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National Chemical Profile
of Finland

MINISTRY OF SOCIAL AFFAIRS AND HEALTH
ADVISORY COMMITTEE ON CHEMICALS
Helsinki 2005

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SUMMARY

National Chemical Profile of Finland. Helsinki 2005. 90 P. (Publications of the Advisory Committee on Chemicals 3 (2005), ISSN 1459-5990).
ISBN 952-00-1842-5 (print), ISBN 952-00-1843-3 (pdf).

The National Chemical Profile of Finland describes for example the chemical industry and trade in Finland, legislation related to chemicals management, spheres of authorities and actions of different organisations. In addition, the sharing of information on chemicals, data communication and the commitment of Finland to various international conventions are dealt with. In the beginning there is also a brief description of Finland as a state.

The preparation of the National Chemical Profile of Finland is related to international targets for improving chemical safety. In a recommendation (from the year 2000) of the Intergovernmental Forum on Chemical Safety (IFCS), all countries are encouraged to prepare a national chemical profile. The structure and main content of the profile is based on international guidelines. All profiles prepared by countries are stored at the website of UNITAR (United Nations Institute for Training and Research) at http://www.unitar.org/cwg/np_homepage/nph2.html.

The Advisory Committee on Chemicals decided to prepare a National Chemical Profile of Finland. Because a National Chemical Program was being prepared at the same time, the chemical profile was compiled as a fact description of chemicals management in Finland. Possible shortcomings and overlaps in chemicals management are clarified in the National Chemical Program as well as initiatives made in order to improve chemical safety.

Fertilizers and medicines as well as other issues that do not belong to the sphere of activities of the Advisory Committee on Chemicals were left out of the profile.

The profile can also be found at the website of the Advisory Committee on Chemicals, at www.kemikaalineuvottelukunta.fi.

Keywords: international conventions, chemicals, legislation, product safety, environment

TIIVISTELMÄ

National Chemical Profile of Finland. Suomen kansallinen kemikaaliprofiili. Helsinki 2005. 90 s. (Kemikaalineuvottelukunnan julkaisuja 3 (2005), ISSN 1459-5990). ISBN 952-00-1842-5 (nid.), ISBN 952-00-1843-3 (pdf).

Suomen kansallisessa kemikaaliprofiilissa kuvataan mm. kemianteollisuutta ja -kauppaa Suomessa, kemikaalihallintaan liittyvää lainsäädäntöä, viranomaisten toimialoja ja erilaisten järjestöjen toimintaa. Lisäksi julkaisussa käsitellään kemikaaleihin liittyvän tiedon saantia, tiedonvälitystä ja Suomen sitoutumista kansainvälisiin sopimuksiin. Julkaisun alussa on myös yleinen kuvaus Suomesta valtiona.

Suomen kansallisen kemikaaliprofiilin tekeminen liittyy kansainvälisiin tavoitteisiin kemikaaliturvallisuuden parantamiseksi. Hallitustenvälisen kemikaaliturvallisuusfoorumin IFCS:n (Intergovernmental Forum on Chemical Safety) suosituksessa vuodelta 2000 kehotetaan kaikkia valtioita tekemään kansallinen kemikaaliprofiili. Kemikaaliprofiilin rakenne ja pääasiallinen sisältö perustuvat profiilista annettuihin kansainvälisiin ohjeisiin. Valtioiden laatimat profiilit talletetaan UNITAR:n (United Nations Institute for Training and Research) verkkosivuille osoitteeseen http://www.unitar.org/cwg/np_homepage/nph2.html.

Kemikaalineuvottelukunnassa päätettiin valmistella Suomen kansallinen kemikaaliprofiili. Koska samanaikaisesti oli meneillä hallitusohjelman mukainen kansallisen kemikaaliohjelman valmistelu, kemikaaliprofiilista tehtiin Suomen kemikaalihallinnan tilannekuvaus. Kemikaaliohjelmassa selvitetään kemikaalihallinnassa mahdollisesti olevia puutteita tai päällekkäisyyksiä sekä tehdään aloitteita kemikaaliturvallisuuden parantamiseksi.

Kemikaaliprofiilista jätettiin pois mm. lannoitteita ja lääkkeitä koskevat sekä muut sellaiset asiat, jotka eivät kuulu kemikaalineuvottelukunnan toimialaan.

Profiili löytyy myös kemikaalineuvottelukunnan verkkosivuilta osoitteesta www.kemikaalineuvottelukunta.fi.

Asiasanat: kansainväliset sopimukset, kemikaalit, lainsäädäntö, Suomi, tuoteturvallisuus, ympäristö

SAMMANDRAG

National Chemical Profile of Finland. Den Nationella kemikalieprofilen av Finland. Helsingfors 2005. 90 s. (Kemikaliedelegationens publikationer 3 (2005), ISSN 1459-5990). ISBN 952-00-1842-5 (inh.), ISBN 952-00-1843-3 (pdf).

I den Nationella kemikalieprofilen av Finland beskrivs till exempel kemikalieindustrin och –handeln i Finland, lagstiftning som är förknippad med kemikaliekontrollen, myndigheters verksamhetsområden och olika organisationers aktiviteter. Vidare presenteras erhållandet av information avseende kemikalier, kunskapsförmedling och Finlands åtaganden i internationella konventioner. I början av publikationen finns också en allmän beskrivning av Finland som en stat.

Upprättandet av den Nationella kemikalieprofilen av Finland är förknippat med internationella syften att bättra kemikaliesäkerheten. I en rekommendation av det mellanstatliga forumet för kemikaliesäkerhet IFCS (Intergovernmental Forum on Chemical Safety) från år 2000 uppmanas alla stater att upprätta en nationell kemikalieprofil. Strukturen och det huvudsakliga innehållet baserar sig på internationella rekommendationer. Profiler som stater upprättar deponeras på webbsidorna av UNITAR (United Nations Institute for Training and Research) på http://www.unitar.org/cwg/np_homepage/nph2.html.

Kemikaliedelegationen fattade beslut om att upprätta en nationell kemikalieprofil av Finland. Eftersom samtidigt bereddes ett nationellt program om farliga kemikalier i enlighet med regeringsprogrammet bestämde man att upprätta kemikalieprofilen som en faktabeskrivning av Finlands kemikaliekontroll. I programmet om farliga kemikalier klarläggs de brister eller dubbelfunktioner som möjligen finns i kemikaliekontrollen och tas initiativ för att bättra kemikaliesäkerheten.

Bl.a. gödslingsmedel, läkemedel och andra ärenden som inte hör till kemikaliedelegationens verksamhetsområde exkluderades ur kemikalieprofilen.

Profilen finns också på kemikaliedelegationens webbsidor på www.kemikaalineuvottelukunta.fi.

Nyckelord: internationella konvention, kemikalier, lagstiftning, produktsäkerhet, miljö

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Introduction to the National Chemical Profile of Finland

In 1992, the United Nations Conference on Environment and Development (UNCED, Rio Conference) marked an important event towards the goal of achieving sustainable economic development which meets the needs of the present without compromising the needs of future generations. Heads of States or Governments from more than 150 member countries of the United Nations (UN) adopted Agenda 21, a comprehensive document outlining responsibilities of States towards the achievement of sustainable development. Chapter 19 of Agenda 21 is entitled *Environmentally Sound Management of Toxic Chemicals, including Prevention of Illegal International Traffic in Toxic and Dangerous Products*. All countries present at the Rio Conference agreed on the goal of achieving the sound management of chemicals by the year 2000.

At the level of international organizations, Food and Agriculture Organization of the United Nations (FAO), Organisation for Economic Co-operation and Development (OECD), International Labour Organisation (ILO), United Nations Industrial Development Organization (UNIDO), United Nations Environment Programme (UNEP) and World Health Organization (WHO) established in 1995 the Inter-Organization Programme for the Sound Management of Chemicals (IOMC), a co-operative agreement to co-ordinate activities in the area of chemicals management.

Chemicals (consumer chemical products, pharmaceuticals, industrial chemicals, pesticides, biocides, cosmetics, etc.) provide society and its each individual a wide range of benefits. The chemical industry plays an important role in the world economy. Countries all over the world have embarked on the preparation of National Chemicals Management Profiles with the involvement of a wide range of national stakeholders, following the recommendations issued by the Intergovernmental Forum on Chemical Safety (IFCS) and based on the IFCS-endorsed (United Nations Institute for Training and Research) UNITAR/IOMC National Profile Guidance Document which was published in 1996.

The National Chemical Profile of Finland has been prepared by the Advisory Committee on Chemicals; a committee for cooperation and information distribution in chemicals control issues. At the beginning of the work, the General Secretary of the Advisory Committee on Chemicals was identified as the National Co-ordinator and the Committee as the National Coordinating Team.

National Co-ordinator: Ministry of Social Affairs and Health, Advisory Committee on Chemicals, **Jyrki Vähätalo** (1 September 2002 – 21 June 2004), **Marilla Lahtinen** (22 June 2004 –).

National Co-ordinating Team: members, deputies, permanent experts and secretaries of the Advisory Committee on Chemicals and its Sub-committees, from 1 September 2002 to 31 August 2005:

Ministry of Social Affairs and Health	**Juha Pyötsiä**, Member, Chairman of the Advisory Committee on Chemicals, Chairman of the Sub-committee for Products **Risto Aurola**, Deputy Anna-Liisa Sundquist, Member Matti Kajantie, Deputy **Jyrki Vähätalo**, General Secretary of the Advisory Committee on Chemicals (1 Sept 2002-21 June 2004) **Marilla Lahtinen**, General Secretary of the Advisory Committee on Chemicals (22 June 2004–)
Ministry of the Environment	**Pirkko Kivelä**, Member, Vice-chairperson of the Advisory Committee on Chemicals, Chairperson of the Sub-committee for Biocides, Chairperson of the Sub-committee for International Affairs **Else Peuranen**, Deputy **Merja Turunen**, Deputy
Ministry of Trade and Industry	**Tapani Koivumäki**, Member
Ministry of the Interior	**Kirsi Rajaniemi**, Member **Jukka Metso**, Deputy
Ministry of Transport and Communications	**Seija Miettinen-Bellevergue**, Member **Anu Häkkinen**, Deputy
National Product Control Agency for Welfare and Health (STTV)	**Katariina Rautalahti**, Member **Pia Korjus**, Deputy **Paul Kreuzer**, Deputy **Annette Ekman**, Permanent expert of the Sub-committee for International Affairs **Kimmo Karhi**, Permanent expert of the Sub-committee for Biocides
Safety Technology Authority (TUKES)	**Erkki Teräsmaa**, Member **Camilla Rapp**, Secretary of the Sub-committee for Industry
Finnish Environment Institute (SYKE)	**Kaija Kallio-Mannila**, Member **Heikki Salonen**, Deputy **Hannu Braunschweiler**, Permanent expert of the Sub-committee for Biocides **Eliisa Irpola**, Permanent expert of the Sub-committee for Industry **Magnus Nyström**, Permanent expert of the Sub-committee for International Affairs
Chemical Industry Federation of Finland	**Aimo Kastinen**, Member, Chairman of the Sub-committee for Industry **Seppo Loikkanen**, Deputy
Association of Finnish Technical Traders	**Eva Frostell**, Member **Lauri Mäki**, Deputy
Finnish Chemical Workers' Union	**Kari Mäkelä**, Member **Markku Aaltovirta**, Deputy
City of Helsinki Environment Centre	**Pertti Forss**, Permanent expert of the Advisory Committee on Chemicals

Finnish Association for Nature Conversation	**Leo Virtanen**, Permanent expert of the Advisory Committee on Chemicals
Finnish Institute of Occupational Health	**Kimmo Louekari**, Permanent expert of the Advisory Committee on Chemicals
National Public Health Institute (KTL)	**Matti Viluksela**, Permanent expert of the Advisory Committee on Chemicals
Ministry of Agriculture and Forestry	**Tuija Immonen**, Permanent expert of the Sub-committee for Biocides
Confederation of Finnish Industries (EK)	**Meeri Palosaari**, Permanent expert of the Sub-committee for International Affairs
Uusimaa Regional Environment Centre	**Jorma Lameranta**, Permanent expert of the Sub-committee for Industry

Preface

The National Chemical Profile of Finland contains information on chemicals management in Finland. It provides a brief description on Finland as a country, on industrial volumes, legislative and other means for the control of chemicals and it describes the role of the different actors in the field of chemical safety in Finland. As Finland is a Member of the European Union, most of the legislation concerning chemicals is derived from the EC legislation.

Fertilizers and medicines have been excluded from the scope of this National Profile because they do not belong to the sphere of authority of the National Coordinating Team, the Advisory Committee on Chemicals.

In Finland a program for preparing a National Chemical Program is ongoing. In connection to the National Program, possible overlaps and gaps in the chemicals control system are analysed in depth. This is why the National Coordinating Team has decided that this National Chemical Profile is merely a description of facts and not an analysis of the situation.

The web version of the National Profile contains a lot of links where to look for more detailed information on different issues. Most of the links are provided to English sites but where this has not been possible, the Finnish sites are linked for information.

The National Profile will later be available also in Finnish: the Finnish version will include some additional information such as a list of relevant literature that is mainly provided in Finnish and thus is not mentioned in this English version. Both language versions will be later available at the website of the Advisory Committee on Chemicals.

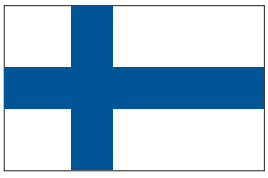
The National Coordinating Team decided to support the UNITAR view that the profile should be a living document and therefore it will be reviewed and updated regularly.

Chapter 1: National Background Information

Finland (in Finnish: *Suomi*) is situated in northern Europe between the 60th and 70th parallels of latitude. Finland's neighbouring countries are Sweden (borderline 586 km), Norway (borderline 727 km) and Russia (borderline 1269 km), and Estonia across the Gulf of Finland. Forests cover 3/4 of the country's surface area (338 145 km^2). There are 187 8885 lakes, 5 100 rapids and 179 584 islands in Finland. The principal archipelago and the self-governing province of the Åland Islands lie off the South-west coast.

The highest daytime temperature in southern Finland during the summer months occasionally rises to almost +30 °C. During the winter months temperatures of –20 °C are not uncommon. In the far north, beyond the Arctic Circle, the sun does not set for about 73 days, producing the white nights of summer. In the same region, during the dark winter period, the sun remains below the horizon for 51 days, creating the polar night known in Finnish as *kaamos*.

Finland became a member of the European Union in 1995. Finland is a member of United Nations (UN), Organisation for Economic Co-operation and Development (OECD) and World Trade Organisation (WTO). Finland is an advanced industrial economy: the metal, engineering and electronics industries account for 50% of export revenues, the forest products industry for 30%. Finland is one of the leading countries in Internet use (Internet connections: 183 per 1000 inhabitants). Today, there are more mobile phones (80.4 per 100 inhabitants) than fixed network subscriptions. The World Economic Forum ranked Finland number one in its Global Information Technology Report 2002–2003, the most wide-ranging, generally available assessment of the use and application of information and communication technologies.



National Flag of Finland

1.1 Physical and Demographic Context

- Size of the Country: **304 473 km²** (land area + small islands in the Baltic Sea **302 946 km²** + The Åland islands **1527 km²**). [1]
- Form of Government: **Sovereign parliamentary republic since 1917**.
- Official Languages: **Finnish** (91.89%; 383 municipalities) and **Swedish** (5.53%; 21 municipalities situated principally in the Åland islands, 42 bilingual Finnish-Swedish municipalities situated mainly the Southern and Western coast of Finland). [1,2]
- Other Languages: locally: **Lappish** (or **Sami**) (0.03%; 70% Nordic Lappish, 15% Inari Lappish, 15% Skolt Lappish), **Russian** (0.71%), **other** (1.83% including Estonian, Romany, language of signs). [1,2]

The Sami Domicile Area in the North Finland

- Population: **5 236 611**; **2 674 534** (females), **2 562 077** (males) (end of 2004), with an average population density about 17 inhabitants/km². [1]
- Urban Population: **67%** living in agglomerations or urban areas includes 111 cities, the three cities of Helsinki, the capital (559 046), Espoo (227 472), and Vantaa (185 429), are now home to roughly a sixth of the country's total population, other big cities are Tampere (202 932), Turku (Åbo in Swedish) (174 824), Lahti (98 281) and in the north Oulu (127 226). (end of 2004) [1]
- Rural Population: **33%** living in rural areas includes 335 rural municipalities.
- Average Age of the Population: 41.8 (females), 38.7 (males)
- Population of Working Age (15–65): **66.7%**
- Birth Rate: **11 born alive per 1000 inhabitants** (year 2004) [1]
- Life Expectancy**: at birth 82.3 years (female); 75.3 (male)** [1]
- Literacy Rate: 100%
- Average Education Level of Population: (for young adults, 25–34 years, 1995) **18% obligatory school** (primary level) **62% secondary school** **20% higher education.** [1]
- Unemployment Rate: **8.7 %** (June 2005) [1]
- Employment Rate for Women (15–64 years, year 2005): **69.5%**
- Religion: 83.8% Lutheran, 1.1% Orthodox, 1.1% other, 14.0% no religious affiliation (year 2004) [1]

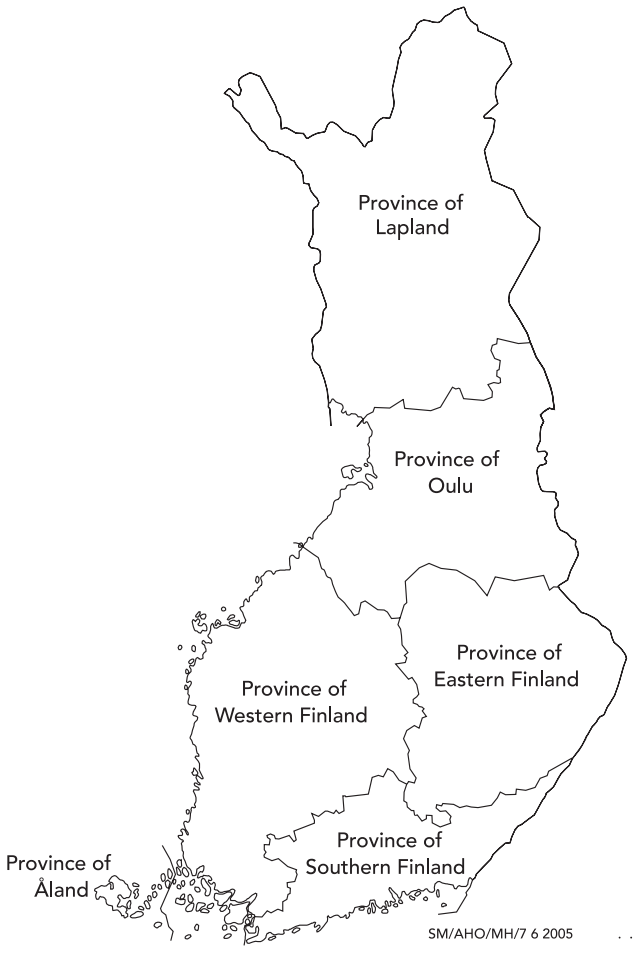
1.2 Political Structure of the Country

According to the Finnish Constitution legislative power is vested in Parliament (in Finnish Eduskunta), in conjunction with the President of the Republic. The Government must enjoy the confidence of the parliament. The Government consists of the Prime Minister and a maximum of 17 ministers. The Government is also to be understood as the decision-making body for governmental and administrative matters consisting of the Government plenary session and the ministries. The Chancellor of Justice together with the Office of the Chancellor of Justice are considered to be part of the Government.

Finland joined the European Union (EU) on 1 January 1995. As a Member State Finland participates fully in EU decision-making, while the decisions of the EU are correspondingly binding on Finland. The Finnish Parliament is a unicameral Parliament with 200 seats. In Finland through general elections are elected:

- the Parliament; election held every fourth year, election day is the third Sunday of March (next 2007),
- the President of the Republic; elected by a direct vote for a term of six years with a run-off between the two leading candidates to emerge after the first round of voting, election day is the third Sunday of January (next 2006),
- the councils of the municipalities; held every fourth year on the fourth Sunday of October (next 2008),
- 16 Members of the European Parliament; are held every fifth year in every European Union Member State at the same time (next 2009).

