

ANNEX 1

Progress in the Implementation of SAICM National Implementation Plan of Japan (Local Governments: 47 Prefectures and 20 Designated Cities)

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Japan
(Local Governments: 47 Prefectures and 20 Designated Cities)**

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I Introduction

Strategic Approach to International Chemicals Management (SAICM) National Implementation Plan of Japan, compiled in September 2012, states, “the progress of SAICM National Implementation Plan will be reviewed in the Inter-Ministerial Meeting on SAICM prior to ICCM4 to be held in 2015, and the results will be announced.” This report describes progress in various initiatives by local governments among other actors in SAICM National Implementation Plan of Japan.

SAICM National Implementation Plan of Japan expects local governments not only to properly enforce national laws and their own ordinances but also to play an important role in further facilitating chemicals management by businesses as well as risk communication at the local level. Chemicals management activities by local governments are diverse, ranging from those dictated by national laws and regulations to those that are highly distinctive. This highlights the need to comprehensively grasp the status of all these activities in implementing SAICM National Implementation Plan of Japan.

In this respect, the report has compiled various initiatives on chemical management implemented by local governments through interviews, e-mail questionnaires, and other means.

The results of the Review show that progress has been generally made in the SAICM-related initiatives by local governments. Further steps for the civil local governments in response to this Review, which includes but not limited to the revision of the National Implementation Plan, will be considered after the ICCM4 meeting.

II How to Proceed with the Review of SAICM National Implementation Plan of Japan

The National Implementation Plan of Japan states, in Chapter 3 “Implementation and Enforcement Measures,” that local governments are expected “to play an important role in further promotion of chemicals management by businesses including small to medium-sized ones, local promotion of risk communication, etc., in addition to the thorough implementation of laws and ordinances suited to the local circumstances.”

The survey was thus conducted targeting 67 local governments--47 prefectures and 20 cities designated under Article 252 of the Local Autonomy Law—for activities regarding SAICM, with a focus on their initiatives mentioned in the Annual Reports on Environment and other publications. All the 67 local governments responded.

