibility (e.g. the quantities of wastes of different hazard categories originating from the chemical industry should be available for analysis),
- all activities involving amphibole type asbestos should be banned, production and use of asbestos-containing products should be further restricted, processing, demolition and treatment, neutralisation of existing asbestos-containing materials should be comprehensively regulated,
- the European Union regulation regarding the management of carcinogens should be adopted,
- the Pollutant Release and Transfer Register (PRTR) should be organised and operated - OECD and IFCS recommendation; the presence and distribution of persistent organic pollutants (POPs) in Hungary, as well as the newly recognised endocrine disruptors should be priority concerns. The problems of PRTR, POPs and endocrine disruptors require the organisation of dedicated programmes; and with these programmes we will meet international expectations.

11. Publication of the National Profile, meeting the PR activity demands of chemical safety

- the National Profile should be distributed to all competent authorities, interested economic organisations, interest groups and unions. Preferably the costs of this should be covered jointly by the interested economic organisations; participation of the Interest Reconciliation Council is advisable,

- The shortened version (Executive Summary) of the National Profile should be distributed in the form of booklet and disc/diskette,
- the National Profile should be publicised in the media according to an established programme as a continuing series embellished with interviews and round table discussions,
- the changes should be examined and registered after one year and then, after every three year.

Budapest, 15th December 1997

National Co-ordinating Team
responsible for the National Profile of Chemical Safety