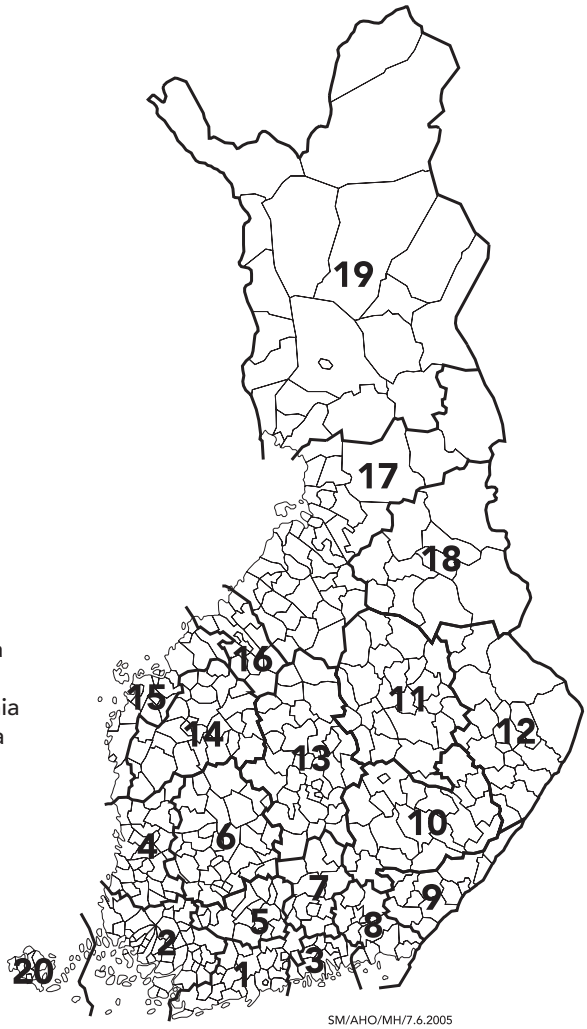
Provinces of Finland[5]
State Provincial Offices
(2005)



By the Government decision of 1 March 1998, 19 regions were established in continental Finland. In addition to these, there is the region of Åland. The number of the Regional Councils is the same as that of the regions, that is 20. The Regional Councils are statutory joint municipal boards acting according to the principles of local self-government. The Regional Councils act as regional development authorities, as laid down in the Regional Development Act. They aim to promote the independent and equitable regional development of different parts of the country. Moreover, the Regional Councils are responsible for the general planning of regional policy and its implementation as well as international contacts in their own region. The delegates of the Regional Councils represent Finland in such international bodies as the EU Committee of the Regions.

Regional Councils of Finland: 5

1) Regional Council of Uusimaa
2) Regional Council of Southwest Finland
3) Regional Council of Itä- Uusimaa
4) Regional Council of Satakunta
5) Regional Council of Häme
6) Regional Council of Tampere Region
7) Regional Council of Päijät-Häme
8) Regional Council of Kymenlaakso
9) Regional Council of South Karelia
10) Regional Council of South Savo
11) Regional Council of Savo
12) Regional Council of North Karelia
13) Regional Council of Central Finland
14) Regional Council of South Ostrobothnia
15) Regional Council of Ostrobothnia
16) Regional Council of Central Ostrobothnia
17) Regional Council of North Ostrobothnia
18) Regional Council of Kainuu
19) Regional Council of Lapland
20) Government of Åland



There are 432 local authorities in Finland. The smallest municipalities on offshore islands have fewer than 200 residents. Under the Local Government Act, the Ministry of the Interior monitors the operations and finances of Finnish municipalities in general and sees to it that their status as self-governing entities is taken into account when laws concerning municipalities are prepared. Legislation concerning municipalities, matters of municipal administration and finances that are important and far-reaching in principle and the coordination of local and central government finances are dealt with in negotiations between the municipalities and central government, as prescribed by decree.

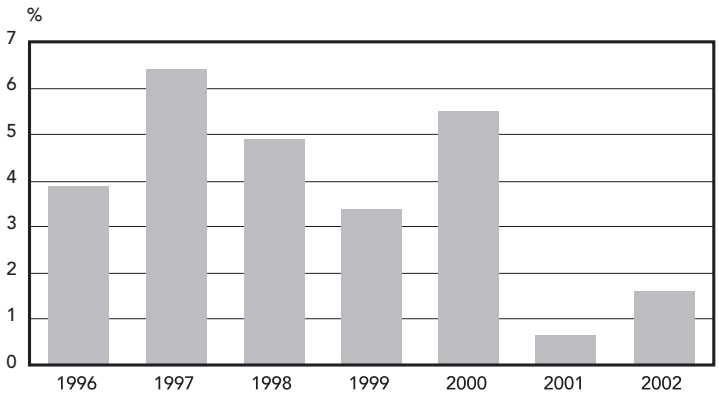
According to the Finnish Constitution, the municipalities have a dual function: Firstly, they function as the basic regional administrative units of our country, and secondly, as the basic units of the self-government of the citizens. In Finland, the municipalities have a long tradition of self-government, and thus, the municipal system provides an important arena for political participation. In addition, the municipalities play a central role in society through organising most of the welfare services.

1.3 Industrial Sectors

The Finnish economy has grown evenly and relatively quickly, with the exceptions of the 1970s oil crises and the recession of the beginning of the 1990s. Following the recession, economic growth was resumed largely thanks to an increase in exports, but in recent years the growth in domestic demand has also been rapid.

The biggest industrial sectors now in Finland, when considered in euros, are the production of electronic and electrical products (23.6%), the production of paper and pulp (11.5%), metal industry (10.2%; including both production and processing), the production of machines and equipment (10.1%) and the production of chemicals and chemical products (9.4%)[1].

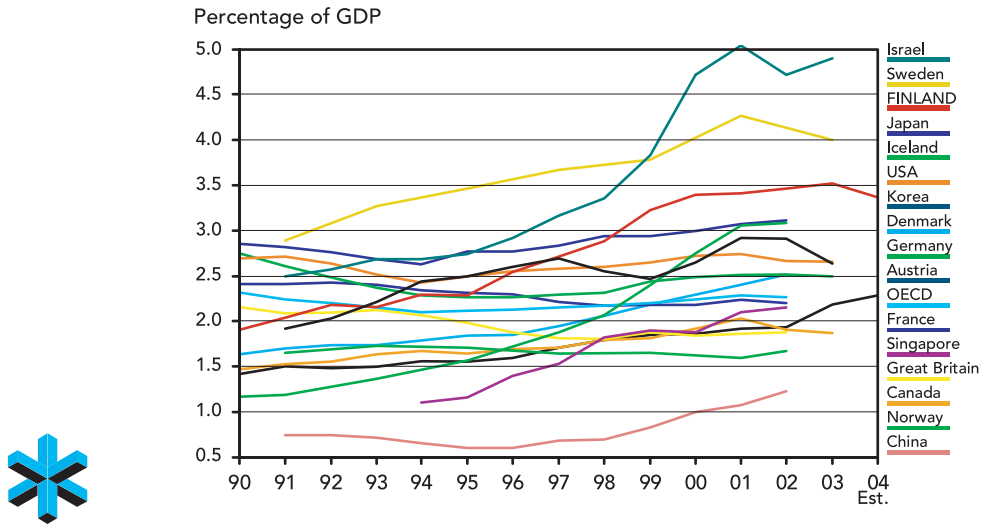
Volume changes of GDP in 1996–2002, %



Internationally Finland's Gross Domestic Product (GDP) per capita ranks it among the 15–20 richest nations. According to Statistics Finland's preliminary data, the volume of Finland's gross domestic product grew by 3.7 per cent in 2004. In 2004 GDP (preliminary data) was €149.7 billion.[1]

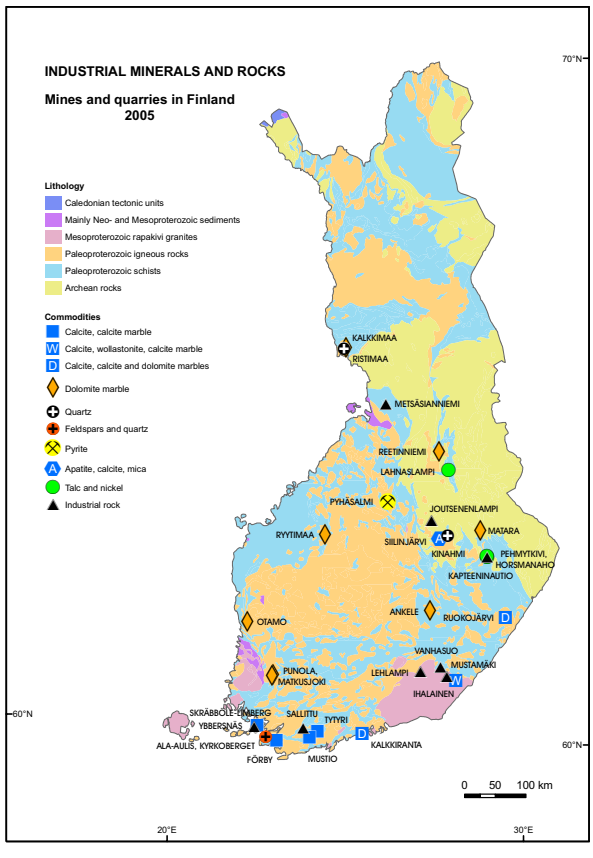
Research and technology development expenditure as a percentage of GDP is increasing in Finland. Research and development (R&D) investments reached €5 billion, being 3.6% of GDP in 2001. This puts Finland amongst the leaders in the OECD countries in R&D spending.

R&D input in some OECD countries



TEKES

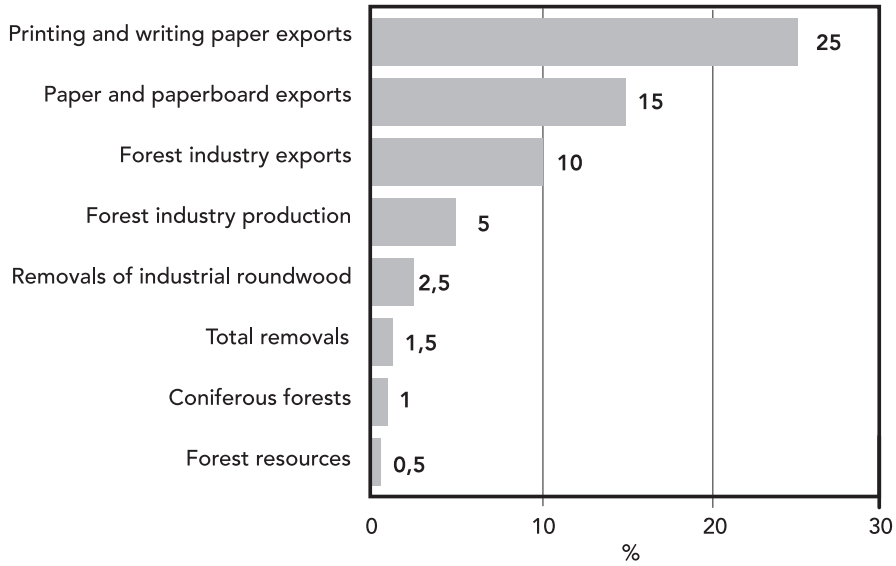
Sources: OECD, Main Science and Technology Indicators and Statistics Finland.
(Source: National Technology Agency, TEKES) [7]



GTK Geological Survey of Finland www.gtk.fi

Industrial minerals and rocks [8]

FINLAND: The Share in Global ...



(Source: The Finnish Forest Industries Federation) [10]

Table 1.D: Breakdown of Industrial Production by Region (1998) [6]

Region	GDP (FIM million)	Establishments	Number of Employees
Uusimaa	34430	5528	87061
Southwest Finland	16488	3128	45078
Itä-Uusimaa	3962	556	8838
Satakunta	9753	1756	25012
Häme	4816	974	14722
Tampere Region	14520	3359	47422
Päijät-Häme	6070	1496	20985
Kymenlaakso	6915	952	16252
South Karelia	6349	663	11972
South Savo	2777	953	9218
Savo	5344	1286	14398
North Karelia	3759	955	9922
Central Finland	7697	1565	20660
South Ostrobothnia	4021	2009	14234
Ostrobothnia	5811	1176	18034
Central Ostrobothnia	1512	535	4711
North Ostrobothnia	11730	1840	26980
Kainuu	1760	436	4433
Lapland	5063	1038	9588
Åland	339	181	1013
TOTAL	**153115**	**30386**	**410530**

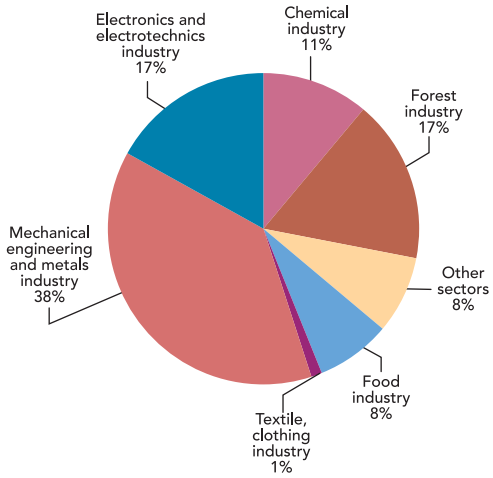
Table 1.E: Industrial Employment by Major Economic Sector (2000) [1, 10]

Description	Establish-ments	Personnel	Value added in production / € million (%)	Major Emissions
Food Industry	2096	39775	1807 (5.5)	P_{tot}, N_{tot}, Fe
Textiles etc.	2784	14625	555 (1.7)	N_{tot}
Wood and wood Products	3068	28494	1372 (4.1)	SO_2, NO_X, AOX, P_{tot}, N_{tot}
Pulp, paper and paper Products	283	37403	5472 (16.6)	SO_2, NO_X, AOX, P_{tot}, N_{tot}
Publishing and printing	2906	31045	1614 (4.9)	
Chemicals, chemical products etc.	1161	40031	3097 (9.4)	P_{tot}, N_{tot}, Fe, Zn, F, Ni, Co, VOC
Non-metallic Mineral Products	1090	15356	926 (2.8)	N_{tot},
Processing of metals	182	16894	1400 (4.2)	Cr, Fe, Ni, Co, Cu, Zn, As, F
Fabricated metal products	4499	37691	1816 (5.5)	Zn, Fe, Cd
Machinery and equipment	3632	57721	3191 (9.7)	
Electrical equipment	1799	66536	7947 (24.0)	SF_6, HFC
Transport equipment	887	23461	882 (2.7)	
Furniture	1669	11689	467 (1.4)	N_{tot},
Other manufacturing	1123	4379	257 (0.7)	
Mining and quarrying	1253	4287	238 (0.7)	Fe, Zn, F,
Electricity, gas and water supply	1169	17055	2017 (6.1)	CO_2, SO_2, NO_X, particles
TOTAL	**29601**	**446443**	**33057 (100)**	

Chapter 2: Chemical Production, Import, Export and Use

Chemical industry is the third largest branch of manufacturing industry in Finland, after forest industry and metal, engineering and electronics industry, when measured by gross industrial production and export value.

Gross value of production in the manufacturing industry in 2003



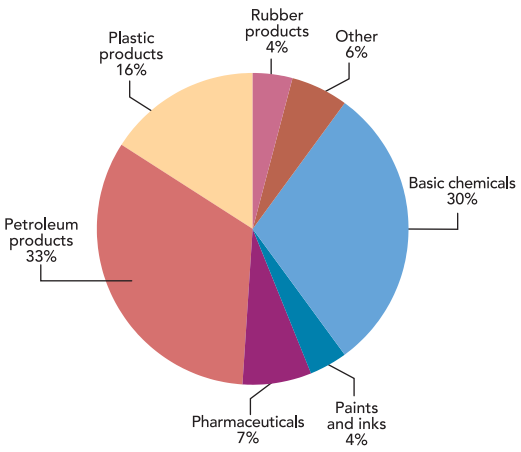
Total 37 200

(Source: Chemical Industry Federation of Finland) [12]

In 2003, the gross value of the chemical industry production reached €12 billion. More than 1000 companies were engaged in chemical industry in Finland in 2003.

Production of basic chemicals accounts for about one third of the gross value in the Finnish chemical industry. Petroleum products and plastic products also form significant parts of the output. The value added of the chemical industry was €3 billion in 2003.

Gross value of the Finnish chemical industry 2003



Total 11 980 milj €

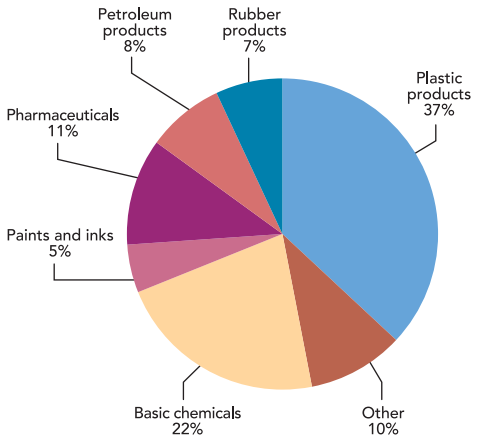
(Source: Chemical Industry Federation of Finland) [12]

In 2003 total employment in the Finnish chemical industry was 37 200 persons which represented nine per cent of the work force in the whole manufacturing industry in Finland.

The competitiveness of the Finnish chemical industry is based on the high expertise level of the personnel. Over 40 per cent of the personnel in the Finnish chemical industry hold degrees in technology.

(Source: Chemical Industry Federation of Finland)[12]

Personnel in the Finnish chemical industry in 2003



Total 37 200

(Source: Chemical Industry Federation of Finland) [12]

Research and technology development expenditure as a percentage of GDP is increasing in Finland. R&D investments reached €4.9 billion, being 3.4 per cent of GDP in 2003. This puts Finland amongst the leaders in the OECD countries in R&D spending.

2.1 Core areas of the Finnish Chemical Industry

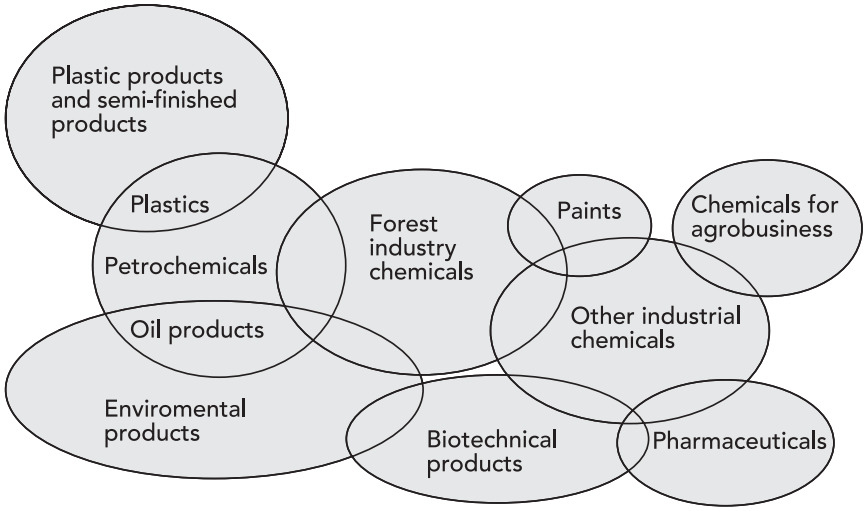
The Finnish chemical industry comprises a number of core areas ranging from relatively mature industries to such new high-tech industries as the bioindustries. The core fields are forest industry chemicals, chemicals for agribusiness and other industrial chemicals as well as paints, plastic products, environmental products, petrochemicals and oil products and as the latest group biotechnical products. Paper chemicals represent about 12% of the costs incurred by paper and paperboard industries. Finnish mills account for about 10% of the world consumption of paper chemicals, making Finland the world leader in paper chemicals.