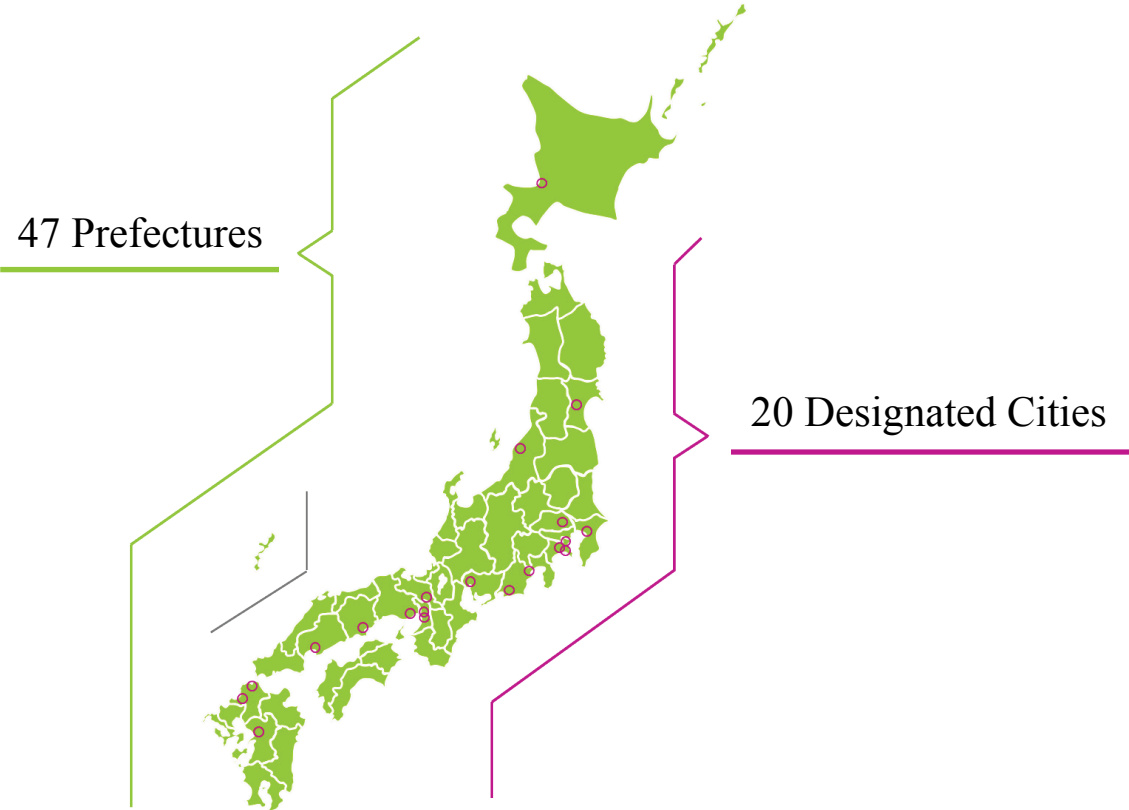


Figure 18 The target of the survey

III Overview of Local Government Measures

1. Classification of Local Government Measures

SAICM National Implementation Plan of Japan provides that the government should work with local governments to take measures about the emission of chemicals, at the recycling or disposal phase of products containing chemicals, and in case of accidents or disasters involving chemicals emissions. It has been confirmed that the local governments adequately address these measures, including those stipulated under the national laws and regulations of Japan.

It has also been confirmed that some local governments take highly distinctive measures, including organizing local seminars aimed at further disseminating national laws and regulations and establishing their own ordinances designed to tighten regulations.

This Review focuses on measures under the classifications 2.1 to 2.9 that are shown in the table below and unique initiatives:

Table 8 Classification of local government measures	
2. Overview of the Measures by Local Governments	
Promoting the monitoring of chemicals in the environment and the assessment of their risks	
2.1	Monitoring efforts for chemicals
	(1) Establishing stricter/additional standards and emission monitoring surveys under the local ordinance
	(2) Monitoring regarding endocrine disruption effects
	(3) Monitoring of POPs
2.2	Measures for the Risk Assessment of Chemicals
Risk reduction throughout whole life-cycle	
2.3	Measures for Developing Chemicals Management Plans
2.4	Measures for Reducing Agricultural Chemicals and Golf Course Herbicides
2.5	Measures for the PRTR System
R&D activities for emerging and uncertain issues	
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2. Overview of the Measures by Local Governments

Promoting the monitoring of chemicals in the environment and the assessment of their risks

2.1 Monitoring efforts for chemicals

- (1) Establishing stricter/additional standards and emission monitoring surveys under the local ordinance
-

Local governments are tasked with assessing air pollution and preventing pollution of public waters under the Air Pollution Control Act and the Water Pollution Control Act, respectively. These Acts provide that local governments may establish additional standards on top of national standards¹ and stricter standards than such standards² at their discretion. The followings are selected cases where local governments establish stricter and/or additional standards to air and/or water and call for conducting associated emission monitoring surveys.

[Selected Cases]

✧ Tokyo Metropolis (Prefecture)

Tokyo Metropolis establishes special emission standards on hazardous gases (air standards) and substances (water standards) to factories and designated workshops specified under the Environment Security Ordinance.

✧ Shiga Prefecture

Under its “pollution control ordinance,” Shiga Prefecture subjects to emission control not only 33 types of facilities subject to the Air Pollution Control Act but also six additional types (complex facilities, etc.). It also subjects additional substances such as antimony and phenol to emission control. In addition, the prefectural government establishes the emission standards for hazardous air pollutants not only to chimneys and other exhaust outlets but also to site boundaries.

✧ Kawasaki City

Kawasaki City establishes additional effluent standards to factories and business establishments under its ordinance on pollution control and other means for protecting the living environment.

[Overview]

The total number of local governments that establish stricter/additional standards and call for conducting associated emission monitoring stands at 40 for air quality and at 48 for water quality.

¹ The Water Pollution Control Act, Article 29; and the Air Pollution Control Act, Article 32

² The Water Pollution Control Act, Article 3, paragraph (3); and the Air Pollution Control Act, Article 4, paragraph (1)

(2) Monitoring regarding endocrine disruption effects

The following are selected cases where local governments conduct monitoring survey on chemicals from the viewpoint of endocrine disruption effects at their own discretion:

[Selected Cases]

✧ **Kagoshima Prefecture**

Kagoshima Prefecture conducts monitoring surveys and trials on residual agricultural chemicals and also collects and shares related information for strengthening of coordination. These activities are carried out by its sections that participate in “the liaison and study group on endocrine disrupting chemicals.”

✧ **Saitama City**

Since FY2002, Saitama City has been conducting monitoring survey on endocrine disrupting chemicals in river water at five points along three rivers in the City (the Shiba, Kamo, and Ayase Rivers).

[Overview]

A total of 34 local governments conduct monitoring survey regarding endocrine disruption effects.

(3) Monitoring of POPs

The following are selected cases where local governments conduct environmental monitoring of persistent organic pollutants (POPs) that are unregulated under law or ordinance but potentially hazardous:

[Selected Cases]

✧ **Hyogo Prefecture**

Hyogo Prefecture conducts water and air monitoring in the basins of the three rivers in the cities (the Ina, Kanzaki, and Muko rivers) with focus on organochlorine compounds that are so persistent and hazardous that they may be added to the list of the Stockholm Convention on POPs, such as polychlorinated naphthalenes (PCNs) and hexachlorobutadiene (HCB). Based on advice from “the review committee for chemicals not subject to emission/effluent standards,” which is made up of academic experts, the Prefecture conducts such monitoring in these basins where factories and other business establishments are so concentrated that they may be polluted with these compounds.

✧ **Okinawa Prefecture**

The Okinawa Prefectural Institute of Health and Environment conducts research that contributes to the promotion of environmental conservation. In particular, the institute monitors POPs in enclosed coastal seas.

[Overview]

A total of 35 local governments conduct a monitoring survey of POPs.

2.2 Measures for the Risk Assessment of Chemicals

The following are selected cases where local governments conduct risk assessment of chemicals.

[Selected Cases]

✧ Chiba Prefecture

In November 2008, Chiba Prefecture developed “the environmental risk assessment method” for businesses, the first of its kind in Japan. It is available in the form of a guidebook from its website.

✧ Yokohama City

Yokohama Environmental Science Research Institute works with National Institute for Environmental Studies to make further investigation of the risk of chemicals by conducting ecological effect study using *Daphnia magna* in the water of rivers in the city and monitoring surveys of agricultural chemicals.

[Overview]

A total of eight local governments call on businesses to conduct risk assessment of chemicals, while six local governments conduct risk assessment of their own accord.

Risk reduction throughout whole life-cycle

2.3 Measures for Developing Chemicals Management Plans

The following are selected cases where local governments have a chemicals management plan or pollution source control to forestall environmental pollution with chemicals:

[Selected Cases]

◇ Tokushima Prefecture

To reduce the environmental risks of chemical substances, Tokushima Prefecture has publicized the “Guidelines for Appropriate Management of Designated Chemicals.” This guideline was created based on the Prefecture’s Ordinance for the Protection of the Living Environment and outlines measures to be taken by businesses to appropriately manage chemicals. Furthermore, businesses that meet certain requirements must keep a record of the amount of chemicals handled and they must report the number to the prefectural government.

◇ Nagano Prefecture

Nagano Prefecture promotes Material Flow Cost Accounting (MFCA), which is designed to “visualize” the reduced amount of chemicals used in the manufacturing process or of waste in terms of the amount of costs to be reduced and, as a result, makes it easier for businesses to develop a chemicals management plan. For promotional purposes, the Prefecture supports businesses in introducing MFCA and organizes performance presentation meetings for them.

[Overview]

A total of 22 local governments call on businesses to have a chemicals management plan, while 18 local governments have guidelines on chemicals management of their own.

2.4 Measures for Reducing Agricultural Chemicals and Golf Course Herbicides

The following are selected cases where local governments work to reduce the usage in farmland of synthetic agricultural chemicals that cause significant environmental stress or to encourage proper management of herbicides that are used in large amounts in golf courses, including measures to prevent their dispersal.

[Selected Cases]

✧ **Nara Prefecture**

Nara Prefecture has developed “the Nara Prefectural guidelines on the introduction of sustainable agriculture” under the Law for Promoting the Introduction of Sustainable Agricultural Practices. Under the guidelines, the Prefecture promotes agricultural production methods that seek both to create sound soil (soil building) through the cyclical use of organic resources and to reduce chemical fertilizers and synthetic agricultural chemicals.