Biotechnology is one of the most promising high-tech industries in Finland encompassing more than 110 companies. These have a total turnover of about €700 million and employ around 4 000 people. Growth expectations for the industry remain high.

Over half of the plastics produced in Finland are used in packaging applications, one fifth is used in construction, and nearly 10% is used by the electronics and electrotechnics industry. The fast growth of the electronics industry has seen companies producing plastic components reach growth rates of over 20% annually.

The pharmaceutical industry is notably research-intensive. In 1998, the Finnish pharmaceutical industry invested 15% of its total turnover in research and development. The number of people employed in R&D has grown at a rapid pace. Biotechnology is a notable expanding discipline in the pharmaceutical industry.

Core areas of the Finnish chemicalindustry



(Source: Chemical Industry Federation of Finland) [12]

Responsible Care

Responsible Care is the environment, health and safety initiative of the chemical industry. It is a voluntary programme operating in almost 50 countries. Responsible Care began in Canada in 1984 and Finland joined the programme in May 1992. The Chemical Industry Federation of Finland acts as co-ordinator for the initiative in Finland.

(Source: Chemical Industry Federation of Finland) [12]

More information on the Finnish chemical industry, for example a directory of chemical and plastics industries in Finland, is found on the website of the Chemical Industry Federation of Finland: http://www.chemind.fi. More information on the Responsible Care Program also in Chapter 4.4.

2.2 Chemical Trade

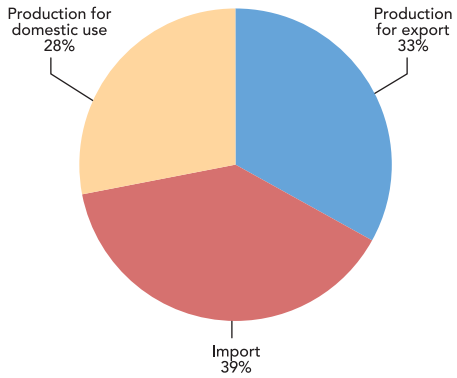
The chemical distributors and importers account for a significant part of the distribution of chemicals and raw material for the Finnish industry. All the industrial branches are dependent on import of chemical raw materials and additives. During 2003 the value of imported chemicals to Finland was €2.4 billion (excluded pharma and oil). Distributors' share of import was €1 billion while the chemical production for domestic use was €1.7 billion and for export €2 billion. (See enclosed table).

The import of chemicals, speciality chemicals included, is distributed to chemical, electronic, food, metal, packaging, paint, paper, pharmaceutical, plastics and rubber industries. The chemical distributors should know their responsibility in handling chemicals and providing environmental, health and safety related information to the users. Thus most of the distributors have joined the Association of Finnish Technical

Traders and the Responsible Care (RC) program for distributors. The first commitments to the RC Program were made in 1994. For more information, see the web site of the European Association of Chemical Distributors (www.fecc.org) and Chapter 4.4.

(Source: Chemical Industry Federation of Finland and The Association of Finnish Technical Traders)

Production, export and import of chemicals 2003



More information on the import and export of chemicals on the website of the Finnish Customs; http://www.tulli.fi/en/index.jsp

Table 2.A: Chemical Production and Trade (in 2003)

Chemical Type	Production (value / billion EUR)	Export (value / billion EUR)
Paints and printing inks	0.4	0.24
Rubber products	0.5	0.29
Petroleum Products	3.9	1.57
Plastic products	2.0	1.67
Industrial Chemicals	3.7	2.04
Other chemicals (e.g. fertilizers)	0.7	0.18

The value of chemicals imported was €2.44 billion (petroleum, rubber and plastic products excluded).

(Source: Chemical Industry Federation of Finland and The Association of Finnish Technical Traders)

2.3 Chemical Use by Categories

The Product Register Unit of the National Product Control Agency for Welfare and Health collects information on chemicals used in Finland. For the National Chemicals Program the Unit has recently clarified the amounts of chemicals used in Finland in 2001–2003 (see Chapter 3). From the survey it can be seen that in total 6 700 substances were used in 30 000 preparations in Finland. The most common substance used by number of pieces was xylene and by the tonnage used it was crude oil and its products. The survey clarified also the occurrence of preparations classified as dangerous by different properties, for example the CMR (classified as carcinogenic, mutagenic or toxic for reproduction), sensitising or preparations dangerous for the environment. The most common chemicals classified as dangerous for the environment were ammonia, zinc sulphate and cobalt.

2.4 Chemical Waste

About 70 million tonnes of waste, including chemical waste, is generated in Finland each year. The waste is divided into categories in a list of hazardous waste according to the *Ministry of the Environment Decree on the list of waste and hazardous waste (1129/2001)*. The list does not classify chemical waste separately. The classification to hazardous waste is done by the nature of the waste concerned or by the action where the waste is produced. Waste is also classified as hazardous if it contains such amounts of a hazardous substance that the waste itself has the hazardous properties (f. ex. explosive, carcinogenic, etc) mentioned in Annex 4 of the Decree.

About 1.3 million tonnes of hazardous waste was generated in Finland in 2003. About 0.18 million tonnes of this was re-used as raw material and 0.1 million tonnes was used as energy. 14.9 million tonnes of industrial waste was generated in 2003 and out of which 2.8 million tonnes was re-used as raw material and 4.1 million tonnes was used as energy.

(Source: Statistics Finland)

More information on the chemical waste management in Finland can be found for example on the websites of

- Finland's environmental administration; http://www.ymparisto.fi/ and its Waste site
- Statistics Finland; http://www.tilastokeskus.fi/index_en.html
- Finnish Solid Waste Association; http://www.jly.fi/
- Ekokem (a Finnish company for the treatment of hazardous waste); http://www.ekokem.fi

The Finnish legislation for the management of chemical waste is derived from EC legislation with some stricter provisions (see in Chapter 4.2.4 for more details). More information on chemical waste (for example a study on hazardous household chemicals in the EU countries) can be found on the website of the Environment Directorate of the EU Commission; http://europa.eu.int/comm/environment/waste/waste_topics.htm.

Finland is a party of the *Basel Convention on the control of transboundary movements of hazardous waste*.

The *European Council Regulation (EEC) No 259/93 on the supervision and control of shipments of waste within, into and out of the European Community* is in force in Finland. In addition to the Regulation, also a Council of State Decision (495/1998) concerns shipments of waste and sets conditions to the shipments. The Finnish Environment Institute maintains a database on the amounts of different classes of waste imported and exported yearly. Chemical waste cannot be separated from the classification of waste.

Chapter 3: Priority Concerns Related to Chemical Production, Import, Export and Use

Local circumstances

In Finland the local circumstances cause special challenge to the use and disposal of chemicals. The Baltic Sea and the Gulf of Finland are closed sea areas that are especially sensitive for pollution. In addition the cold climate delays the degradation of chemicals in the nature. There are numerous contracts and international projects established for the protection and recovery of the Baltic Sea area. The graduating transport of oil creates a need to establish more capacity for oil destruction activities and cooperation of authorities. In the inland the eutrophication of many small lakes is slowly tapering because of the diminishing of agricultural discharges to water.

The cold climate during winter time demands use of chemicals also to road and to the windscreens of cars, in order to keep ice and snow away. Previously ordinary salt, sodium chloride, was used on the road in order to keep ice away. Nowadays potassium formate is replacing salt as a more environmentally friendly choice. Windscreen washing fluids containing methanol are still used in cars but they have to be labelled by the warning sign Toxic and sold only under controlled circumstances.

On the other hand, the cold weather reduces the need of chemicals, for example in farming – the use of pesticides in Finland is very low compared to countries in central Europe. However, the amount of sold and used pesticides has recently been growing.

Soils

The most widespread soil type in Finland is glacial till, or moraine, eroded and deposited during the last ice age by the massive continental ice sheet that completely covered this region of Europe for many thousands of years. Moraine covers almost half of the country.

Sandy and gravely features deposited by glacial rivers and along post-glacial shorelines are also found in many parts of Finland. Sand and gravel formations host the most important aquifers in Finland. Soils consisting of silts and clays are found in areas that were submerged under lakes or the sea at the end of the ice age. In many boggy and marshy areas, soils feature layers of organic peat and sludge.

An important characteristic of soils in Finland is that they are typically frozen for 4–8 months a year. Without liquid water, chemical and biological reactions in the soil only occur very slowly, if at all.

Compared to soils elsewhere in Europe, soils in Finland are highly sensitive to acidification, and local conditions otherwise hinder the breakdown of harmful chemicals in the soil.

(Source: website of Finland's environmental administration)

Surveys on potential concerns

Priority concerns related to chemicals are handled thoroughly within the ongoing National Chemicals Program. In the program several surveys for the possible concerns for the use or release of chemicals are figured out. These surveys concentrate on the

1) Amounts of chemicals used and marketed in Finland (responsible authority is the Product Register Unit of the National Product Control Agency for Welfare and Health)
2) Risks of chemicals to health (responsible institute is the National Public Health Institute)
3) Chemical risks at work (responsible institute is the Finnish Institute of Occupational Health)
4) Emissions of harmful substances from processes and incineration (responsible institute is the Finnish Environment Institute)
5) Chemical emissions from products – assessment and reduction of environmental risks (responsible institute is the Finnish Environment Institute)

Below is a brief summary on the five surveys. The several recommendations made in the surveys are not included here. More detailed information can be found on the websites of the institutes.

1) Chemicals marketed and used in Finland, according to the survey of the Product Register

The purpose of the survey was to find out which chemicals are on the market and in use in Finland, their quantities and degrees of hazard as well as potential trends of change. In addition the survey studied factors that are important for monitoring and that should be taken into consideration.

The data in the Product Register is based on reports by operators, that is, on the chemical registration forms and annual reports on quantities. The functioning and usability of the Register is affected by legislative requirements, level of data in the reports to the register and by registration practices.

Products

The largest group of products dangerous for health is the products classified as harmful and irritating. Before, harmful products were the larger group, but the amount of irritating products has grown steadily and the group is now bigger than the harmful products group. By tonnage, the largest group of products classified as dangerous for health are toxic products. This is because of crude oil and its products. With regard to irritating products, similar growth by tonnage as by number of pieces has not been observed.

The use of products classified as dangerous for the environment and labelled with the warning sign N is growing both by number of pieces and by tonnage. The amount of these chemicals has five folded from 1999 to 2003. A classification procedure due to a legislative reform is still on going and the quantities will continue to rise.

The largest group of products classified as flammable and explosive, measured by number of pieces, is the products classified as highly flammable. By tonnage, the largest group is extremely flammable chemicals. Also this is due to crude oil and its products.

Substances

According to data in the Product Register, there are around 6 700 different substances in the chemicals released to the market since 1995. Of these, around 5 600 substances are classified as dangerous. Around 3 800 substances are used in the chemicals on the market that are classified as dangerous.

The most common dangerous substance is xylene. By tonnage, the most common substance is crude oil. Crude oil and its products are now one of the most common substances classified as carcinogenic (categories 1 and 2). Chemicals classified as respiratory allergens consist mainly of cellulase and subtilisin that are used as biocatalysts. By tonnage, the most common skin allergen was formaldehyde. PBT substances that are highly dangerous for the environment were used in 25 products in 2003. The number of products including PBT substances is on the decline, but by tonnage the amount of PBT substances is increasing.

(Source: the Product Register of the National Product Control Agency for Welfare and Health)

2) Risks of chemicals to health/ National Public Health Institute

This survey assessed the potential adverse health effects of chemical substances that occur in nature, in different products as well as in our environment. The survey included harmful exposures that traditionally are not regarded as chemical exposures as well as exposures for which the potential health hazards are not yet fully understood. Health hazards due to radiation or occupational exposure to chemicals were excluded from the present assessment. The extent of exposure to the studied chemical substances was decisive in the survey. The survey focused specifically on agents for which the population exposures are known or estimated to be significant.

Tobacco smoke, even though a remarkable public health risk, is addressed only very briefly in the survey because its adverse health effects are very well known.

Current research indicates that with regard to air pollution, special attention should be paid not only to fine particles but also to ozone and carbon monoxide. The significance of selected policies are great with regard to energy production (coal, natural gas, nuclear power), traffic (trucking, rail traffic), urban zoning and infrastructures (safety of transport environments, housing and traffic, children's school routes) and industry (heavy metal, chemical, wood industries) since different policies may have very different effects on the environment and public health.

In spite of very active research during the past two decades, too little is still known about the adverse effects of indoor air on health. Knowledge is lacking about the health effects of indoor air pollution originating from outdoors (ozone among others), about the emissions from building materials and furnishings as well as about the biological factors such as microbial toxins that develop in moisture-damaged buildings.

Drinking water may cause microbiological as well as chemical risks and of these the former are clearly the most important, requiring uninterrupted attention. The main focus of our advanced drinking water treatment and control systems is microbiological safety, yet each year some water-related epidemics occur. Extensive research has been conducted in Finland on the chemical risks caused by chlorine based disinfection of drinking water and this has led to rigorous development both in water supply and in the development of technologies used in water-supply plants. The use of surface water has been reduced from 56% in 1987 to 41% in 2000.

Chemical risks of food in Finland is presently small when it comes to known and well-controlled chemicals such as pesticide residues and additives and, at the level of the whole population, heavy metals and persistent organic pollutants such as dioxins, PCBs and medicine residues. Overwhelmingly the most important public health risks of food are caused by nutrition itself. Health risks are caused especially by excess energy and sugar intake compared to energy consumption, leading to overweight, cardiovascular disease and increasing risks of diabetes and cancer; by saturated fat that leads to arteriosclerosis and cardiovascular disease; and by excess salt intake that leads to hypertension and cardiovascular disease. In a broad sense, also these factors constitute chemical risks of food. The single chemical causing the greatest adverse health effects is ethyl alcohol.

With regard to consumer products including cosmetics, there is no general obligation to register or report them. Instead, the manufacturers and distributors are obliged to know the risks of their products. Legislation provides a possibility for monitoring, but monitoring by authorities is restricted to random checks and investigations on problems that have already emerged. The challenge is first and foremost to ensure that the manufacturers really know the risks of their products and act accordingly. Chemicals and their adverse health effects should always be labelled and warnings spelled out irrespective of the product category. Problematic products include toys, detergents, textile colours and conditioning substances and aerosol generating spray products.

(Source: National Public Health Institute)

3) Chemical risks at work/ Finnish Institute of Occupational Health

In the Finnish workplaces, about 30 000 chemical products are used and these include totally 6700 chemical substances. These data are derived from a registry, which covers the Safety Data Sheet provided by manufacturers and importers of chemicals. Approximately 40 000 workers are heavily exposed to chemicals at work; their exposure level is above 50 % or the respective Occupational Exposure Level set by the Ministry of Social Affairs and Health. Chemicals cause occupational diseases, mild and transient health impairment/symptoms and they can degrade the well-being at work.

In the year 2004, the concentration of chemical(s) in the air was measured at 1000 workplaces and 9000 biomonitoring samples of workers were analysed. The amount of these analyses has been decreasing for some years and is regarded as insufficient when compared to the number of the exposed workers. It is noteworthy that there is an analytical method for only a part of the chemicals which are used at workplaces. The level of exposure to certain chemicals, such as asbestos, heavy metals and dangerous/traditional solvents has decreased remarkably.

Chemicals cause more occupational diseases than physical, biological or other exposures. About 2000 cases of occupational diseases induced by chemicals are annually reported to the respective registry. The largest group within these are skin diseases (800–900 cases per year) including allergic eczemas and irritation eczemas. The most important causes are detergents, wet or dirty work, rubber and rubber chemicals, and animal proteins. In dental care, and other health care work, in food industry and kitchen work, as well as in agriculture, the risk of skin diseases is higher than in other branches. Chromate of cement, nickel, acrylates, formaldehyde and epoxy resins give rise to a few skin diseases annually (10-30 cases per year). Sixty percent of those having these occupational diseases are women. The chemical, which has caused the skin disease remains unidentified in too many cases, which is due to the incompleteness of the labels and the Safety Data Sheets

Occupational exposure also gives rise to 400 respiratory sensitizations annually, including asthma, allergic rhinitis and allergic alveolitis (farmer's lung). The most important allergens are flour dusts and animal dusts. Some chemicals, such as isocyanates, acid anhydrides, and acrylates induce airway allergies; below 10 cases per year. Exposure to wood dust involves 10–20 cases of respiratory sensitization annually. Prevalence of respiratory diseases is higher among women than in men. In the survey, which covered to whole Finnish population at working age, it was found that 29% of adult asthma in men and 17% of that in women is caused by occupational exposures. Moreover, chemicals used at work may provoke or impair the asthmatic symptoms.

Asbestos is clearly the most important single factor, which brings about occupational diseases. Annually 600 cases of asbestos diseases (mesotheliomas and lung cancer) are reported. Most of these are induced by exposure, which has ceased some decades earlier. The sectors associated with a high risk of asbestos diseases are construction, manufacture and maintenance of vehicles and process industry; where asbestos was commonly used in the past.

It has been estimated that occupational exposure gives rise to 500 cases of cancer annually (2–3% of all cases). Occupational cancers are clearly more frequent among men (approximately 4%) than in women (below 0,1%).

(Source: Finnish Institute of Occupational Health)

4) Emissions of harmful substances from processes and incineration / Finnish Environment Institute

The aim of the project was to collect the available information on central persistent hazardous organic substances (substances resembling POP compounds) produced in industrial processes in Finland as well as on other hazardous organic substances that may require further studies. The project also aimed at evaluating the emission potential of selected compounds in Finland. Another goal was to compile a proposal for systematic identification in the authorisation of harmful substances produced in industrial processes. The project also surveyed monitoring practices concerning emissions of harmful substances in Finland.

According to the survey, the availability of data is low at least with regard to the total of PCB emissions, pentachlorophenol emissions in the air, the environmental effects, emission sources and concentration of polychlorinated dibenzothiophene in the environment and the total volume of hexachlorobenzene emissions. Data is also scarce with regard to the emission sources of polybromated and polychlorinated diphenylethers, benzene emissions in water as well as the emission volumes and sources of the other harmful substances under study.

The revision of BAT Reference Documents by industry will be launched shortly. Substance-specific data on harmful substances and other chemicals produced in processes and burning should be included in the BAT Reference Documents. This is justifiable since chemicals and harmful substances form an entity in Appendix IV of the IPPC Directive where BAT criteria are listed. For the sake of the revision, Finland and other EU Member States as well as the relevant industries should actively produce current data on the use of harmful substances in the relevant industries as well as on the emissions and technologies to reduce emissions.

In Finland, the inventory on dioxin and furan emissions has been adjusted since the mid-1990s. In 2005 a comparison was made between emission factors by function

used in the Nordic countries. In Finland, information is still scarce with regard to dioxin and furan emissions (especially concerning cinders and slug) to waste and the water. In addition, there has been little research on the PCDD/F emissions of traditional energy production fuels in Finland. Changes in burning waste and biological material can in the future have significant effects on the development of dioxin and furan emissions.

Since 1990, an inventory has been conducted on emissions in the air of PAH(4) compounds (UNECE(CLRTAP) in Finland. Reports on PAH(6) emissions in the air have been delivered to the EU since 2001 (EPER reports). The emission factors used in the inventory have been compared and revised as a part of a Nordic project in 2005.

Resin acids and sterols are organic but they do occur in concentrated forms both in wastewater and the local unloading areas of wastewater. According to recent research, resin acids and sterols are biodegradable and biological refinement of wastewater eradicates most of these wood extractives. Compared to other POP compounds, the environmental risks of resin acids and sterols can be considered relatively small in Finland. There is reason, however, to follow up the research on these compounds because potential reproductive and hormonal disorders cannot be considered insignificant.

In Finland, the drift of pentachlorophenol into the environment has been reduced significantly during the last two decades.

The use of hexachlorocyclohexane as a pesticide and its emission into the water and common sewer is forbidden in Finland. Another less known group of process-related POP substances is polychlorinated styrene compounds, the potential emission sources of which should be studied in international cooperation.

5) Chemical emissions from products – assessment and reduction of environmental risks/ Finnish Environment Institute

The survey aimed at examining the importance for the environment of chemicals in products, the level and sources of data concerning these chemicals as well as the risk assessment methods and potential tools for risk reduction. The survey also proposed guidelines for the use of the National Chemical Program for the improvement of risk management of chemicals in products. In this survey, products are items, equipment and articles, not compounds or preparations. There is little information on the chemicals in items, equipment and articles that have been released to the market for consumer use. There is lack of information on the chemical concentration in products, the properties of chemicals and on the size of chemical emissions during the use or waste management of products.

Chemicals in products are regulated by the Chemicals Act, the Product Safety Act and legislation in different sectors including legislation on construction products and cosmetics. The aim has been to reduce the risks caused by chemicals, which have been clearly identified as dangerous for health and the environment by, for example, restricting the production and use of dangerous chemicals as well as the use of the chemicals in manufacturing of products as well as by steering the collection and handling of waste.

In addition to the intentional use of chemicals, products may contain non-desired residues, such as residues of pesticides used in the production of natural fibres in textiles or solvent residues in printed products. The quantity and quality of residue chemicals in products varies and data can often be collected only with laboratory tests.

Central conclusions

Data on the chemical emissions from products is very scarce. Chemicals control concentrates traditionally on the chemicals that are produced, imported and sold as chemicals. Control of the environmental emissions focuses on the emissions from industrial or other processes. The authorities do not have the possibility to systematically collect data and data is available almost only for those product groups for which there is some special requirement to report or label the composition of the product.

A number of specific surveys on chemicals in products are available but they are "reactive", that is, the surveys have been conducted only after problems have been observed or suspected. The legislation does not enable proactive risk assessment.

Chapter 4: Legal Instruments and Non-Regulatory Mechanisms for Managing Chemicals

This chapter describes some of the instruments used in the chemicals control system in Finland. In Finland the chemicals legislation of the European Communities (EC) is in force. The EC legislation is given by regulations that are directly in force in all European Union Member States, and by directives that need to be transposed into national legislation by national acts and decrees. Also some Commission decisions and recommendations exist.

In Chapter 4.1 there is an overview to the legal instruments for chemicals control of both European Communities and Finnish national legislation. Also, the history of chemicals control in Finland is briefly described.

In Chapter 4.2 the most relevant acts of Finnish national chemicals legislation are briefly described. Also some of the statutes given by virtue of these acts are listed.

In Chapter 4.3 summary descriptions of key approaches and procedures for the control of chemicals are recited.

In Chapter 4.4 some non-regulatory mechanisms for managing chemicals are described.

4.1 Overview to Legal Instruments Which Address the Management of Chemicals in Finland

History

The Finnish history of chemicals control starts already in the 17th Century, by a King's Decree from 1688 that provided on the marketing of poisons and poisoning drinks. In 1757 the Collegium Medicum gave an announcement, which is regarded as the first real poison statute in Finland. The announcement provided that poisons listed in the two annexes of the announcement could only be sold by pharmacies. The provision contained also sanctions if the rules were not obeyed. In 1888 a Decree on Poison Trade repealed the former provision, and this Decree remained in force until 1946. The new Decree on Poison Trade contained a more detailed list on dangerous chemicals.

In 1946 the Poison Decree repealed the old Poison Trade Decree. The Decree divided poisons into two categories and defined plant protection poisons, pest control poisons and poisons for impregnating and preservation of wood and textiles. It also contained provisions on the import, manufacture, storage, use and trade of poisons.

By the amendment (789/1976) to the Occupational Safety and Health Act (299/1958), provisions were introduced setting an obligation to the manufacturers and importers of chemicals to provide information on hazardous chemicals to employers. The Act was further specified in 1978 by Council of State Decree and by Decisions of the Ministry of Social Affairs and Health on classification and labelling of hazardous

chemicals and by a Decision of the National Board of Labour Protection on Safety Data Sheets. The model for classification and labelling of chemicals was taken from the corresponding Directives of the European Communities. The model for Safety Data Sheet was based on the format proposed by Occupational Safety and Health Administration in the USA.

The Poisons Act of 1969 defined many terms like substance, chemical, preparation and product. It also prescribed the permits for the manufacture and trade of poisons and a few rules on the labelling of the packaging of poisons. The Chemicals Act from 1989 repealed the Poisons Act and is still in force. The provisions issued under the Occupational Safety and Health Act on classification and labelling of chemicals were repealed after the Chemicals Act was adopted, as the scope of the Chemicals Act covers both chemicals used by industry and professionals as well as by general public. The provisions concerning Safety Data Sheet were modified after 1991 to take into account the Directive of European Communities on Safety Data Sheet, which was adopted for the first time in 1991. The Chemicals Act was based in 1989 on the classification rules of the chemicals legislation in the European Communities.

EC Directives

Most of the Finnish chemicals legislation is derived from the transposition of the following EC Directives into national legislation:

- the "Directive on Dangerous Substances" 67/548/EEC, Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances
- the "Limitations Directive" 76/769/EEC, Council Directive 76/769/EEC of 27 July 1976 on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations
- the "Dangerous Preparations Directive" 1999/45/EC, Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations
- the "Seveso Directive" 96/82/EC, Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances
- the "Biocidal Products Directive" 98/8/EC, Directive 98/8/EC of the European Parliament and of the Council of 16 February 1998 concerning the placing of biocidal products on the market
- Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market and Council Directive 79/117/EEC of 21 December 1978 prohibiting the placing on the market and use of plant protection products containing certain active substances
- Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work and Council Directive 90/394/EEC of 28 June 1990 on the protection of workers from the risks related to exposure to carcinogens at work (Sixth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC)
- Directive 2001/95/EC of the European Parliament and of the Council of 3 December 2001 on general product safety

- the Integrated Pollution Prevention and Control Directive (IPPC Directive) 96/61/EC, Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control and
- Council Directive 94/55/EC of 21 November 1994 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by road and Council Directive 96/49/EC of 23 July 1996 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail and other Directives in the field of transport of dangerous goods

These Directives are European Union wide instruments to manage chemicals. The Directives are transposed into Finnish legislation by national acts and decrees given by the Parliament and the Government. These national statutes are described in Chapter 4.2.

EC Regulations

In the European Union there are also Regulations that need not to be transposed into national legislation but that are directly applicable in all EU countries. These Regulations, concerning chemicals, are for example

- the Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants,
- the Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents,
- the Regulation (EC) No 304/2003 of the European Parliament and of the Council concerning the export and import of dangerous chemicals and
- the Regulation (EC) No 2037/2000 of the European Parliament and of the Council on substances that deplete the ozone layer.

More information on the EC chemicals legislation is available on the websites of the European Commission and its Directorates General:
Enterprise: http://europa.eu.int/comm/enterprise/chemicals/legislation/index.htm
Environment: http://europa.eu.int/comm/environment/chemicals/index.htm
Consumer affairs: http://europa.eu.int/comm/consumers/index_en.htm
Employment and Social Affairs: http://europa.eu.int/comm/employment_social/index_en.html
Energy and Transport: http://europa.eu.int/comm/dgs/energy_transport/index_en.html

In the European Union a new chemicals regulation is in preparation. The so-called REACH (Registration, Evaluation and Authorization of CHemicals) regulation will replace about 40 Directives now in force. The REACH regulation aims at enhancing the competitiveness of the EU chemicals industry and improving the protection of human health and the environment from the risks caused by chemicals. As REACH will be introduced in a form of a regulation, it will be in force as such in all EU countries including Finland. The new system is estimated to come into force in 2007.

More information on the new REACH system is available on the European Commission websites:
Enterprise DG: http://europa.eu.int/comm/enterprise/reach/
Environment DG: http://europa.eu.int/comm/environment/chemicals/reach.htm

At the same time the European Commission is preparing for the transposition of the Globally Harmonised System on the classification and labelling of chemicals (GHS) into the EC chemicals legislation. More information of EC and GHS is available on the Commission website at: http://europa.eu.int/comm/enterprise/reach/ghs_en.htm

National legislation

The most relevant pieces of Finnish national chemicals legislation are the following acts and other statutes given by virtue of them:

1) Chemicals Act (744/1989)
2) Act on the Safe Handling of Dangerous Chemicals and Explosives (390/2005)
3) Environmental Protection Act (86/2000)
4) Health Protection Act (763/1994)
5) Waste Act (1072/1993)
6) Occupational Safety and Health Act (738/2002)
7) Act on Safety of Consumer Products and Consumer Services (75/2004)
8) Act on Transport of Dangerous Goods (719/1994)
9) Rescue Act (468/2003)
10) Pesticides Act (264/1961)

Means for making legislation publicly known

In Finland, a big part of the population has access to the Internet and the FINLEX Data Bank at http://www.finlex.fi/ is an efficient way to find legislation. The FINLEX contains several databases in which for example all recent acts are found daily (Electronic Statutes of Finland) as well as consolidated versions of acts and decrees in Finnish and Swedish and also English translations of some 300 acts and decrees.

Although the legislation in force in Finland is national (in addition to the few EC regulations that are directly in force in all EU countries), it is for a big part derived from EC Directives and which is why some Finnish acts and decree are not translated into English.

For specific information the relevant authorities usually have informative web sites. Chapter 5 includes the contact information of the authorities responsible for chemicals control in Finland.

4.2 Summary Description of Key Legal Instruments Relating to Chemicals

4.2.1 Chemicals Act

(744/1989) (English translation available at the Ministry of the Environment)

Chemical use categories covered:

All handling, possession, manufacture, import, placing on the market, distribution, packaging, export, trade, testing, advertising, storage of chemicals, excluding transport.

Objective of legislation:

To prevent and avert harm to health and the environment caused by chemicals, to prevent damages to property caused by chemicals.

Responsible ministry/ enforcement institutions:

For health effects: Ministry of Social Affairs and Health/ National Product Control Agency for Welfare and Health, occupational safety and health authorities, provincial governments and municipal authorities;

For environmental effects: Ministry of the Environment/ Finnish Environment Institute, regional environment centres, municipal authorities;

For import: Customs

Ordinances given by virtue of the Chemicals Act:

- Chemicals Decree (675/1993): Prescribes in more detail the provisions of the Chemicals Act on the classification, labelling, testing, information requirements, new substance notification procedure and placing on the market, packaging, advertising, safety data sheet, chemical registers and supervision of chemicals
- Government Decree on export notifications of certain dangerous chemicals (15/2005)
- Government Decree on certain persistent organic substances (735/2002)
- Government Decree on biocidal products (466/2000)
- Government Decree on substances that deplete the ozone layer (262/1998)
- Government Decree on batteries and accumulators containing certain dangerous substances (105/1995)
- Decree on the retail sale of a dangerous chemical (676/1993)
- Government Decrees on bans and restrictions of certain chemicals, concerning
  - Asbestos (975/2004)
  - Carcinogenic, mutagenic and reproduction toxic substances (623/2004)
  - Nonyl phenol and nonyl phenol ethoxylate (596/2004)
  - Cement and preparations containing cement (514/2004)
  - Certain azocolourants and products containing them (694/2003)
  - Arsenic and wood treated with it; mercury compounds and dibutyltin hydrogen borate and products containing them (440/2003)
  - Short chained chlorinated paraffins and penta- and octabromo diphenyl ether (416/2003)
  - Creosote and wood treated with it (8/2003)
  - Organic tin compounds (871/2002)
  - Certain persistent organic substances (735/2002)
  - Pentachloro phenol and certain diphenyl methanes (143/2000)
  - Products containing nickel and its compounds (2/2000)
  - Certain phthalates in toys and childcare articles to be put in the mouth, intended for children under three years old (919/1999)
  - Certain chlorinated solvents (1209/1997)
  - Hexachloro ethane (961/1997)
  - Detergents (1430/1993)
  - Products and articles containing cadmium and its compounds (1415/1992)
  - Certain chemicals harmful for health and products containing them (489/1992)

- Decrees (or decisions) of the Ministry of Social Affairs and Health on
  - Information to be provided on chemicals (374/2002)
  - Safety data sheets (1202/2001)
  - The classification grounds and making of labels (807/2001)
  - The list of dangerous substances (509/2005)

- Child-resistant fastening and tactile warning of danger in the packaging of a dangerous chemical (430/2001)
- Information to be provided on the quantities of chemicals classified as dangerous (1233/2000)
- Packaging and Labelling of Biocidal Products (422/2000)
- The notification procedure of new substances (1642/1993)

- Decrees (or decisions) of the Ministry of the Environment on
  - Applications and Notifications concerning biocidal products and their active substances (467/2000)
  - Banned or severely restricted chemicals (680/1993)

- Ordinances concerning the enforcement and other authorities duties:
  - Decree on the enforcement of the Chemicals Act in the Defence Force (469/1992)
  - Decree on the Industrial handling and storage of a dangerous chemical in the Defence Force (78/1996)
  - Decree on the Duties of and Cooperation Between Authorities Pertaining to Evaluation and Control of the Risks of Existing Substances (813/1995)

4.2.2 Act on the Safe Handling of Dangerous Chemicals and Explosives (390/2005)

Chemical use categories covered:

Industrial handling, storage, transfer and keeping of dangerous chemicals; demands set for explosives; manufacture, import, use, transfer, trade, delivery, possession, storage, keeping and disposal of explosives; relating devices and equipment and activities needed to prevent the explosion hazard caused by dust.

Objective of legislation

To prevent and avert damage to health, environment and property caused by the manufacture, use, transfer, storage, keeping and other handling of dangerous chemicals and explosives. The objective is also to promote general security.

Responsible Ministry/ Enforcement

Ministry of Trade and Industry/ Safety Technology Authority, rescue services and the police;

Customs and Boarder Guards

Some other ordinances given by virtue of the Act on the Safe Handling of Dangerous Chemicals and Explosives (390/2005) (or by its predecessor Act (263/1953))

- Government Decree on the Prevention of danger for workers caused by explosive atmospheres (576/2003)
- Decree on the Industrial handling and storage of dangerous chemicals (59/1999): prescribes in more detail industrial handling and storage of dangerous chemicals, the demands for equipment, the means to prevent chemical accidents; major accident prevention policy document and safety report derived from the so-called "Seveso

Directive". In the decree also permit applications, rescue plans and inspections are covered.

- Decree on the Equipment and protection systems intended for explosive atmospheres (917/1996)
- Decree on Explosives of the Defence Forces (648/1996)
- Decree on the industrial handling and storage of dangerous chemicals in the Defence Forces (78/1996)
- Decree on the Observation of qualification requirements of explosives (1384/1994)
- Gas Equipment Decree (1434/1993)
- Aerosol Decree (1433/1993)
- Natural Gas Decree (1058/1993)
- Liquefied Petroleum Gas Decree (711/1993)
- Explosives Decree (473/1993)
- Decree on Explosives of the Boarder Guards and the Police (731/1983)

4.2.3 Environmental Protection Act (86/2000)

Chemical use categories covered:

The act is applied to actions that cause or may cause contamination of the environment. The act is also applied to actions that generate waste and to the utilization or use of waste.

Objective of legislation

To prevent the contamination of the environment and to discharge and reduce the damage caused by contamination; to ensure healthy, pleasant, sustainable and polymorphous environment; to prevent the generation and harmful effects of waste; to support sustainable development

Responsible Ministries or Bodies, Implementation/Enforcement

Ministry of the Environment/ Regional Environment Centres

Some other chemicals related ordinances given by virtue of the Environmental Protection Act:

- Environmental Protection Decree (169/2000)
- Government Decrees on
  - Restriction of emissions of volatile organic compounds from the use of organic solvents in certain paints and varnishes and repair painting products of vehicles (837/2005)
  - Restriction of exhaust gas and particle emissions of combustion engines (844/2004)
  - Ozone at the lower atmosphere (783/2003)
  - Restriction of sulphur dioxide, nitrogen oxide and particle emissions from incineration sites and gas turbines of at least 50 megawatt fuel potency (1017/2002)
  - Services of equipment containing ozone depleting substances and certain fluorocarbons, and competence requirements of persons performing those services and waste management (1187/2001)
  - Air quality (711/2001)
  - Restriction of emissions of volatile organic compounds from the use of organic solvents in certain actions and companies (435/2001)

- Sulphur content of heavy fuel oil and light fuel oil (766/2000)
- Restriction of the entry of nitrates from farming into water (931/2000)

More information on the environmental protection legislation can be found from the website of the Finnish Environmental Administration.

4.2.4 Waste Act (1072/1993)

Chemical use categories covered:

Waste, prevention of its generation and reduction of its hazardous or harmful property, promotion of waste recovery, any other organization of waste management, prevention of littering and cleaning of sites which have become littered. The Act does not apply to waste explosives and radioactive and nuclear waste or waste which can be disposed of in the sea under the permit referred to in the Act on the Prevention of Marine Protection (415/1994).

Objective of legislation

To support sustainable development by promoting the rational use of natural resources, and preventing and combating the hazard and harm to health and the environment arising from wastes.

Responsible Ministry /Enforcement

Ministry of the Environment / Finnish Environment Authority, Pirkanmaa Regional Environment Centre, other Regional environment centres and municipal environment authority;

Customs (export and import and international shipment of waste)

Some other chemicals related ordinances given by virtue of the Waste Act:

- Government Decrees (or decisions) on
  - Restriction of hazardous substances in electrical and electronic equipment (853/2004)
  - Restriction of the use of certain hazardous substances in vehicles (572/2003)
  - Disposal of PCB and equipment containing PCB and handling of waste containing PCB (711/1998)
  - amalgam containing waste and waste water from dental care (112/1997)
  - information to be provided from hazardous waste and packaging and labelling of hazardous waste (659/1996)

- Ministry of the Environment Decree on the list of most common wastes and on the list of hazardous waste (1129/2001)

- Waste Decree (1390/1993)

4.2.5 Occupational Safety and Health Act (738/2002)

(English translation available at FINLEX)

and **Act on the Supervision of Occupational Safety and Health and Appeal in Occupational Safety and Health Matters** (131/1973; English translation available at FINLEX)

Chemical use categories covered:

The act is applied to work done under an employment contract or in a commission service.

Objective of legislation

To improve the working environment and conditions; to prevent and avert accidents at work, occupational diseases and other harm caused by the working environment for the health of workers

Responsible Ministries or Bodies, Implementation/Enforcement

Ministry of Social Affairs and Health/ Occupational Health and Safety Inspectorates

Some other chemicals related ordinances given by virtue of the Act on Safety at Work (or by its predecessor Act 299/1958):

- Government Decrees (or decisions) on
  - Chemical agents at work (715/2001); requires the assessment of chemical risks at a work place
    - Ministry of Social Affairs and Health Decree on occupational exposure limits (190/2002)
  - Cancer risk related to work (716/2000)
    - Ministry of Work Decision on factors causing a risk of cancer (838/1993)
  - Prevention of major accident hazard to the employees (922/1999)
  - Asbestos work (1380/1994)
  - Protection of employees against the hazard caused by biological factors related to work (1155/1993)
  - Lead work (1154/1993)
  - Applying the Act on Safety at Work to the handling and spreading of a plant protection product in forest work (538/1989)
  - Containers containing dangerous substances and labelling of those containers (421/1989)
- Act on the register of persons exposed occupationally to carcinogenic substances or processes (717/2001)

4.2.6 Act on Safety of Consumer Products and Consumer Services (75/2004)

Chemical use categories covered:

The Act concerns consumer products that are manufactured, marketed, sold, imported, exported or transferred and consumer services

Objective of legislation

The manufacturer or person responsible for placing on the market of a product or carrying on the business must ensure that the consumer product or service does not present danger to health or property of the consumer or a person near him.