✧ **Nagoya City**

Nagoya City has concluded an agreement on the prevention of environmental pollution with agricultural chemicals with the operators of local golf courses to promote the proper use of agricultural chemicals.

[Overview]

A total of 39 local governments take measures to reduce the use of agricultural chemicals, while 48 local governments take measures to ensure proper management of herbicides in local golf courses.

2.5 Measures for the PRTR System

The PRTR system is designed to take stock of the amount of potentially hazardous chemicals released into the environment (amount of release) as well as their sources and the amount of such chemicals carried away from business establishments in the form of waste or other forms (amount of transfer). This subsection describes selected cases where local governments have expanded the scope of chemicals management beyond the PRTR system by, for example, tightening the requirements relating to PRTR substances and reporting (e.g. the amount handled and the number of employees at the business establishment in question), and monitoring such substances. It also shows the number of such local governments.

[Selected Cases]

✧ Shizuoka Prefecture

Shizuoka Prefecture prepares and releases an annual PRTR report of its own, which includes, among other things, statistics on the amounts of PRTR substances released into the environment. Based on such statistics, it selects two toxic substances among the chemicals that are released in large quantities into public waters while taking their use within the Prefecture in account and conducts monitoring of the two substances.

✧ Sapporo City

Sapporo City takes stock of the amounts of chemicals released by businesses and encourages them to properly manage chemicals and voluntarily reduce their releases with two systems: the PRTR system under the PRTR Law, and the system for proper management of chemicals under its ordinance on the protection of the living environment. The latter system calls on businesses to report on the amount of any of the 69 specified chemicals subject to control that is released if the amount totals 100 kg or more a year. It also requires businesses of a certain scale or more to prepare a manual on voluntary management of chemicals and submit it to the City.

[Overview]

Among a total of 13 local governments that set their own reporting items (the amount handled, the amount stored, etc.), four local governments have expanded the scope of businesses subject to regulation, and eight local governments have expanded the scope of chemicals subject to regulation.

R&D activities for emerging and uncertain issues

2.6 R&D Activities

This subsection describes selected cases where local governments engage in research and development (R&D) activities aimed at, among other things, elucidating transboundary pollution phenomena and establishing methods of analyzing substances that have yet to be identified or quantified. It also shows the number of such local governments.

[Selected Cases]

◇ Saitama Prefecture

The chemical substances group at the Center for Environmental Science in Saitama engages in R&D activities aimed at taking stock of environmental pollution with dioxins and other chemicals and developing methods of analyzing chemicals that affect the ecosystem when present in even minuscule quantities.

◇ Wakayama Prefecture

With regard to the trans-boundary advection of pollutants, the Wakayama Prefectural Research Center of Environment and Public Health works with organizations concerned to conduct joint acid rain research and research on the environmental impact of dust and sandstorm (DSS).

◇ Tottori Prefecture

Tottori Prefecture works with Gangwon Province of South Korea to research the composition of DSS and other coarse particulates in order to take stock of the current transboundary air pollution. For research purposes, they coordinate the methods of collecting and analyzing materials.

◇ Kobe City

The Kobe Institute of Health, in collaboration with the Ministry of the Environment(MOE), conducts research at establishing the much-needed method of analyzing certain substances in the environment that are or likely to be subject to the Chemical Substances Control Law or the PRTR Law. They also conduct environmental surveys of such chemicals.

[Overview]

A total of 36 local governments conduct surveys of transboundary air Pollutants, while 30 local governments engage in research aimed at establishing analytical methods.

Promoting the monitoring of chemicals in the environment and the assessment of their risks

2.7 Measures for Information Disclosure and Risk Communication

This subsection describes selected cases where local governments--prefectures and designated cities--disclose both information on their activities relating to chemicals and data on chemicals in the environment to local residents and businesses and promote risk communication with them. It also shows the number of such local governments.

[Selected Cases]

✧ Saitama Prefecture

Saitama Prefecture is committed to promoting risk communication designed for local residents, businesses, and authorities to share information on chemicals for deeper understanding. The Prefecture organizes “risk communication workshops” that involve hands-on exercises. The Prefecture also compiles and distributes guidebooks on and collections of good practices in risk communication. As a result, a total of 138 business establishments within the Prefecture have practiced risk communication since FY2002.