Responsible Ministry/Enforcement

Ministry of Trade and Industry/ Consumer Agency, provincial governments, municipal enforcement authorities;

Customs

Some other chemicals related ordinances given by virtue of the Act on Safety of Consumer Products and Consumer Services (or by its predecessor Act (914/1986))

- Government Decree on information to be provided from consumer products and consumer services (613/2004)
- Decree on Detergents (211/1988)
- Decree on the maximum amount of formaldehyde in certain textile products (210/1988)

4.2.7 Act on Transport of Dangerous Goods (719/1994)

(English translation available at FINLEX)

Chemical use categories covered:

Dangerous chemicals transported by road, rail, air or water.

Objective of legislation

To prevent and avert any damage or hazard which the transport of dangerous goods may cause to people, environment or property.

Responsible Ministry/ Enforcement

Ministry of Transport and Communications/ the Finnish Maritime Administration, the Civil Aviation Administration, the Finnish Rail Administration, the Boarder Guards, the port authorities, Safety Technology Authority, the Vehicle Administration Centre and the Radiation and Nuclear Safety Authority of Finland

Some other chemicals related ordinances given by virtue of the Act on Transport of Dangerous Goods (English translations can be found from the website of the Ministry of Transport and Communications at www.mintc.fi)

- Decree of Council of State on Transport and Provisional Storage of Dangerous Goods at Harbour Area (251/2005)
- Government Decree on the Transport of Dangerous Goods by Road (194/2002)
- Decree of Ministry of Transport and Communications on the Transport Dangerous Goods by Road (277/2002)
- Government Decree on the Transport of Dangerous Goods by Rail (195/2002)
- Decree of Ministry of Transport and Communications on the Transport Dangerous Goods by Rail (278/2002)
- Decree on the Transport of Dangerous Goods in Packaged Form by Sea (666/1998)
- Decree on the Transport of Dangerous Goods by Air (210/1997)
- Decree on the Safety Adviser for the Transport of Dangerous Goods by Road and Rail (274/2002)
- Decree on a Driving Certificate of Drivers of Vehicles Carrying Dangerous Goods (1112/1998)

4.2.8 Other Acts that contain provisions concerning certain chemicals:

- Act on Cosmetic Preparations (22/2005)
  - Ministry of Trade and Industry Decree on Cosmetic Preparations (75/2005)
- Rescue Act (468/2003)
  - Government Decree on Rescue Services (787/2003)
- Act on the Safety of Toys (287/1997)
- Act on the approval of certain provisions of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, as well as on its application (346/1997)
- Act on Sea Protection (1415/1994)
- Health Protection Act (763/1994)
  - Health Protection Decree (1280/1994)
- Act on Environmental Impact Assessment Procedure (EIA) (468/1994)
  - Decree on Environmental Impact Assessment Procedure (268/1999)
- Act on the Prevention of the contamination of waters caused by vessels (300/1979)
  - Government Decree on the Prevention of oil pollution damages and vessel chemical damages (636/1993)
  - Decree on the Prevention of the contamination of waters caused by vessels (635/1993)
- Water Decree (282/1962)
- Water Act (264/1961)
  - Government Decree on the protection of ground waters from contamination caused by certain substances dangerous for health or the environment (364/1994)
  - Government Decree on the Entry into water of certain chemicals dangerous for health or the environment (363/1994)
- Pesticides Act (327/1969)
  - Pesticides Decree (792/1995)

4.3 Summary Description of Key Approaches and Procedures for Control of Chemicals

Information requirements
Notification of new substances
Evaluation and control of the risks of existing substances
Classification, labelling and packaging
Limitations on marketing and use
Industrial handling and use
Biocides
Pesticides
Transport of chemicals
Labour protection
Emissions
Environmental impact assessment
Future: EC REACH Regulation
Supervision
Actions for non-compliance

Information requirements

The manufacturer, importer, distributor or other person responsible for placing on the market of a chemical is responsible for providing to the user the data necessary for the safe handling of the chemical. For professional use of a chemical the information is provided by a safety data sheet, which has to be in Finnish or Swedish according to the user's wish. The Finnish manufacturer or importer responsible for placing a dangerous chemical on the market or for use in Finland (either professional or general public use) needs to also submit data on the chemical to the National Product Control Agency for Welfare and Health. The submitted data is based on the material safety data sheet, completed with

- identification codes (CAS-, EINECS-, ELINCS- etc.) for hazardous ingredients
- purpose of use of the chemical in verbal form and as codes
- additional information in cases where the chemical is needed for preventive and curative measures

If a chemical is classified dangerous, information has to be provided also on the amounts of the chemical manufactured or imported.

- *Decree of the Ministry of Social Affairs and Health on the Supplying of Information on Chemicals Causing Hazards* (374/2002)
- *Decree of the Ministry of Social Affairs and Health on the Supplying of Information on Amounts of Chemicals Classified Dangerous* (1233/2000)
- *Decree of the Ministry of Social Affairs and Health on the Safety Data Sheet* (1202/2001)

Notification of New Substances

Finland takes part in the EU-wide New Chemicals Notification Scheme. A substance is subject to notification if it is placed on the market in the European Economic Area and does not appear on the European Inventory of Existing Commercial Chemical Substances (EINECS) and if it is not covered by rules on exemptions. The purpose of the scheme is to undertake an assessment of a new substance before it is marketed, thereby allowing the necessary measures to be taken to protect man and the environment from exposure to unacceptable risks.

A new chemical notification is submitted to the National Product Control Agency for Welfare and Health if the substance is manufactured in Finland or manufactured outside the European Economic Area and placed on the market in Finland. The notification is subject to a fee. In this connection the Finnish Environment Institute is asked for an opinion on the environmental effects.

- *Chemicals Decree* (675/1993 *and amendments)*
- *Decision of the Ministry of Social Affairs and Health on the Notification Procedure Regarding New Substances* (1642/1993 *and amendments)*

Evaluation and Control of the Risks of Existing Substances

The European Union Programme on Existing Substances established under *Council Regulation 793/93/EEC on the evaluation and control of the risks of existing substances* is carried out in order to ensure the protection of humans, including employees and consumers, and of the environment. The substances of most concern are prioritised in so-called priority lists of substances and substances for evaluation are taken from the lists. Based on the data on substances produced or imported above certain quantities and distributed by European industry, a systematic evaluation of the risks involving existing substances appearing in the EINECS (European Inventory of Existing Commercial Substances) will be finalized by rapporteurs in the Member States. The Finnish competent authorities are the Finnish Environment Institute and the National Product Control Agency for Welfare and Health.

Finland has been so far nominated as the rapporteur of 5 substances. The risk assessment procedure for two substances; MTBE (methyl tert-butyl ether), and hydrogen peroxide have been carried out. Also the risk reduction strategies for the two substances have been prepared by the Finnish authorities. The assessments of the three other substances are at the finishing stage.

- *Council Regulation 793/93/EEC on the evaluation and control of the risks of existing substances*
- *Decree on the Duties of and Cooperation Between Authorities Pertaining to Evaluation and Control of the Risks of Existing Substances* (813/1995)

Classification, labelling and packaging

The Finnish legislation on classification and labelling of dangerous substances correspond to those laid down in EC Directive 67/548/EEC. Preparations are classified and labelled according to EC Directive 1999/45/EC.

Dangerous chemicals are classified into categories that describe the dangerous properties. *The decree of the Ministry of Social Affairs and Health on the list of dangerous substances* contains a list of harmonised classification and labelling of around 3000 substances. The list is identical with Annex I of Directive 67/548EEC including the adaptations to technical progress until the 28th time. If a substance is not mentioned in the list of dangerous substances, properties of the substance have to be clarified by the person responsible for the placing a chemical on the market. The properties and classification of a chemical are clarified on the basis of the criteria provided in Annex VI of the Substances Directive.

Tests on properties of chemicals shall be carried out according to the methods laid down in Annex V of Directive 67/548/EEC and also in compliance with the principles of good laboratory practice (GLP) provided in Directive 87/18/EEC (the same as the OECD principles of GLP). Testing laboratories are approved by the National Product Control Agency for Welfare and Health. The inspection and approval is subject to a fee.

- *Chemicals Act* (744/1989)
- *Chemicals Decree* (675/1993)
- *Decree of the Ministry of Social Affairs and Health on the Criteria for Classification and Labelling of Chemicals* (807/2001)
- *Decree of the Ministry of Social Affairs and Health on Child-resistant Fastening and Tac tile Warning of Danger in the Packaging of a Dangerous Chemical* (430/2001)
- *Decree of the Ministry of Social Affairs and Health on the Safety Data Sheet* (1202/2001)
- *Decree of the Ministry of Social Affairs and Health on the Supplying of Information on Chemicals Causing Hazard* (374/2002)
- *Decree of the Ministry of Social Affairs and Health on the List of Dangerous Substances* (509/2005)

Limitations on marketing and use

The EC Directive 76/769/EEC gives provisions on restrictions to chemicals that are considered to harm significantly health or the environment. In Finland the provisions of that Directive are in force and they are transposed mostly by Government Decrees (formerly by decisions), listed in Chapter 4.2.1. The ban or restriction can cover use, production, import, export and placing on the market of chemicals, products or materials. The occupational safety authorities and the municipal chemicals control authorities supervise the compliance of the bans and restrictions.

The EC Regulations on Detergents (648/2004), on Substances that deplete the ozone layer (2037/2000) and on Persistent organic pollutants (850/2004) are also in force in Finland, as is the EC Regulation 304/2003 on exports and imports of dangerous chemicals (international prior informed consent procedure, PIC). The notifications of the exports to and imports from third countries of banned or severely restricted chemicals are to be submitted to the competent authority, the Finnish Environment Institute.

- *Bans and restrictions issued by the Government can be found at Chapter 4.2.1.*
- *Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants and amending Directive 79/117/EEC*
- *Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents*
- *Regulation (EC) No 304/2003 of the European Parliament and of the Council concerning the export and import of dangerous chemicals*

- *Government Decree on export notifications of certain dangerous chemicals (15/2005)*
- *Regulation (EC) No 2037/2000 of the European Parliament and of the Council on substances that deplete the ozone layer*

Industrial Handling and Storage of Dangerous Chemicals

The purpose of the supervision of industrial handling and storage of dangerous materials is to ensure that the manufacturer has taken precautions in advance in order to prevent explosions, fires, releases, operation errors, equipment failures or other accidents, and to limit their consequences. A licence for industrial handling and storage of dangerous chemicals is applied from the Safety Technology Authority when industrial handling or storage is of a large scale. When industrial handling or storage is of a small scale a notification must be done to the rescue authority. The scale of operation is determined on the basis of amounts and properties of dangerous chemicals handled or stored in the plant. The application for a licence has to be submitted before the construction work begins on the installation. An installation shall be situated, designed and constructed so that a risk of accidents is effectively prevented and minimised. Detailed technical and safety provisions are given by the Ministry of Trade and Industry and by the Safety Technology Authority.

An English brochure is published on the Seveso II Directive in Finland; *Dangerous Chemicals in Industry*, at the website of the Safety Technology Authority (www.tukes.fi).

- *Act on the Safe Handling on Dangerous Chemicals and Explosives (390/2005)*
- *Decree on the Industrial Handling and Storage of Dangerous Chemicals (59/1999)*
- *Other statutes mentioned in Chapter 4.2.2*

Biocides

The Biocidal Products Directive 98/8/EC regulates pesticides that are not used for agricultural purposes. Biocidal products are used to destroy, prevent, make harmless or otherwise control the effects of harmful organisms. The Biocidal Products Directive is implemented in Finland by amendment to the Chemicals Act. The detailed provisions of the Directive are included in the decrees of the Government, the Ministry of the Environment and the Ministry of Social Affairs and Health.

According to the statutes, only biocidal products and active substances that have been evaluated and authorised may be placed on the market in the EU. The active substances are evaluated at the Community level and the biocidal products at the national level. In the evaluation procedure, health and environmental effects are assessed, together with the efficacy of the product and the judgement on the need of the intended use. The competent authorities in Finland are the Finnish Environment Institute (for environmental issues) and the National Product Control Agency for Welfare and Health (for health issues).

Commission Regulations 1896/2000, 2032/2003 and 1048/2005 contain provisions for the first and second phases of an European Union wide review program for the evaluation of the existing active substances in biocidal products.

- *Chemicals Act (744/1989 and especially the amendment 1198/1999)*
- *Government Decree on Biocidal Products (466/2000)*
- *Ministry of the Environment Decree on the Applications and Notifications Concerning Biocidal Products and Their Active Substances (467/2000)*

- *Ministry of Social Affairs and Health Decree on the Packaging and Labelling of Biocidal Products (422/2000)*
- *Commission Regulation (EC) No 1896/2000 on the first phase of the programme referred to in Article 16(2)of Directive 98/8/EC of the European Parliament and of the Council on biocidal products*
- *Commission Regulation (EC) No 2032/2003 on the second phase of the 10-year work programme referred to in Article 16(2) of Directive 98/8/EC of the European Parliament and of the Council concerning the placing of biocidal products on the market, and amending Regulation (EC) No 1896/2000*
- *Commission Regulation (EC) No 1048/2005 amending regulation (EC) No 2032/2003 on the second phase of the 10-year work programme referred to in Article 16(2) of Directive 98/8/EC of the European Parliament and of the Council concerning the placing of biocidal products on the market*

The Biocidal Products Directive has a long transitional period (up to 10 years from 14 May 2000), during which previous national approval or registration measures for wood preservatives, slimicides, repellents and rodenticides are applied. According to the new national legislation also antifouling products have to be approved.

- *The Chemical Preservatives Decree (123/1994)*
- *Ministry of the Environment Decision on the Advance Approval and Notification Procedure for Chemical Preservatives (256/1994)*

Plant Protection Products (and Other Pesticides)

Finland has traditionally had a national advance approval system for pesticides. After becoming a member of the EU, Finland adopted the Council Directive 91/414/EEC concerning the placing of plant production products on the market. Most of the provisions concerning pesticides are laid down in the Pesticides Act (327/1969, currently under revision by the Ministry of Agriculture and Forestry) but some provisions of the Chemicals Act, the Foodstuffs Act etc. concern also pesticides.

In Finland the *Pesticide Commission* approves the plant protection products and other pesticides and their instructions for use. A person responsible for the placing on the market of a plant protection product or other pesticide must submit a registration application provided with information of the product to the Plant Production Inspection Centre.

After the transitional period of the Biocidal Products Directive, the so-called other pesticides (rodenticides, insecticides used inside at homes, cowsheds and storages as well as structural installations and insect repellents) are regulated as biocides.

- *Pesticides Act (327/1969 and amendments)*
- *Pesticides Decree (792/1995 and amendments)*
- *Chemicals Act (744/1989)*
- *Foodstuffs Act (361/1995 – a new act is under preparation)*
- *Act on Foodstuffs hygiene of foodstuffs of animal origin (1195/1996)*
- *Act on medicating animals (617/1997)*
- *Act on Feeding stuffs (396/1998)*

Transport of chemicals

In Finland the international conventions (ADR, RID, MARPOL, SOLAS and Chicago) and the EC legislation on the transportation rules of chemicals are in force. Chemicals has to be classified, packaged and labelled according to those international regulations. The regulations concerning domestic transport by road are based on the ADR agreement with minor deviations and on the RID, ICAO-TI and IMDG-Code.

The Finnish national legislation is translated into English and it is available on the website of the Ministry of Transport and Communications (www.mintc.fi/vak). The most important piece of legislation is the Act on transport of dangerous goods (719/1994) that gives provisions on all forms of transport (rail, road, and air). The sea transport is regulated separately.

➢ *Legislation on transport of dangerous goods is listed in Chapter 4.2.7*

Labour protection

The main objective of occupational safety and health is to maintain and develop health, safety and work ability of the employee as well as to prevent occupational accidents and illnesses. The occupational safety and health administration works in close cooperation with the labour market organisations. The provisions on occupational safety are laid down mostly by the Council of State and, if power delegated by the law, by the Ministry of Social Affairs and Health and its Department of Occupational Safety. A recent publication on the matter is available in English; Occupational Safety and Health in Finland, on the website of the Ministry; www.stm.fi). The publication describes the system and actors of occupational safety and health in Finland.

According to the legislation on labour protection, a risk assessment shall be made by the employer at the work place where chemicals are used. If an unacceptable risk is found, the necessary risk reduction measures shall be taken.

The recent survey of the Finnish Institute of Occupational Health provides new information on the current situation of occupational health related to chemicals. The survey was made for the National Chemical Programme of Finland. According to the survey, chemicals still are the most important factor causing occupational diseases. About 2000 cases of occupational diseases induced by chemicals are annually reported to the respective registry. The most common single chemical causing diseases is still asbestos. The asbestos diseases usually appear decades after the exposure. The ban to use asbestos has been in force since 1992, and demolition of asbestos is strictly controlled, to prevent new occupational asbestos diseases.

The Finnish Institute of Occupational Health may monitor the concentrations of chemicals in the air and exposure to chemicals at work places. The measurements have been done by the Finnish Institute of Occupational Health at about 1000 work places. Also the companies themselves may carry out exposure assessments and some of the companies have their own occupational hygienists.

More information in Chapter 3.

Emissions

The Environmental Protection Act prescribes that pollution of soil and groundwater is prohibited. In the prevention of pollution one has to take into consideration the principles of prevention and minimization of harms, caution and carefulness, best available technique, environmentally best practise and the polluter pays principle. The releases must not cause harm for the environment nor other significant risk or danger of environmental pollution. The Environmental Protection Act transposes also the EC Directive called IPPC (Integrated Pollution Prevention Control Directive 96/61/EC) that concerns major industrial plants.

Environmental impact assessment

The Act on Environmental Impact Assessment Procedure (EIA) (468/1994) aims to further the assessment of environmental impact and the consistent consideration of this impact in planning and decision-making, and at the same time to increase the information available to citizens and their opportunities to participate in decision-making.

The act is applied to projects where compliance with international agreements involving Finland requires assessment to be carried out, or which may have significant adverse environmental impacts on Finnish wildlife or other special features of the environment.

The environmental impact of programmes, policies and plans by the authorities must be assessed and taken into account, which requires all spheres of government to re-assess their own operations.

Certain projects always require an EIA procedure. These include oil refineries, pulp, paper and board mills, large harbour projects, motorways and major hazardous waste disposal facilities. The procedure can also be applied in individual cases to a specific project or in the case of an essential change in an already completed project. In such cases, the Ministry of the Environment decides on the need for an EIA.

- *Act on Environmental Impact Assessment Procedure (468/1994)*
- *Decree on Environmental Impact Assessment Procedure (268/1999)*

(Source: www.ymparisto.fi)

Future: EC REACH Regulation

In the European Union a new legislative system for the management of chemicals is in preparation. In October 2003, the European Commission issued a proposal for a new regulatory framework for chemicals. The proposal is now under reading in the European Council and European Parliament. The new legislation will be given in a form of a Regulation which means that it will be directly applicable in all EU Member States without national transposition.

The new system is called REACH, from the words Registration, Evaluation and Authorization of CHemicals and it contains those elements. The manufacturers and importers of chemicals have to produce more information on their substances for the safe handling of the chemical. By the REACH Regulation a new European Chemicals Agency will be established and it will be located in Helsinki, Finland. The Agency will be responsible for the everyday management of technical, scientific and administrative aspects of REACH. This will mean for example operating the registration process, providing technical and scientific guidance and tools for the industry and the Member States and publishing data on chemicals to several different databases.

More information on the new REACH system is available on the European Commission websites:

Enterprise DG: http://europa.eu.int/comm/enterprise/reach/
Environment DG: http://europa.eu.int/comm/environment/chemicals/reach.htm
and on the European Chemicals Agency on the website of the City of Helsinki:
http://www.hel.fi/eca/

Supervision

The supervision procedure of chemicals legislation in Finland (and in the European Union) is divided into product supervision and use and conditions supervision. Product supervision can further be divided into advance supervision and market supervision. Advance supervision means measures that have to be taken before placing a product on the market. For example the advance approval and notification procedures of new substances, plant protection products and biocides are means of advance supervision of chemicals (see Chapter 4.4).

The authorities carry also out market enforcement of products already on the market. The conformity with legislation (classification and labelling, packaging, safety data sheet etc.) of specified chemical groups on the market is checked annually by market enforcement projects of the National Product Control Agency for Welfare and Health and of the Provincial Governments. For example windscreen cleaners containing methanol, detergents, photography chemicals and car care chemicals are product groups that have been checked in annual market enforcement projects.

More information on the market enforcement can be found at the website of the National Product Control Agency for Welfare and Health; www.sttv.fi.

Supervision to control the use and storage of chemicals is carried out in order to ensure that the provisions of the corresponding legislation are followed. For example different permit and notification procedures for industrial handling and storage of chemicals are a part of the use and conditions supervision (see Chapter 4.4). Means of preventing major accident hazards are derived from the so-called Seveso Directive and are harmonised in the whole of European Union.

The Finnish Environment Institute has a supervision role in the prevention and averting environmental damage. It supervises also environmental permits together with regional environment centres.

The customs may control chemicals at the border if they are entering the Finnish market from outside the EEA. Of chemicals entering the Finnish market from any EEA State, the customs may take samples for market enforcement purposes, but this control may not prevent the free movement of the chemical to the Finnish market.

Actions for non-compliance

The actions for non-compliance of the legislation are not harmonised in the European Union. In the national acts the actions for non-compliance are mentioned in every act separately. Mostly the actions are fines and conditional impositions of fines. For example for non-delivery of the needed material safety data sheet one can be sentenced for a chemical offence to a fine (Chemicals Act, section 52).

4.4 Non-regulatory Mechanisms for Managing Chemicals

Responsible Care programme

Responsible Care is the environment, health and safety initiative of the chemical industry. It is a voluntary programme operating in almost 50 countries. Responsible Care began in Canada in 1984 and Finland joined the programme in May 1992. The Chemical Industry Federation of Finland acts as co-ordinator for the initiative in Finland.

Companies participating Responsible Care commit themselves to continuous improvement in performance as regards environment protection, health and safety and to openness in communication about its activities and achievements.

At present there are 114 companies committed to Responsible Care. In terms of total production volumes, over 80 per cent of the Finnish chemical industry has joined the Responsible Care initiative. The member companies' total workforce of 23 200 accounts for over 60 percent of all chemical industry employees. Responsible Care is represented in both small and large companies.

In Finland the programme is implemented in companies refining oil, manufacturing basic chemicals and chemical products as well as those manufacturing plastic products. A Responsible Care partnership programme has been agreed and signed along with the Association of Finnish Technical Traders in 1998, that allows chemical distributors to commit to the Responsible Care initiative. At the moment (2005) there are 23 companies that are committed to the distributors' RC Program, accounting for about 90 % of the chemical distribution business in Finland

(Source: Chemical Industry Federation of Finland and the Association of Finnish Chemical Traders)

Other voluntary environmental management systems used are the systems in accordance with ISO 14001 standard and EC Regulation 761/2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme EMAS. The national tool for the EMAS is Act (914/2002).

4.5 Comments/Analysis

In Finland a project for the generation of a National Chemicals Program is in progress. Possible overlaps and gaps in the chemicals control system in Finland are to be identified and written down during the preparation of the National Program.

Chapter 5: Ministries, Agencies and Other Institutions Managing Chemicals

5.1 Responsibilities of Different Government Ministries, Agencies and Other Institutions

The responsibilities of authorities in chemicals control are divided between several ministries and their subordinated agencies and institutes. The division of duties according to the Chemicals Act (744/1989) and the Act on the Safe Handling of Dangerous Chemicals and Explosives (390/2005) is represented in the picture below. A rough line is divided so that the Ministry of the Environment takes care on the prevention of environmental hazards, the Ministry of Social Affairs and Health takes care on the prevention of health hazards (both public health and occupational health) and fire and explosion hazards and the Ministry of Trade and Industry takes care on the industrial handling and storage of chemicals (to prevent major accidents).

In addition, the Ministry of the Interior takes care on rescue issues and the Ministry of Transport and Communications takes care on the transport issues of dangerous chemicals. All these ministries also have subordinated agencies or institutes that manage chemicals control and supervision.

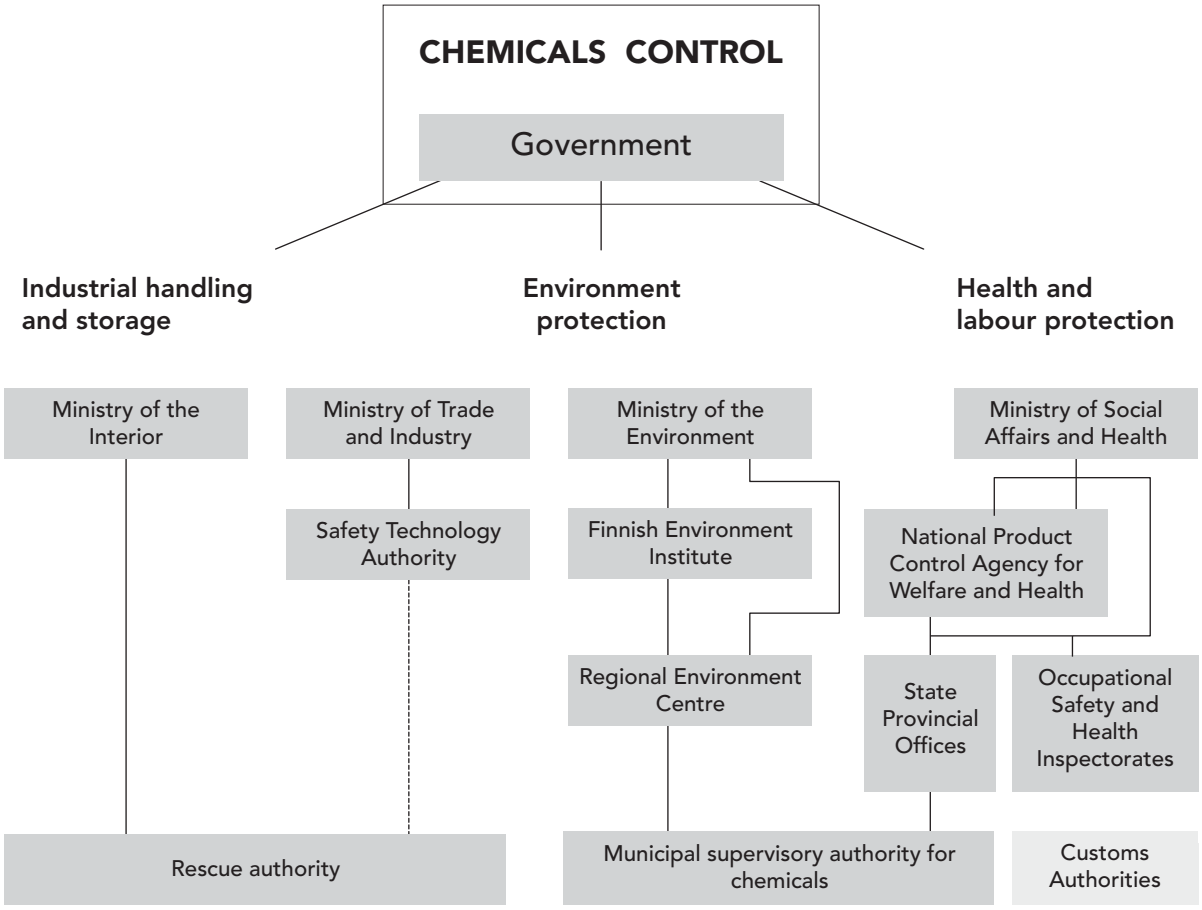


Fig. 1. Administration according to the Chemicals Act and the Act on the Safe Handling of Dangerous Chemicals and Explosives.

Table 5.A.1: Responsibilities of Government Ministries, Agencies and Other Institutions

Stage of Life- Cycle /Ministry Concerned	Imports	Pro-duction	Storage	Transport	Distrib-ution/ Marke-ting	Use /Hand-ling	Disposal
Ministry of the Environment (environmental issues)	X	X	X		X	X	X
Finnish Environment Institute (environmental issues)	X	X	X		X	X	X
Regional Environment Centres (environmental issues)		X	X		X	X	X
Ministry of Social Affairs and Health (health issues)	X	X	X		X	X	
National Product Control Agency for Welfare and Health (health issues)		X	X		X	X	
Radiation and Nuclear Safety Authority (radioactive substances only)	X	X	X	X	X	X	X
Ministry of Agriculture and Forestry (pesticides)	X	X	X	X	X	X	
Plant Production Inspection Centre (pesticides)	X	X	X	X	X	X	
Ministry of Trade and Industry (industrial handling and use; consumer affairs and product safety)		X	X		X	X	
Safety Technology Authority (industrial handling and use)		X	X		X	X	
Consumer Agency (consumer affairs and product safety)					X	X	
Ministry of Transport and Communications (transport of dangerous goods)			X	X			
Finnish Maritime Administration (transport of dangerous goods by sea)				X			
Ministry of the Interior (rescue work)						X	
Ministry of Defence (chemicals management when used in the defence activities)	X	X	X	X	X	X	
Defence staff (chemicals management when used in the defence activities)	X	X	X	X	X	X	
State Provincial Offices (local supervision of chemicals)		X			X	X	X
Occupational Health and Safety Inspectorates (supervision in work places)	X	X	X	X	X	X	X
Municipal Supervisory authority for chemicals (market surveillance and local supervision), **Chief fire officer** (supervision of fire and explosion hazardous chemicals and small scale industrial handling and use)		X	X		X	X	X
Customs (import)	X						

5.2 Description of Authorities and Mandates

Ministry of Social Affairs and Health

Health Department

P. O. Box 33, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. +358-9-160 01, Fax +358-9-1607 4120

Occupational Safety and Health Department

P.O. Box 536, FI-33101 Tampere, Finland,
Tel. +358 9 160 01, Fax +358 9 1607 2511
E-Mail: givenname.surname@stm.fi
Internet: http://www.stm.fi/Resource.phx/eng/index.htx

The Ministry of Social Affairs and Health is responsible for the superior management and guidance of the control of health hazards and fire and explosion hazards caused by chemicals. It is responsible for the general coordination of chemicals legislation and prepares legislation on classification, labelling and packaging of dangerous chemicals and on labour protection and working conditions. It also gives stipulations on bans and restrictions concerning health hazards caused by chemicals.

The Health Department of the Ministry of Social Affairs and Health is responsible for preventing and averting health hazards and fire and explosion hazards caused by chemicals.

The Occupational Safety and Health Department is responsible for the legislation on safety data sheets of chemicals and also for the superior control of classification and labelling of chemicals. It stipulates the use of chemicals at work places.

National Product Control Agency for Welfare and Health: Chemicals Department

P.O. Box 210, FI-00531 Helsinki, Finland
Tel. +358 9 3967 270, Fax +358 9 3967 2797
E-Mail: givenname.surname@sttv.fi
Internet: http://www.sttv.fi

The National Product Control Agency for Welfare and Health has the supreme control of the compliance with the provisions concerning the prevention of health hazards and fire and explosion hazards caused by chemicals. It handles the notification procedure of new substances and assesses risks of existing chemicals, related to health hazards and fire and explosion hazards. The Agency is also responsible for the authorisation of biocides in respect of health hazards, approval of laboratories testing chemicals according to the Good Laboratory Practice and for issues relating to the classification and labelling of chemicals in respect of health hazards and fire and explosion hazards.

National Product Control Agency for Welfare and Health; Product Register Unit

P.O. Box 686, FI-33101 Tampere, Finland
Tel. +358 3 260 8200, Fax +358 3 260 8222

The Product Register Unit of the National Product Control Agency for Welfare and Health is responsible for keeping the product register and for chemicals data collection.

Occupational Health and Safety Inspectorates
http://www.tyosuojelu.fi/hallinto/english/piirit/Default.htm

In Finland there are 8 Occupational Health and Safety Inspectorates that are divided over the country. Their task is to survey the hazards and to see that the risks at work places are assessed and are controlled. The Inspectorates control the classification and labelling of chemicals used at work places. They also control the safety data sheets and other information and supervise that bans and restrictions given for chemicals are complied with.

Radiation and Nuclear Safety Authority:
P.O. Box 14, FI-00881 Helsinki, Finland
Tel. +358 9 759 881, Fax +358 9 7598 8500
E-Mail: givenname.surname@stuk.fi
Internet: http://www.stuk.fi/english/

The Radiation and Nuclear Safety Authority (STUK) sets the regulations for the use of radiation and nuclear energy and supervises that they are followed. STUK is also an expert institute that carries out research on radiation and its effects, determines risks caused by radiation and monitors the radiation safety of the Finnish environment. It grants licences for import, transport, manufacture, possession, use and export of radioactive substances and licences for use of machines and equipment emitting ionising radiation.

Ministry of the Environment

Environmental Protection Department
P.O. Box 35, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. +358 9 160 07, Fax +358 9 1603 9545
E-Mail: givenname.surname@ymparisto.fi
Internet: http://www.ymparisto.fi/

The Finnish Ministry of the Environment is responsible for ensuring that the environmental perspective is given proper consideration in international cooperation and society, and at all levels of government.

The Ministry of the Environment is responsible for the superior management and guidance of the control of environmental hazards caused by chemicals. It gives stipulations regarding biocides and export and import notifications and also regarding bans and restrictions to prevent hazards to the environment.

It prepares legislation on the protection of air, water and soil and on chemical and other waste.

Finnish Environment Institute:
Expert Services Department, Chemicals Division
P.O. Box 140, FI-00251 Helsinki, Finland
Tel. +358 9 403 000, Fax + 358 9 4030 0190
E-Mail: givenname.surname@ymparisto.fi
Internet: http://www.ymparisto.fi/

The Finnish Environment Institute is responsible for the supreme control of the compliance with the provisions concerning the prevention of environmental hazards caused by chemicals. It takes care of the authorisation of biocides concerning environmental hazards, the assessment of environmental hazards of pesticides and medicines, of export notifications on banned or severely restricted chemicals and of the risk assessment of existing chemicals concerning hazards to the environment. The Institute manages also the classification and labelling of chemicals in relation to hazards for the environment. It provides opinions on environmental effects of chemicals for the notification procedure of new substances. It can give provisional bans and restrictions to prevent harm to the environment caused by chemicals and propose them to the Government.

The Finnish Environment Institute is both a research institute and a centre for environmental expertise. Its research programmes assess environmental problems from a multi-disciplinary perspective, by integrating socio-economic considerations into scientific research.

Municipal Supervisory Authority for Chemicals

In Finland there are 444 municipalities. According to the Chemicals Act, the duty to control the provisions in the Chemicals Act and in statutes given by the Act is directed to a Municipal Supervisory Authority for Chemicals. One municipal authority may be directed for either only one or for several municipalities together.

The duty of the Municipal Supervisory Authority for Chemicals is, among other things, to supervise the retail trade of chemicals. They also supervise the classification and labelling of chemicals placed on the market, new substances and biocidal products and control that safety data sheets are compiled.

The tasks of the municipal authorities vary from one municipality to another depending on the local circumstances.

State Provincial Offices and Regional Environment Centres

The State provincial offices and Regional environment centres are responsible, in their own spheres of authorities, for the guidance and control of municipalities in complying with the Chemicals Act.

Ministry of Trade and Industry

P.O. Box 32, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. + 358 9 160 01, Fax + 358 9 1606 3666
E-Mail: givenname.surname@ktm.fi
Internet: http://www.ktm.fi/

The Ministry of Trade and Industry is responsible for the supreme management and guidance of the control of the legislation concerning industrial handling and storage of dangerous chemicals. It prepares legislation also on explosive substances and general product safety. It is also responsible for the legislation concerning foodstuffs and additives.

Safety Technology Authority:

P.O. Box 123, FI-00181 Helsinki, Finland
Tel. +358 9 616 71, Fax +358 9 605 474
E-Mail: givenname.surname@tukes.fi
Internet: http://www.tukes.fi/

The Safety Technology Authority is responsible for the superior control of the compliance with the provisions concerning industrial handling and storage of chemicals dangerous for health and the environment. It grants permits for large scale industrial handling and storage of dangerous chemicals and is responsible for keeping of the permit register. It maintains and promotes the technical safety culture and reliability in order to protect people, property and the environment.

Under the Ministry of Trade and Industry works also

The National Consumer Agency that monitors the compliance with product safety legislation and disseminates consumer information and advice.
The National Consumer Research Centre is a neutral and independent research institute that carries out research on consumer goods, the position of consumers and the effects of consumption.

The Consumer Complaint Board issues recommendations concerning consumer disputes involving with the quality of goods and services and the performance of a trader.

Ministry of Agriculture and Forestry

Food and Health Department

P.O. Box 30, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. + 358 9 160 01, Fax + 358 9 1605 4202
E-Mail: givenname.surname@mmm.fi
Internet: http://www.mmm.fi/english/

The Ministry of Agriculture and Forestry has the supreme management and guidance for pesticides together with the health of animals and plants and of foodstuffs of animal origin.

Plant Production Inspection Centre: Plant Protection Department

P.O. Box 42, FI-00501 Helsinki, Finland
Tel. +358 9 02077 2003, Fax +358 9 02077 25195
E-Mail: givenname.surname@kttk.fi
Internet: http://www.kttk.fi/

The Plant Production Inspection Centre (KTTK) is the central competent authority responsible for the supervision of trade and use of plant protection products. KTTK is responsible for the preparation and introducing of decisions to the Pesticide Commission and registration duties of pesticides.

The Pesticide Commission decides on the plant protection products to be used as pesticides in Finland. After approval, KTTK includes the product in the pesticide register. The list of approved pesticides is published annually on the website of KTTK.

The Pesticide Division has many other tasks including

- Co-ordinating EU evaluation work of certain active substances of plant protection products
- Evaluating of Good Experimental Practise (GEP) in biological efficacy testing
- Controlling of GEP approved institutions
- Organizing education and special exams for the use of the most dangerous products
- Publishing the statistics on sales of pesticides

Ministry of Transport and Communications

Transport Policy Department, Traffic Safety Unit

P.O. Box 31, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. + 358 9 160 02, Cax + 358 9 160 28597
E-Mail: givenname.surname@mintc.fi
Internet: http://www.mintc.fi/

The Ministry of Transport and Communications has the supreme management and guidance of transport of dangerous goods by air, railway, road and water.

Finnish Maritime Administration

P.O. Box 171, FI-00181 Helsinki, Finland
Tel. +358 0 204 481, Fax +358 0 204 48 4355
E-Mail: givenname.surname@fma.fi
Internet: http://www.fma.fi

The Finnish Maritime Administration is the authority responsible for maritime safety and security, winter traffic assistance, fairway maintenance, Vessel Traffic Service (VTS) and pilotage, hydrographic charting and the provision of ferry services to the archipelago communities.

The Finnish maritime Administration finances its services for merchant shipping by charging its customers fairway fees. It also conducts official and public services which are financed out of the government budget.

Ministry of the Interior

P.O. Box 26, FI-00023 GOVERNMENT (Helsinki), Finland
Tel.: + 358 9 160 01, Fax + 358 9 160 44635
E-Mail: givenname.surname@intermin.fi
Internet: http://www.intermin.fi/en

The Ministry of the Interior has the supreme management and guidance of rescue services in Finland. This includes also the accidents where chemicals are concerned.

Rescue authority

The rescue authority (Rescue Departments at State Provincial Offices) is, among other things, responsible for the supervision of small scale industrial handling and storage of chemicals. The rescue authority works in cooperation with the Municipal Supervisory Authorities for Chemicals.

There are 22 **rescue service** regions in Finland.

Ministry for Foreign Affairs

Merikasarmi
P.O.Box 176, FI-00161 Helsinki, Finland
Tel.: +358 9 160 05 or 578 15, Fax: +358 9 629 840 or 1605 5799
E-Mail: kirjaamo.um@formin.fi
Internet: http://www.formin.fi/english/

The Ministry for Foreign Affairs is the implementing authority of the Convention on the Prohibition of Chemical Weapons. Finnish Institute for Verification of the Chemical Weapons Convention (VERIFIN) acts as the National Authority of Finland for the Chemical Weapons Convention, undertakes CWC-related research and provides training for chemists from developing countries.