✧ Tokushima Prefecture

To foster better public awareness and understanding of chemical substances, Tokushima Prefecture publishes information pertaining to chemicals on their official website, including information on chemical emissions. Moreover, they are promoting risk communication (for information sharing and mutual understanding of chemicals) between local residents, businesses and authorities.

✧ Chiba City

Under the Chiba City Environmental Protection Ordinance, businesses that intend to build high-tech facilities (involving electronics, manufacture of new materials, research, etc.) in Chiba City are required to submit a notification. In addition to promoting the proper management of chemical materials, Chiba City calls on such businesses to compile a strategy for environmental conservation and conduct briefings for local residents under the Chiba City Guidelines for Environmental Protection Concerning Construction of High-Tech Facilities.

[Overview]

A total of 57 local governments explain their environment-related activities and statistics on their websites, while 36 local governments make such information public through seminars. The total number of local governments that activities aimed at promoting risk communication on the risks of chemicals³ totals 28.

³ “Activities aimed at promoting risk communication” include communicating good practices in risk communication on the web and introducing such communication at seminars.

2.8 Measures for Promotion, Awareness-raising, and Training regarding Chemicals Management

This subsection describes selected cases where local governments engage in promotion, awareness-raising, and training for proper management of chemicals for local residents and businesses. It also shows the number of such local governments.

[Selected Cases]

✧ Ehime Prefecture

Ehime Prefecture organizes “*Ehime Kankyo Daigaku*,” an open lecture series especially designed for environmental conservation practitioners and activists to acquire advanced environmental knowledge. In the series, academic experts and environmental specialists give specialized and high-quality lectures. The lecture themes include chemicals management; one lecture is titled “ambient environmental issues today: with focus on transboundary air pollution.”

[Overview]

A total of 34 local governments organize promotional and awareness-raising seminars or provide educational support in the field of chemicals management.

2.9 Measures for Disaster Prevention and Security regarding Chemicals Management

This subsection describes selected cases where local governments take measures to prevent the leakage of chemicals in times of natural disaster such as earthquake, including developing guidelines or manuals on disaster prevention and security and requiring local businesses to report on their disaster reduction strategies. It also shows the number of such local governments.

[Selected Cases]

✧ Chiba Prefecture

Chiba Prefecture has developed the Chiba Prefectural guidelines on the environmental management of chemicals, which call on local businesses to take necessary measures to forestall the leakage of chemicals due to an accident or other causes and keep the impediments to environmental conservation to a minimum when a leakage accident occurs.

✧ Sendai City

Sendai City provides guidance to ensure that local businesses will take emergency measures at the time of a leakage or other accident and report on such an accident to the City mayor as stipulated by the Water Pollution Control Law, the Air Pollution Control Law, and the City’s pollution control ordinance.

The City developed “Sendai City’s guidelines on how to respond to water pollution accidents” in FY1999 to facilitate prompt and efficient actions by the City and other organizations concerned when a water pollution occurs. Under the guidelines, the City holds a regular liaison and coordination meeting to confirm what action to take and how to coordinate among these organizations.

[Overview]

A total of 20 local governments take measures for disaster prevention and security regarding chemicals management.

3. Unique Measures by Local Governments

This section focuses on unique initiatives by prefectures and designated cities.

3.1 Gifu Prefecture's Measures for Reducing the Use of Synthetic Agricultural Chemicals by Utilizing Robots

Weeds pose the greatest challenge to eco-friendly paddy rice cultivation that does not depend much on agricultural chemicals. This highlights the need for a weeding method that is energy-saving and effective.

The Agricultural Management Section of the Gifu Prefectural government has been working on R&D of a small weeding robot for paddy fields, nicknamed “Aigamo Robot,” in cooperation with the Gifu Prefectural Research Institute of Information Technology, the Gifu Prefectural Research Institute for Agricultural Sciences in Hilly and Mountainous Areas, the Gifu Region Agriculture and Forestry Office, Gifu University, private businesses, and local farmers. The Aigamo Robot is a moving mechanism equipped with crawler belts. It autonomously travels along the rows of rice seedlings in a rice paddy. The crawler belts “stamp and pull weeds and muddy the water” to impede their growth. Research to date has demonstrated that the robot is sufficiently effective in weeding if paddy fields are properly managed, in terms of water depth in particular. Now, research aims to put the robot into practical applications.

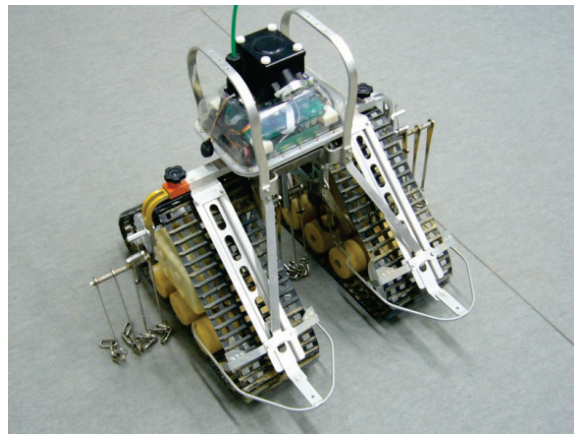


Figure 19 Small weeding robot for paddy fields, nicknamed “Aigamo Robot”

3.2 Kumamoto Prefecture's Measures for Creating a Mercury-free Society

In October 2013, Kumamoto Prefecture hosted “the Conference of Plenipotentiaries on the Minamata Convention on Mercury,” which successfully adopted the Minamata Convention on Mercury. Since then, the Prefecture has been taking the initiative in creating a “mercury-free society” that shuns the use of products containing mercury as much as possible and properly disposes of such products at the ends of their lives.

[Mercury-free program and its outcomes in FY2014]

As part of its program toward a mercury-free society, Kumamoto Prefecture focused on three major aspects in FY2014: (i) promoting proper disposal of mercury-containing waste; (ii) supporting the training of mercury experts from other countries; and (iii) information communication at home and abroad.

<(i) Promoting proper disposal of mercury-containing waste>

- ✧ Conducting surveys on the use, storage, and disposal of mercury within the Prefecture
- ✧ Holding a series of meetings of the Commission on the Reduction, Collection and Disposal of Mercury, which is made up of mercury experts
 - Coming up with recommendations for each actor in relation to the issues that have been identified by surveys
 - Charting the course of action toward the full-implementation phase for the Prefecture
 - Reflecting some of the recommendations in measures to be taken by the national government

<(ii) Supporting the training of mercury experts from other countries (with a scholarship program for foreign students studying in Japan)>

- ✧ To contribute to the global initiative against mercury, two foreign students studying mercury were accepted at the Prefectural University of Kumamoto and in its joint graduate school program with the National Institute for Minamata Disease (NIMD).

<(iii) Information communication at home and abroad>

- ✧ The Prefecture hosted the First Anniversary Forum of the Minamata Convention on October 18, 2014
(Under the joint sponsorship of the MOE, NIMD, Kumamoto Prefecture, and Minamata City)
 - The forum was attended by the Minister of the Environment, the Senior-Vice Minister of the Environment, and representatives from UN Environment Programme (UNEP) and other organizations
 - All first-year students at middle schools in Minamata City also attended the forum and delivered their message to the Minister of the Environment.
- ✧ Communication at the sixth session of the Intergovernmental negotiating committee on mercury(INC6) in Bangkok on November 3-7, 2014
 - Minamata disease patients told their stories, and a panel presentation was given.
 - Presenting the message that was delivered by first-year middle school students in Minamata City at the First Anniversary Forum of the Minamata Convention

As the Prefecture that has suffered Minamata disease, Kumamoto Prefecture took the following actions at its own initiative.

- ✧ Replacing the fluorescent lamps in the prefectural government's office with LED lamps. (Fluorescent lamps contain mercury.)
- ✧ Joint storage of mercury by Kumamoto Prefecture and Kumamoto City
 - Since before the Minamata Convention on Mercury took effect, Kumamoto Prefecture and Kumamoto City have been working together to store mercury in the amount corresponding to the total amount of mercury recovered from waste collected from the municipalities within the Prefecture, most notably fluorescent lamps. The idea is to ensure that mercury recovered from waste generated in the Prefecture will not be exported and cause mercury hazards in any other part of the world. Kumamoto City stores its portion while Kumamoto Prefecture stores the rest and displays it as a mercury-free PR exhibit in the prefectural government office.