Customs

The Customs is responsible for the supervision of the compliance with the provisions concerning the export and import of chemicals.

Ministry of Defence and the Defence Staff

The Ministry of Defence and the Defence Staff are responsible for handling of chemicals when they are used in the activities of the defence forces.

5.3 Comments/Analysis

In Finland the Chemicals Act, the Act on Occupational Safety and Health and the Act on the Safe Handling of Dangerous Chemicals and Explosives are the main acts concerning chemicals. The Chemicals Act and the Act on Occupational Safety and Health belong to the sphere of authority of the Ministry of Social Affairs and Health and the Act on the Safe Handling of Dangerous Chemicals and Explosives to the Ministry of Trade and Industry. The Acts pertain all handling of chemicals excluding transport, which belongs to the sphere of authority of the Ministry of Transport and Communications. In addition, the Ministry of the Interior's Department for Rescue Services is responsible for running and supervising rescue services nationwide.

According to the Acts, the chemicals' administration is divided mainly with the three ministries; The Ministry of Social Affairs and Health, The Ministry of the Environment and The Ministry of Trade and Industry. Each of them work in their own spheres of authority as described above. They represent the superior management and guidance of the provisions given in and by the Chemicals Act and the Act on the Safe Handling of Dangerous Chemicals and Explosives. The Ministries all have a subordinate institute that is responsible for the superior control of the provisions.

The National Product Control Agency for Welfare and Health is subordinated to the Ministry of Social Affairs and Health, the Finnish Environment Institute is subordinated to the Ministry of the Environment and the Safety Technology Agency is subordinated to the Ministry of Trade and Industry.

The Occupational Health and Safety Inspectorates, the Rescue Authorities and the Municipal Supervisory Authorities for Chemicals take care of the practical control of the compliance with the provisions given by the Chemicals Act. The supervision is divided sectorally.

When necessary, the Police may provide executive assistance for the control authorities.

The research institutions under the ministries (especially the National Public Health Institute and the Finnish Institute of Occupational Health and the research role of the Finnish Environment Institute) provide important expertise in the preparation and supervision of chemicals related legislation.

Chapter 6: Relevant Activities of Industry, Public Interest Groups and the Research Sector

As Finland is quite a small country in terms of population, efficient cooperation between governmental and non-governmental organisations is within reach. In Finland the different sectors have their own representative organisations and the discussion takes place both between the non-governmental organisations, industry associations and research institutions themselves and between the governmental authorities and non-governmental organisations. Many non-governmental organisations take part in the advisory committees of relevant matters and thus participate in the decision making system.

Here are briefly described only some relevant non-governmental organisations and their role in the chemicals management.

Industry:

The industry is active in improving chemical safety for example with the programmes Responsible Care, Product Stewardship, Safety 24h (cooperation with labour associations) and Finnterc (a network for transport safety). The industry provides also publications and training on chemical safety issues. The Chemical Industry Federation of Finland takes part in international chemical associations such as Cefic in Europe and ICCA globally. In Finland also the Union of Technical Traders takes part in the Responsible Care program, with 78% of companies committed to the program.

Chemical Industry Federation of Finland
Association of Finnish Paint Industry
Finnish Cosmetic, Toiletry and Detergent Association
Finnish Bioindustries
Finnish Crop Protection Association
Finnish Plastics Industries Federation
Finnish Printing Ink Association
Pharma Industry Finland
Confederation of Finnish Industry and Employers

Union of Technical Traders

More information can be found on the website of the Chemical Industry Federation of Finland; www.chemind.fi

Labour associations and other labour activities:

Chemical Workers' Union (Kemianliitto-Kemifacket ry)

The Chemical Workers' Union is an association of workers with about 49 000 members. It makes the collective labour agreements for its members for example in the field of basic chemical industry, rubber industry, plastics industry and oil, gas and petrochemical industry. The Chemical Workers' Union pleads for better working environment and occupational safety.

Centre for Occupational Safety (Työturvallisuuskeskus)

The Centre for Occupational Safety produces and distributes information to workplaces on the development of working conditions. The activities are funded mainly by the Finnish Work Environment Fund.

Finnish Work Environment Fund (Työsuojelurahasto)

The Finnish Work Environment Fund is promoted to fund research and development work which improves the working conditions and promotes the safety and productivity aspects of the working place activities.

Research Institutions:

Finnish Institute of Occupational Health (Työterveyslaitos)

The Finnish Institute of Occupational Health is a research and specialist organization in the sector of occupational health and safety. It conducts research, provides information and gives training and advice services on issues relating to occupational health and safety. It also maintains a chemical safety website (in Finnish) providing information for the safe use of chemicals, notably in the work environment. The information may also be useful to consumers.

The six Regional Institutes of Occupational Health divided over the country work for chemical safety and among other activities provide services for occupational hygiene and toxicology.

National Public Health Institute (Kansanterveyslaitos)

The National Public Health Institute is a research and specialist organization with the aim of promoting people's possibilities to live a healthy life. In addition to research work, it provides for example expert functions, health monitoring, education and training and participates in the dissemination of health information and health education. Two experts of the Department of Environmental Health of the Institute participate also in the European Commission Scientific Committee on Health and Environmental Risks.

Finnish Environment Institute (Suomen ympäristökeskus)

The Finnish Environment Institute has, in addition to the authority role, also a role as a research centre. It conducts research work in the area of examining changes in the environment and assessing how society can resolve environmental problems.

Most of the research work is conducted as a part of the Institute's own research programmes, which consist of sets of complementary projects. Research subjects range from global problems such as climate change and declining biodiversity to regional and local environmental issues.

MTT Agrifood Research Finland (Maa- ja elintarviketalouden tutkimuskeskus)

MTT Agrifood Research Finland is an expert body operating under the Finnish Ministry of Agriculture and Forestry. The body produces and disseminates scientific research information and develops and promotes the transfer of new technology for the agriculture and food sector as a whole.

KCL (Keskuslaboratorio)

KCL is a company for pulp and paper research, owned by the Finnish pulp, paper and board industries.

VTT Technical Research Centre

VTT is an impartial expert organisation that carries out technical and techno-economic research and development work. VTT produces also information services.

Universities and other research organisations

A national website maintained by several authorities, www.research.fi, contains key statistics and other data on Finnish science and technology. There are also links for more in-depth information such as statistical and other publications, documents and databases. On the website one can find for example links to all Finnish universities and state-owned research centres.

Consumer associations:

Kuluttajat – Konsumenterna ("Consumers")

A non-governmental association for consumer issues is the Kuluttajat – Konsumenterna ("*Consumers*" in Finnish and Swedish languages) that raises up consumer problem issues and struggles for the rights of consumers in different issues.

The Finnish Consumer's Association (Suomen Kuluttajaliitto)

The Finnish Consumer's Association is an independent promoter of consumers' rights and interests. The Association encourages consumers to work actively for their interests, promotes consumer awareness and environmental protection.

Environmental protection associations:

Luonto-Liitto (Nature Association)

Luonto-Liitto is an association established already 1943 to promote children's and young people's interest on nature and to protect the environment. The objective of the Association is to influence the society so that the natural diversity is maintained and the intrinsic value of nature is recognized.

Finnish Association of Nature Conservation (Suomen Luonnonsuojeluliitto)

The Finnish Association of Nature Conservation is an uncommitted and open association for the protection of nature. The basis of its work lies on regional and local nature conservation work.

Natur och Miljö rf (The Finnish Society for Nature and Environment)

The Natur och Miljö is a nature association mainly for the Swedish-speaking people in Finland. It works for awareness raising for environmental issues, produces environmental information in Swedish and promotes outdoor activities among its members.

World Wildlife Fund, WWF

The international conservation organisation World Wildlife Fund has a member association also in Finland; WWF Finland. It has been working since 1972 for better environment and nature conservation.

Health care organisations:

Poison Information Centre (Myrkytystietokeskus)

The Poison Information Centre is a part of the Hospital District of Helsinki and Uusimaa Region and it is a national centre of information on the prevention and questions on acute poisonings. It serves the whole country 24 hours per day by telephone. It also provides information for authorities and media. It does not however treat poisonings or make poison determinations. The role of the Poison Information Centre is growing in the future.

National Research and Development Centre for Welfare and Health, STAKES

The National Research and Development Centre for Welfare and Health (STAKES) is a research centre for promoting the well-being and health of people and for securing equal access for all to high-quality and effective welfare and healthcare services. It produces information and know-how in the field of welfare and health and forwards them to decision-makers and other actors in the field.

Others

Association of Finnish Chemical Societies (Suomen Kemian Seura)

The Association of Finnish Chemical Societies comprises of three member societies: *The Finnish Chemical Society (Suomalaisten Kemistien Seura ry), The Finnish Society of Chemical Engineers (Kemiallisteknillinen Yhdistys)* and the mainly Swedish speaking *Chemical Society of Finland (Finska Kemistsamfundet)*. The society for example organizes the Finnish Chemical Congress and publishes the Kemia-Kemi – Journal (Finnish Chemistry).

Finnish Society of Toxicology (Suomen Toksikologiyhdistys r.y)

The Finnish Society of Toxicology has promoted research, education and training in toxicology in Finland since 1979.

Finnish Occupational Hygiene Society (Suomen Työhygienian Seura)

The Finnish Occupational Hygiene Society (FOHS) is a society for occupational hygienists and all other experts working in the field of occupational health. The goal of the society is to raise the level of knowledge and professional skills of people working in the field of occupational hygiene.

Environmental Health Society (Ympäristöterveys ry)

The Environmental Health Society is a network of health inspectors at State Provincial Offices. The society works for cooperation and education of the inspectors.

Environment and Health (Ympäristö- ja terveysalan tekniset ry, Ympäristö- ja terveys –Lehti)

The Society of persons working in the area of environment and health provides a network for municipal health and environmental inspectors. It is also participating in the publication of a magazine called Environment and Health. On the website of the magazine there is a list of links to other societies in the field of environment and health.

Chapter 7: Inter-ministerial Commissions and Co-ordinating Mechanisms

In Finland the co-ordination between ministries, other authorities and stakeholders takes continuingly place by unofficial collaboration between the actors. A system of advisory committees is organized for the official cooperation of different ministries, agencies and non-governmental organizations. The committees work usually in connection with the relevant Ministry and are appointed by the Government for periods of three to five years. The committees are tools for cooperation and discussion in for example the preparation and enforcement of legislation. Members of the committees are invited by the Ministry, sometimes by proposal of the organizations themselves. The members represent the relevant authorities, industry and workers, together with the appropriate associations. The committees can also invite additional parties on a case-by-case basis to deal with specific issues of concern.

In addition to the official cooperation in the committees, there are different types of cooperation networks and e-mail lists to distribute the information.

Advisory Committee on Chemicals

The Advisory Committee on Chemicals is a cooperation body appointed by the Government upon the submission of the Ministry of Social Affairs and Health for a term of three years. The members represent the relevant chemicals control authorities and relevant associations of chemical industry, trade and employees. The Committee has also permanent experts from research institutions, municipal chemicals authority and nature conservation association.

The duties of the Committee are to promote the control of chemicals and the cooperation of the competent authorities, monitor and promote the international cooperation concerning chemicals and to monitor the development concerning chemicals and the research on health and environmental effects of chemicals. The Committee also makes proposals and takes initiatives to develop the legislation on chemicals and the research, training, education and information concerning chemicals and issues opinions on relevant matters. The Advisory Committee publishes guidebooks, brochures and reports and takes part in arranging training.

The Advisory Committee on Chemical Safety at Work

The Advisory Committee on Chemical Safety at Work is a Committee working also in connection with the Ministry of Social Affairs and Health. The task of the Committee is to assist the Ministry in issues related to chemical and biological safety at work. The Committee follows the development of the area, prepares Government Decrees for the prevention of health hazard caused by dangerous chemicals or biological factors and issues opinions concerning impurities at the air of a work place and other chemical or biological worker safety.

Standing Advisory Committee on Product Safety

The Standing Advisory Committee on Product Safety is responsible for monitoring the implementation and enforcement of statutes concerning product safety. The Committee gives opinions, makes proposals and makes effort for developing of the relevant legislation and enforcement. It also works out means of cooperation for the various bodies in the field of food control, labour protection, standardization and other safety issues involved in consumer goods and services.

The Committee is appointed by the Finnish Government for three year terms. The members of the committee represent for example the Ministry of Trade and Industry, the National Consumer Agency, the Technical Research Centre, the Finnish Customs Laboratory, the Ministry of Social Affairs and Health, the Work Efficiency Institute, the Martha Alliance, the Confederation of Finnish Industry and Employers and other relevant actors in the field.

Advisory Committee on Safety Technology

The Advisory Committee on Safety Technology is a cooperation body appointed by the Government. The task of the Committee is to help the Ministry of Trade and Industry in the management of matters relating to technical safety of issues in the Act on Pressure equipment (869/1999) and the Act on the Safe Handling of Dangerous Chemicals and Explosives (390/2005). The duties of the Committee are to determine general guidelines for technical safety, to promote the supervision of technical safety and the cooperation between different authorities and to monitor and promote the international cooperation concerning safety regulations.

The Biocides Net

The Biocides Net is a cooperation tool working in connection with the Ministry of the Environment on biocides issues. The Net is composed of the relevant competent authorities, industry associations and research institutions. The task of the Net is to bring all the stakeholders together for sharing information and discussing current topics.

The Pesticide Commission

The authority responsible for the approval of pesticides is the Pesticide Commission, which is an expert body having representatives from various authorities: The Ministry of Agriculture and Forestry, the Ministry of Social Affairs and Health, the Finnish Environment Institute (SYKE), the National Food Administration, the National Product Control Agency for Welfare and Health (STTV) and the Plant Production Inspection Centre (KTTK).

Chapter 8: Data Access and Use

8.1 Availability of Data for National Chemical Management

Several national databases concerning chemicals have been collected. Some of these are only for official use of the relevant authorities, some are freely accessible for everyone in the Internet. Recently the Occupational Health and Safety Institute published the second edition of a book called *Information Sources on Chemical Safety* (available only in Finnish: ***Kemikaaliturvallisuuden tiedonlähteet***). In the book has information collected on relevant data sources of chemicals. The book contains also information about the principles of toxicologics together with information on risk and danger assessment of chemicals. The book can be ordered from the bookshop of the Occupational Health and Safety Institute (www.ttl.fi/kirjakauppa). Some parts of the information on the book are published also on the website of the Occupational Health and Safety Institute, especially links to different databases and other information sources related to chemical safety (in Finnish).

REGISTERS AND DATABASES

On the website of the Occupational Safety and Health Institute there is a collection of links to both Finnish and International databases on chemical safety information. Below only some chemicals related databases are described in more detail.

The Product Register

The Product Register Unit of the National Product Control Agency for Welfare and Health keeps a register of all hazard-causing chemicals in the Finnish market. The information to be submitted is comparable to the information required in the safety data sheet and it is also required for the same chemicals as is the safety data sheet, namely chemicals dangerous for health or the environment or chemicals posing fire or explosion hazard. A chemical must also be registered if its chemical properties or handling, use or storage may cause risk to health or to the environment, or a risk of fire or explosion.

Identification codes (e.g. CAS number) for all hazardous ingredients in a preparation have to be submitted as well as the use and classification of the chemical. Also trade name, contact information of the Finnish manufacturer or importer, first-aid measures, fire-fighting measures, accidental release measures etc. have to be submitted. Both industrial chemicals and chemicals intended for general consumption must be registered. Chemicals used in scientific or industrial research and development need not to be registered.

The Product Register may be used by the authorities, the Poison Information Centre and research institutes.

More information about the Product Register is available on the website of the National Product Control Agency for Welfare and Health; www.sttv.fi. The Product Control Agency keeps also a **Register on New Substances** and a **Register on Biocides**.

SPIN

SPIN is a Nordic common register that provides data on the use of chemical substances in Norway, Sweden, Denmark and Finland. The project is financed by the Nordic Council of Ministers, Chemical group and the data is supplied by the Product Registries of the contributing countries.

Database on environmental properties of chemicals (EnviChem)

The Finnish Environment Institute keeps a register of the environmental information of chemicals. The register (EnviChem) contains information on the most important environmental properties of chemicals, for example physico-chemical properties, degradation in the environment, biological accumulation and the effects of a chemical to organisms in ground and water ecosystems. The information in the EnviChem register is mainly in English and it contains information on the environmental properties of about 2700 chemicals. The database is available on the website of the Finnish Environmental Administration, see the link to the search form. Also a CD-ROM version of the register is available.

More information about the EnviChem Register can be found on the website of Finland's Environmental Administration; www.ymparisto.fi.

Restricted Chemicals Database (ResChem)

The Finnish Environment Institute has also established a database on restricted or banned chemicals. The database contains information on all restrictions made under environmental basis, concerning chemicals – pesticides as well as consumer and industrial chemicals. The database is coming to public Internet use in the near future.

Emissions of air pollutants

The website of the Finnish Environmental Administration provides information on emissions into air (the information that is to be submitted to the Secretariat of the UN-ECE Convention on Long Range Transboundary Air Pollution and to the European Environment Centre). This information includes emissions of persistent organic pollutants as well as other pollutants, particulate matter and heavy metals. Air pollutant emissions in Finland in 1990–2002 is available on the website. Pollutant Release and Transfer Registers (PRTR) are maintained by the Finnish Environmental Administration in accordance with the international guidelines.

Compliance monitoring data system VAHTI

The environmental administration keeps a data system for the control and load information for environmental permits, generated waste and emissions to air and discharges into water. The 13 regional environment centres use the VAHTI compliance data system in their work on processing and monitoring permits. The data system contains information on the environmental permits of clients and on their wastes generated, discharges into water and emissions to air.

Permit Register

The Safety Technology Authority maintains a register on permits for authorized companies carrying out industrial handling and storage of chemicals.

Accidents and damages (VARO) Register

The register of accidents and damages (VARO), kept by the Safety Technology Authority, contains information on the accidents and injuries that have occured in the field of activities of the Safety Technology Authority. For example accidents involving dangerous chemicals have been compiled to the register since 1978. All accidents and damages have been classified and a small report has been written out. The register contains 3360 cases at this stage.

The Safety Technology Authority also keeps several other registers containing chemicals related information. For example **authorized testing companies**, **fireworks authorized for general market** and **persons notified for working with refrigeration devices** are registered by the Authority.

Pesticide Register

The Plant Production Inspection Centre (KTTK) keeps a register on authorized pesticides.

The Poison Information register

The Poison Information Centre maintains a register on acute poisonings and their causes.

ASA Register and other registers of occupational safety

The Finnish Institute for Occupational Safety maintains a register on persons exposed occupationally to carcinogenic substances or processes. The information is collected from employers by industrial safety inspectors and then submitted to the Institute, as a request of the Ministry of Social Affairs and Health.

The Finnish Institute for Occupational Safety also collects a lot of more information on working conditions, relating to both occupational health and occupational environment. The information is collected into several databases.

Substances causing danger of an accident (OVA)

In a database kept by the Occupational Health and Safety Institute, safety information is given on the most important industrial chemicals used in Finland that can cause accidental hazard. The safety instructions can be found at www.ttl.fi/OVA/. On the site, safety instructions and information is found for 84 chemicals. The database contains information for example on the properties, classification and use of these chemicals as well as on their impacts on health or the environment. Directions for action in the case of an accident are described and information is given also on handling, storage and transportation of the chemicals. Also existing literature for more information on these chemicals is mentioned.

International Chemical Cards

The International Chemical Safety Cards, produced by the International Programme on Chemical Safety, have been translated into several languages. They can be found on the website of the International Labour Organisation in many languages and on the website of the Occupational Safety and Health Institute in Finnish. In the Chemical Cards, the properties of over 1400 chemicals are described together with their effects to health and the environment. Also the fire and explosion hazard of a chemical and ways to prevent the hazards are described in the cards.

H-Class

H-Class is a new database developed by the Chemicals Group of the Nordic Council of Ministers. The database contains information on the classification and labelling of chemicals. The information is comparable with Annex I of the Council Directive 67/548/EEC (and the Finnish list of dangerous substances as well). In addition information is given on discussions and documents of the meetings of the European Commission Working Group on the classification and labelling of dangerous substances. The H-Class Database is available on the website of the Swedish Chemicals Inspectorate.

N-Class

N-Class is a database comparable with the above mentioned H-Class, except it concentrates on the environmental side of chemicals.

VERIFY

VERIFY is a database related to chemicals in the Chemical Weapons Convention. It contains for example the names and synonyms, CAS numbers, physical and chemical properties, toxicity, degradation products etc. of the treaty-related chemicals. The database is commercially available. VERIFY is produced by Verifin (Finnish Institute for Verification of the Chemical Weapons Convention) and Fision Ltd.

KemiArvi

KemiArvi is not a database that contains information on chemicals but a software for storing the information. It has been created by the Technical University of Tampere together with the Occupational Safety and Health Department of the Ministry of Social Affairs and Health as a tool for companies for listing their chemicals in use and for estimating the danger to the employees exposed to chemicals. The software can be loaded on the website of the Information Bank of Occupational Safety, which is a part of a European network established by the European Agency for Safety and Health at Work.

The **Customs** and the **Statistics Finland** both collect information on chemical import and export.

8.2 Location of National Data

Table 8.B: Location of National Data

Type of Data	Location(s)	Who has access?	Format
Production Statistics	Federation of Finnish Chemical Industry	Some public; http://report.chemind.fi/economy	Website
Import Statistics	Customs	Public (liable to charge, sold by **Edita Publishing**)	Reports
Export Statistics	Customs	Public (liable to charge, sold by **Edita Publishing**)	Reports
Chemical Use Statistics	National Product Register	Authorities, Poison Information Centre	Database
Industrial Accident Reports	Safety Technology Authority	Public: at the website of the Authority (contains no identification data)	Database
Transport Accident Reports	Ministry of Transport and Communications	Public: sold by **Edita Publishing** or free of charge from the website of the Ministry:	Reports
Occupational Health Data	Finnish Institute of Occupational Health	varies	Databases
Poisoning Statistics	Poison Information Centre; Helsinki University	varies	Reports
Pollutant Release and Transfer Register	European Environment Agency	Public; http://www.eper.cec.eu.int/eper/	Database
Hazardous Waste Data	Statistics Finland, Finnish Environmental Administration	Public (possibly liable to charge)	Reports, database
Register of Authorized Pesticides	Plant Production Inspection Centre	Public internet version coming in the near future	Database and annual publication
Inventory of Existing Chemicals	National Product Control Agency for Welfare and Health, Product Register Unit	Authorities, research institutes, Poison Information Centre	Database
Register on Toxic Chemicals	National Product Control Agency for Welfare and Health, Product Register Unit	Authorities, research institutes, Poison Information Centre	Database
Register of Imports	Customs	Public (liable to charge)	Databases, reports
Register of Producers	Federation of Finnish Chemical Industry	Public; http://www.chemind.fi	pdf-file
PIC Notifications	European Chemicals Bureau	Public; http://ecb.jrc.it/edex/en/index.htm	Database

8.3 Procedures for Collecting and Disseminating National Data

The manufacturer, importer, distributor or other person responsible for placing a chemical on the market is responsible for providing the user the data necessary for safe handling of the chemical t. The Finnish manufacturer or importer responsible for placing a chemical on the market or for use needs to also submit data on the chemical to the National Product Control Agency for Welfare and Health. The submitted data is based on the safety data sheet, complemented with

- identification codes (CAS, EINECS, ELINCS etc.) for hazardous ingredients;
- purpose of use of the chemical in writing and as codes;
- additional information in cases where it is needed for preventive and curative measures.

The information on chemicals and on the amounts of dangerous chemicals on the market is collected to databases held by the National Product Control Agency for Welfare and Health. The information is then available to authorities, research institutes and the Poison Information Centre.

In Finland the *Act on the Openness of Government Activities* (621/1999, in Finnish and in English) provides rules for imparting data that is in the possession of Government authorities. In the Act the principle of openness prescribes that official documents shall be in the public domain, unless specifically otherwise provided in the Act or another Act. In cases where documents contain for example comparable business information, they are regarded as secret.

International databases and literature is available on the Internet, different libraries or the information services of the relevant actors.

8.4 National Information Exchange Systems

In Finland, the authorities keep informative websites, publish brochures and answer questions on matters arising. A system of different types of advisory committees has been created in order to facilitate the national information exchange between the actors in the field. The advisory committees are appointed under the relevant ministries. In these committees for example information needs, legislation in preparation and possible problems in the supervision of the legislation is discussed and problems solved. Usually all relevant parties are invited to the advisory committees – authorities responsible for both the preparation of the legislation and the supervision of it, representatives of the industry and workers concerned, relevant non-governmental organisations and research institutions.

The Advisory Committee on Chemicals is an example of a committee that facilitates information exchange on existing and coming chemicals legislation, provides information from international institutions to the relevant parties and provides a forum to discuss possible problems from the national perspective and also publishes brochures and booklets on current chemical management issues. The Advisory Committee on Chemicals acts for example as a contact point for the information circulars of the Intergovernmental Forum on Chemical Safety (IFCS) and the new SINAPSE Network of the European Commission for new scientific data, opinions and advice.

The advisory committees are described more detailed in Chapter 7.

Chapter 9: Technical Infrastructure

9.1 Overview of Laboratory Infrastructure

In Finland the most relevant laboratories used by the administration are the research laboratories of

- The National Public Health Institute
- The Finnish Institute of Occupational Health
- The Finnish Environment Institute
- VTT Technical Research Centre
- Customs

In addition to these, there are hundreds of municipal, state owned and private laboratories doing chemical analysis work for the administration and for companies. The LAL, Multidisciplinary Professionals in Science (Luonnontieteiden akateemisten liitto) has published a booklet Service Guide for Environmental Studies (in Finnish). The latest version is for 2004–2005.

The Centre for Metrology and Accreditation and FINAS, the Finnish Accreditation Service is a national accreditation body under the Ministry of Trade and Industry. The Centre maintains a list of accredited bodies. Information on all accredited bodies together with additional data are available on the website by filling in the appropriate fields of activity to the search form. For example for product safety 7 testing laboratories have been accredited.

The laboratory of the Finnish Environment Institute is recognised as the national reference laboratory in the environmental field, and is fully accredited for analytical work as testing laboratory T003 by the Finnish Centre for Metrology and Accreditation.

In Finland there are 11 laboratories accepted as authorized testing laboratories with the Good Laboratory Practise principles. These laboratories can be found in Table 9.A.

Table 9.A GLP Authorized testing bodies

Testing body	Unit
Hormos Medical Corp.	Pharmaceutical and Bioanalytical Department Bioanalytical Laboratory
Plant Production Inspection Centre	Farming chemistry department Pesticide residue laboratory
MTT Agrifood Research Finland	Plant Protection Pesticide inspection and testing
Orion **Orion Pharma**	*Espoo Research* Departments of Toxicology and Bioanalytics
	Turku Research Departments of Toxicology and Bioanalytics
	Turku Research Department of General Pharmacology
Santen	Preclinical laboratory Analytical product development laboratory
SafetyCity Ltd	
Schering Oy	Department of Bioanalytics Department of Biology Test animal Centre
University of Turku	Biotechnology centre Test animal Centre
University of Turku	Biomedicine Unit Bioanalytical laboratory CRST HPLC- and mass spectrometer laboratory
University of Turku	Department of Forensic Medicine Histotechnology laboratory
United Laboratories Ltd	Hematology Unit, Chemistry Automation Unit

Source: National Product Control Agency for Welfare and Health

Strengths and weaknesses of the current technical infrastructure for chemicals management are dealt with in the National Chemicals Program and are thus not described in here.

9.2 Overview of Technical Training and Education Programmes

Training and education programmes aimed at providing the technical expertise required for implementing government policies and programmes related to chemicals management is arranged by both the related authorities and the industry itself, while the basic decrees are studied at different educating institutions, like universities and vocational high schools that are not described here. The responsible authorities arrange information services and keep lectures on current topics. The Finnish Chemical Industry Federation informs its companies and provides publications on matters arising. Information on revised legislation is given for example on the websites of the authorities, the FINLEX Database, the industry itself, by media and by training institutes. The web portal www.suomi.fi helps in finding suitable education and training institutions.

AEL, the **Centre for Technical Training** is Finland's largest provider of further technical training. It provides expertise in most fields of technology and business development and it provides training in all branches of trade and industry.

HAUS, **Finnish Institute of Public Management Ltd.** is an in-service training centre for civil servants. HAUS is a state-owned enterprise that produces training, consulting and development services, focusing on the development of public management, service activities and personnel both in Finland and abroad.

The **Emergency Services College** (Pelastusopisto) is a college for providing education and training under the supervision of the Ministry of the Interior. The College plans and arranges basic and advanced education and training in fire and rescue work, civil defence training and other training in emergency operations. It also provides and updates the so-called Tokeva Instructions; instructions for the prevention of dangers caused by chemicals.

The **Centre for Occupational Safety** (Työturvallisuuskeskus) produces and distributes information to workplaces on the development of working conditions.

Chapter 10: International Connections

Finland is a party of several international agreements, organizations and bodies concerning chemical safety. Some of the chemicals-related agreements are listed in Table 10.A. Since many of these agreements concern the protection of the environment, they are the responsibility of the Ministry of the Environment. All relevant environmental agreements where Finland is a party are listed on the website of the Finnish Environmental Administration.

A publication "International Chemical Agreements in Finland" is being prepared in the Advisory Committee on Chemicals.

10.1 Co-operation and Involvement with International Organizations, Bodies and Agreements

Table 10.A: Participation in International Agreements/Procedures Related to Chemicals Management

International Agreements	Primary Responsible Agency	Year of entry into force in Finland. National Implementation Provision
Globally harmonised system for the classification and labelling of chemicals – (GHS)	Ministry of Social Affairs and Health/ Councellor Anna-Liisa Sundquist; Ministry of Transport and Communications; Senior Officer Anu Häkkinen	Implementation into the EU legislation is in preparation in the EU Commission
Stockholm Convention on Persistent Organic Pollutants (POP)	Ministry of the Environment/ Councellor Pirkko Kivelä	2004; President of the Republic Decree (34/2004, State Conventions). Also Government Decree (735/2002) and EC Regulation 850/2004
Rotterdam Convention (Prior Informed Consent, PIC)	Ministry of the Environment, Finnish Environment Institute (designated national authority)	2004; President of the Republic Decree (108/2004, State Conventions). Also EC Regulation 304/2003 and Council of State Decree (15/2005)
Vienna Convention for the Protection of the Ozone Layer and Montreal Protocol on Substances that Deplete the Ozone Layer (at UNEP)	Ministry of the Environment/ Senior Officer Else Peuranen; Finnish Environment Institute/ Senior Officer Eliisa Irpola	1988. Government Decree (262/1998) and (1187/2001), EC Regulation (2037/2000)
Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)	Ministry of the Environment/ Senior Governmental Secretary Tuomas Aarnio	1992 Decree (44/1992, State Conventions)

Convention on Long-Range Transboundary Air Pollution (CLRTAP at UNECE)	Ministry of the Environment	1983; Decree (15/1983, State Conventions)
Convention on Long-Range Transboundary Air Pollution (CLRTAP at UNECE); POP Protocol	Ministry of the Environment	2003; President of the Republic Decree (68/2003, State Conventions)
Convention on Long-Range Transboundary Air Pollution (CLRTAP at UNECE); Protocol on Heavy Metals	Ministry of the Environment	2003; President of the Republic Decree (78/2003, State Conventions)
ILO Convention 170	Ministry of Social Affairs and Health	Not ratified but contents adopted into national legislation
International Convention on the Control of Harmful Anti-fouling Systems on Ships (IMO)	Ministry of Transport and Communications	2004. EC Regulation (782/2003/EY) and Government Decree (440/2003)
UN Recommendations for the Transport of Dangerous Goods	Ministry of Transport and Communications	Contents in force
Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter (London Convention)	Ministry of the Environment	1979; Decree (34/1979) and Act (33/1979), State Conventions)
International Convention for the Prevention of Pollution from Ships (MARPOL Convention at IMO)	Ministry of Transport and Communications; Finnish Maritime Administration	1983; Decree (51/1983)
Convention on the Protection of the Marine Environment of the Baltic Sea (HELCOM)	Ministry of the Environment	2000; Decree (2/2000, State Conventions)
Convention for the Protection of the North East Atlantic (OSPAR)	Ministry of the Environment	1998; Decree (51/1998, State Conventions)
International Convention for the Safety of Life at Sea (SOLAS Convention at IMO)	Ministry of Transport and Communications; Finnish Maritime Administration	1981; Decree (11/1981, State Conventions)
Convention on the transboundary effects of industrial accidents (at UNECE)	Ministry of the Interior	1999; President of the Republic Decree (26/2000, State Conventions)
Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction	Ministry for Foreign Affairs and the Finnish Institute for Verification of the Chemical Weapons Convention (VERIFIN) and others	1997; Decree (19/1997, State Conventions). Act (346/1997), Decree (348/1997)
Bilateral Agreements on Environmental cooperation (several; listed on the website of the Finnish Environmental Administration)	Ministry of the Environment	

Agreement between Denmark, Finland, Iceland, Norway and Sweden on Cooperation in Combatting Pollution of the Sea caused by Oil or Other Harmful Substances	Ministry of the Environment	1998
United Nations Framework Convention on Climate Change and the Kyoto Protocol	Ministry of the Environment	1994 (Convention); Decree (61/1994, State Conventions) 2005 (Kyoto Protocol); Act (12/2005, State Conventions), President of the Republic Decree (13/2005, State Conventions)
Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention at UNECE)	Ministry of the Environment	2004; President of the Republic Decree (122/2004, State Conventions)
Protocol on Pollutant Release and Transfer Register s (PRTR at Aarhus Convention at UNECE)	Ministry of the Environment	2004 (Acceptance)
Strategic Approach to International Chemicals Management (SAICM) – in preparation at UNEP and the Intergovernmental Forum on Chemical Safety	Ministry of the Environment/ Councellor Pirkko Kivelä; Ministry of Social Affairs and Health/ Councellor Anna-Liisa Sundquist; Ministry for Foreign Affairs	Discussion on the ongoing preparation of the SAICM takes place in the Advisory Committee for Chemicals and in the ministries

Chapter 11: Awareness of Workers and the Public

11.1 Workers

In all workplaces, the employer is responsible for taking the necessary steps for ensuring the health and safety of employees at work. The employer has to maintain an *action plan for worker safety* and deal with the targets derived from the plan together with the employees. The employer also has to clarify and identify possible factors causing harm or danger existing at the workplace and maintain the clarification in his possession. The exposure to chemicals has to be made so low that no harm or danger is caused for the employee's health or safety.

If a chemical is used in industrial actions or otherwise professionally, the person responsible for placing the chemical on the market or for use has to submit a safety data sheet to the recipient. The safety data sheets of chemicals used at a certain workplace have to be kept on view of the workers.

If the working place is a company with large scale industrial handling or storage of chemicals, also a safety report, an action plan and a rescue plan have to be accessible to the workers.

Information concerning the risks to the environment, health and safety from chemicals is provided also by labelling the packages of chemicals. The person responsible for placing a chemical on the market or for use has to clarify the properties of the chemical, classify it as dangerous if necessary and label the packaging of the chemical accordingly.

At each workplace with more than 10 employees a representative of workers for occupational safety and health issues shall be elected for 2 year terms. The employer shall nominate an occupational safety and health chief for the workplace. The employer and employees shall act in cooperation.

11.2. Public

Information and safety concerning the risks to the environment, health and safety from chemicals is provided for the public by

- labelling the packages of chemicals;
- safety seal and a tactile warning in the packaging of a dangerous chemical intended for retail sale;
- restrictions to the marketing of dangerous chemicals to the public.

A packaging containing a dangerous chemical shall not be offered or sold to the public if it is by its shape or decoration such that it would interest a child or look like similar to foodstuff, animal feeding stuff or medical or cosmetic preparation.

A toxic or extremely toxic chemical shall not be handed over to a person under 18 years of age, with the exemption of fuels. These provisions and other restrictions to the marketing and selling of chemicals to the public are provided in the *Decree on the Retail Sale of a dangerous chemical (676/1993)*.

References and Notes

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2. Association of Finnish Local and Regional Authorities (Kuntaliitto), P.O. Box 200, FI-00101 Helsinki, Finland – accessible via Internet: http://www.kuntaliitto.fi/english/indexeng.htm
3. Population Register Centre (Väestörekisterikeskus), P.O. Box 70, FI-00581 Helsinki, Finland – accessible via Internet: http://www.vaestorekisterikeskus.fi
4. Ministry of Labour, P.O. Box 34, FI-00023 GOVERNMENT, Finland – accessible via Internet: http://www.mol.fi/english/index.html
5. Ministry of the Interior, P.O. Box 26, FI-00023 GOVERNMENT, Finland – accessible via Internet: http://www.intermin.fi/intermin/home.nsf/pages/index_eng
6. Statistical Yearbook of Finland, Otava, Helsinki 2000.
7. National Technology Agency, TEKES, P.O. Box 69, FI-00101 HELSINKI, Finland – accessible via Internet: http://www.tekes.fi/eng/default.asp
8. Geological Survey of Finland (GTK), P.O. Box 96, FI-02151 ESPOO, Finland – accessible via Internet: http://www.gsf.fi/explor/
9. Ministry of Agriculture and Forestry, P.O. Box 30, FI-00023 GOVERNMENT – accessible via Internet: http://www.mmm.fi/english/
10. The Finnish Forest Industries Federation (FFIF), P.O. Box 336, FI-00171 HELSINKI, Finland – accessible via Internet: http://english.forestindustries.fi/
11. Environmental Administration of Finland – accessible via Internet: http://www.ymparisto.fi
12. Chemical Industry Federation of Finland, P.O. Box 4, FI-00131 HELSINKI, Finland – accessible via Internet: http://www.chemind.fi

ANNEX 1

Names and Addresses of Organisations

Ministries and Parliament

Ministry of Social Affairs and Health

Health Department
P.O. Box 33, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. +358-9-160 01, +358-9-578 11, Fax +358-9-1607 4120

Department for Occupational Safety and Health
P.O. Box 536, FI-33101 TAMPERE, Finland
Tel. +358-3-260 8111, Fax +358-3-260 8448

E-Mail: givenname.surname@stm.fi*
Official E-Mail: kirjaamo.stm@stm.fi
Internet: www.stm.fi/english

Advisory Committee on Chemicals
P.O. Box 33, FIN-00023 GOVERNMENT (Helsinki), Finland
Tel. +358-9-1607 4009, Fax +358-9-1607 4317, E-Mail: kenk.stm@stm.fi
E-Mail: kenk.stm@stm.fi

Ministry of the Environment

Environmental Protection Department
P.O. Box 35, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. +358-9-160 07, +358-9-578 17, Fax +358-9-1603 9545

E-Mail: givenname.surname@ymparisto.fi*
Official E-Mail: kirjaamo.ym@ymparisto.fi
Internet: www.ymparisto.fi

Ministry of Trade and Industry

Technology Department
P.O. Box 32, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. +358-9-160 01, +358-9-578 11, Fax +358-9-1606 3666

E-Mail: givenname.surname@ktm.fi*
Official E-Mail: kirjaamo@ktm.fi
Internet: http://www.ktm.fi

Ministry of the Interior

P.O. Box 26, FI-00023 GOVERNMENT (Helsinki), Finland
Tel. +358-9-16001, +358-9-578 11, Fax +358-9-1604 4635

E-Mail: givenname.surname@intermin.fi*
Official E-Mail: sm.kirjaamo@intermin.fi
Internet: http://www.intermin.fi/en

Ministry of Transport and Communications

P.O. Box 31, FI-00023 GOVERNMENT (Helsinki), Finland
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* Scandinavian characters should be replaced: ä = a, ö = o, å = a

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