Figure 20 A flyer of Kumamoto Prefecture's mercury-free initiative



Figure 21 A mercury-free PR exhibit in the Kumamoto prefectural government office

3.3 Ecological Monitoring of Oysters by Hiroshima Prefecture

Hiroshima Prefecture ranks the first in the production of oysters in Japan and the third in the world. The Health and Environment Center at the Hiroshima Prefectural Technology Research Institute works to ensure the hygiene management of this specialty of the Prefecture. The Center monitors possible pollution by testing oyster for organotin, a potential endocrine-disruptor.

3.4 Impact Assessment of Chemicals and the Development of a Total Risk Assessment Method by Shiga Prefecture

The Lake Biwa Environmental Research Institute at Shiga Prefecture conducts environmental monitoring in the basin of Lake Biwa with the simultaneous analysis of unregulated chemicals and, based on its findings, performs risk assessment.

The Institute also studies methods for ecological effect study using organisms for total risk assessment of the chemicals involved, which may be difficult with separate monitoring of each chemical substance.

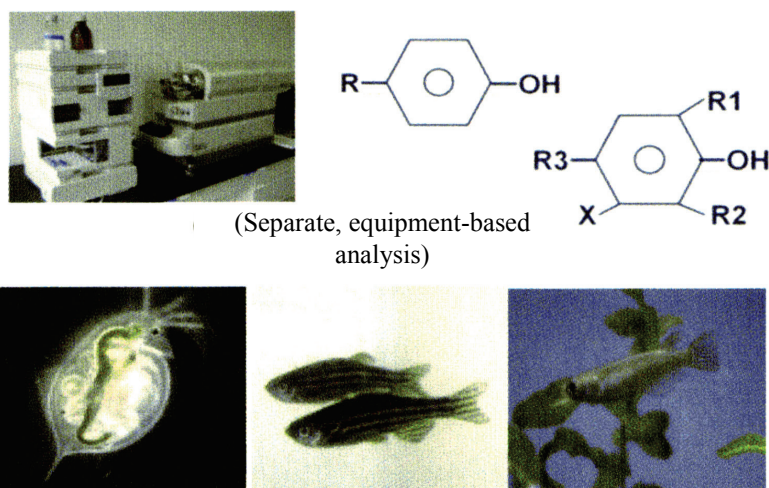


Figure 22 Ecological effect study

3.5 Promoting Environmental Risk Assessment of Chemicals by Kawasaki City

[Environmental Risk Assessment of Chemicals within the City]

To forestall environmental pollution with chemicals, Kawasaki City conducts environmental risk assessment that better reflects the realities in the City. To this end, the City compares predicted environmental concentrations that are calculated using PRTR release data and a mathematical model with actual concentrations that are measured in the Environmental Survey of Chemicals.

[Encouraging the Self-Management of Chemicals by Businesses by Promoting an Environmental Risk Assessment Guide]

Kawasaki City has developed a “guide on how to assess environmental risks in the vicinity of business establishments that handle chemicals.” This guide is designed for businesses that handle chemicals to take the initiative in assessing environmental risks around their establishments and work to reduce them accordingly. The City promotes this guide by, for example, organizing workshops on environmental risk assessment with the help of this guide.

3.6 Tokyo Metropolis's Chemicals Management in Times of Earthquake

Tokyo Metropolis has developed “the earthquake disaster prevention manual”, which sets out measures to be taken by businesses to prevent earthquake disaster risks with two facts in mind. One is that the Great East Japan Earthquake on March 11, 2011 triggered accidents at some of the business establishments in Tokyo that handle chemicals. The other is that a powerful earthquake expected to directly hit Tokyo will likely trigger chemical accidents (those involving, among other things, the leakage or spill of chemicals) that are more serious than those that occurred in the wake of the Great East Japan Earthquake on March 11, 2011 earthquake.

In addition, “the Tokyo Metropolis guidelines on the proper management of chemicals,” which set out measures to be taken by businesses that handle chemicals, have recently been revised. The revision has made the guidelines more responsive to earthquakes. More specifically, the revised guidelines call on the businesses handling chemicals subject to proper management to prepare and submit a statement of chemicals management procedure to the Governor.

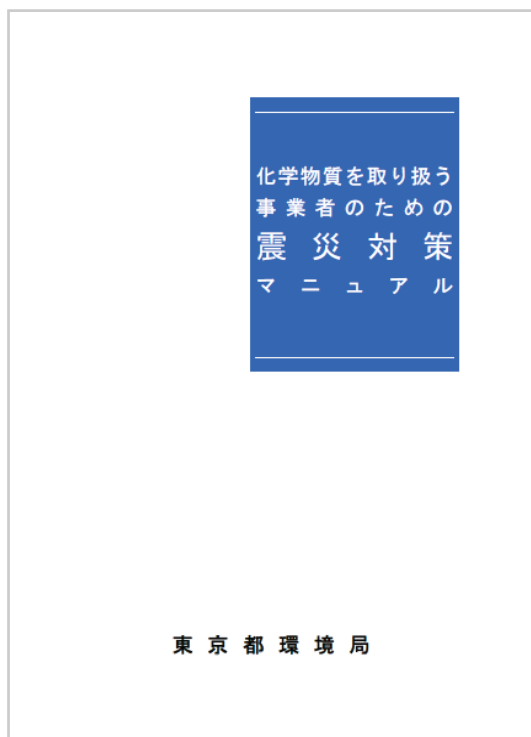


Figure 23 Earthquake disaster reduction manual of Tokyo Metropolis



Figure 24 The manual sets out specific measures with photos

3.7 Osaka Prefecture's Initiative to Encourage Businesses to Better Prepare for an Earthquake in Chemicals Management

The Great East Japan Earthquake on March 11, 2011 triggered spills of hazardous chemicals. Both the national government and Osaka Prefecture predict that a powerful Nankai Trough earthquake will cause serious damage in Osaka Prefecture due to such accidents. Many parts of Osaka Prefecture are packed with business establishments and private homes, increasing the risk of chemical spills polluting the environment in times of major disaster such as earthquake. This highlights the need to encourage businesses to strengthen their own management of chemicals.

Based on its chemicals management system, Osaka Prefecture encourages businesses to better prepare for a major disaster. Specifically, the system calls on them to follow the procedures shown below in studying and implementing risk reduction measures and submitting a document on these measures as a management plan document to the Governor.

- (i) Businesses take their initiative in assessing environmental risks and prioritizing measures to reduce such risks. Predicting the intensity of a powerful Nankai Trough earthquake and the height of the ensuing tsunami
 - Taking stock of facilities from which chemical spills are more likely
 - Assessing environmental risks of a chemical spill and prioritizing measures to reduce such risks
- (ii) Based on the results of procedure (i), businesses take risk reduction measures according to the chemicals they handle and the facilities they manage.

Osaka Prefecture developed and released “the casebook for businesses that handles chemicals to take measures from today” in July 2015, which sets out measures with photos to be taken by businesses for accidents such as leakage or spill of chemicals. Osaka Prefecture introduces the casebook to the various businesses through industrial organizations and encourages businesses to study and implement risk reduction measures for such accidents. Osaka Prefecture continues to collect information for further revisions of the casebook.

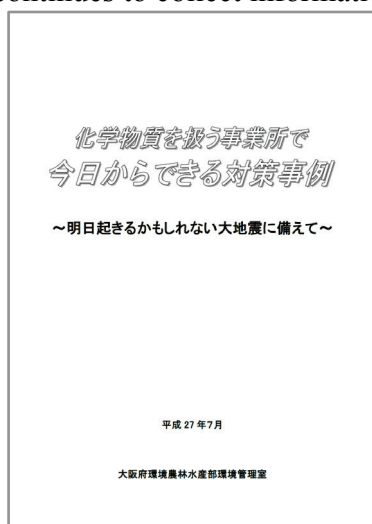


Figure 25 Osaka Prefecture's casebook to take measures for reducing environmental risk of chemicals in preparation for a major disaster



Figure 26 The casebook sets out specific measures with photos for accidents such as leakage or spill of chemicals

3.8 Osaka Prefecture's Initiative in Risk Communication

Osaka Prefecture works with Osaka City, Sakai City, and other municipalities to organize a seminar on chemicals management once a year. The seminar is designed for businesses within the Prefecture to deepen their understanding of the importance of reducing the release of chemicals and promoting risk communication. Good practices in risk communication by businesses are presented at the seminar, which is usually attended by about 400-500 people. Osaka Prefecture also discloses a summary of registrations under the PRTR system and the outcomes of this seminar on its website for local residents.



Figure 27 Chemicals management seminar in March 2015

