Management of Hazardous Chemicals in China

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National Registration Center for Chemicals, the State Administration of Work Safety (NRCC-SAWS)

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Outline

1. Overview of Chemical Management

2. “Regulation on the Control over Safety of Hazardous Chemicals”

3. Implementation and Progress of China
1. Overview of Chemical Management

-- Chemicals could be classified into industrial chemicals, agriculture chemicals (fertilizer, insecticide), medicine, veterinary medicine, food additives, cosmetics, etc., based on their usage. Various activities are involved, such as import/export, manufacture, transport, storage, sales, use and disposal.

-- Various departments/ministries involved in the Chemical management in China. Management measures include supervision and inspection, permits, prohibition & restriction and registration.
1.1 Supervision and Inspection

-- The most basic management measure. Enforcement authorities are responsible for supervision and inspection according to the law/regulation.

➢ **Safety Supervision**: supervision of work safety; management of safety supervision of hazardous chemicals; work place occupation hygiene.

➢ **Public Safety**: public safety management of hazardous chemicals; safety management of the transportation of hazardous chemicals

➢ **Quality Inspection**: supervision on the product quality; inspection of imported/exported hazardous chemicals an their packaging
1.1 Supervision and Inspection

- **Environmental Protection**: supervision management of disposal of hazardous chemicals; the environmental impact of the chemicals throughout the entire supply chain.
- **Transportation**: Ministry of Communications, Ministry of Railways and CAAC responsible for the safety management of roads, waterways and airways, respectively.
- **Hygiene**: Supervision management of occupation disease prevention.
- **Industry and Commerce**: Illegal purchase of hazardous chemicals by enterprises involved in the business.
- **Postal Service**: Delivery of hazardous chemicals.
1.2 Permits

—— The most important management measure.

- **Manufacture Permit**: Industrial product manufacture permit, insecticide manufacture permit, precursor chemicals manufacture permit (medicine and non-medicine), etc.

- **Business Permit**: Business Permit of hazardous chemicals, non-medicine precursor chemicals business permit.

- **Use Permit**: Hazardous chemicals Use Permit
1.2 Permits

- **Purchase Permit**: Toxic chemicals purchase permit, precursor chemicals purchase permit.

- **Transportation Permit**: Toxic chemicals road transportation permit, precursor transportation permit, dangerous goods road transportation permit.
1.3 Prohibition & Restriction

-- Important Measure

-- Advanced Countries: Risk Management; China:

- Borrowed the experience from advanced countries: “Measures on the Control of the pollution from electronic information products”, RoHS from EU.

- Implement the requirements imposed by the international Convention:
  Prohibit the manufacture of CFC except the substance used as medical inhalation aerosol, raw materials and exempted usages, according to Montreal Convention.
1.4 Registration of Chemicals

-- Registration of Hazardous Chemicals: Manufacture, Import of Hazardous Chemicals

-- Notification of New Chemicals: New Chemicals

-- Registration of insecticides: manufacture (including manufacture of raw insecticides, processing and sub-packaging) and import of insecticides.

-- Registration of Import/Export of Toxic Chemicals: “List of toxic chemicals prohibited or strictly restricted in China”
Outline

1. Overview of Chemical Management

2. “Regulation on the Control over Safety of Hazardous Chemicals”

3. Implementation and Progress of China
2. Regulation on the Control over Safety of Hazardous Chemicals (Decree No. 591)

- Feb 16th, 2011, Approved
- Dec 1st, 2011, Entered into force
- Mar 2nd, 2002, Decree No. 344
Legal System of Safety Work of Hazardous Chemicals

Constitution

Slip Laws (Chairman Order)

Regulation on Work Safety, Occupation Disease Prevention, etc

State Administration Regulation (State Department Order): Regulation on the Control over Safety of Hazardous Chemicals, Regulation on the control on precursor chemicals, Regulation on the supervision and control over Chemicals.

Department Directive (Department Order)

SAWS Order 40, 41, etc.

Local Regulation (Local People’s Congress Order)

Local Directive (Local Government Order)

Relevant National Standards GB13690, 15258, etc.

(Important technical standards, serve as the basis for enforcement)
Supporting Department Directives of SAWS:

1. “C&L Inventory” (being revised)
2. “Measures on the implementation of safe manufacture permit of hazardous chemicals manufacturer” (Order No. 41)
3. “Measures on the management of Hazardous Chemicals Business Permit” (being revised)
4. “Measures on the safe use permit of hazardous chemicals” (being revised)
5. “Measures on the management of safety supervision on the construction project of hazardous chemicals” (Order No. 45)
6. “Measures on the registration of hazardous chemicals” (To be released)
7. “Temporary regulation on the safety supervision management of hazardous chemicals of severe hazards” (Order No. 40)
8. “Regulation on the safety management of delivery channel of hazardous chemicals” (Order No. 43)
9. “Measures on the management of identification and classification of physical hazards of chemicals”
Other Supporting department directives from other Ministries/Departments

§ (1) “Measures on the environmental management of new chemical substances (MEP Order No. 7)

§ (2) “Measures on the registration of environmental management of Hazardous chemicals” (MEP Draft for comments)

§ (3) “Measures for the Administration of Licenses for the Purchase and Road Transportation of Highly-Toxic Chemicals” (Department of Public Security Order No. 77) (procedure changed, not yet revised)

§ (4) “Regulations Governing supervision and Control of Vessels Carrying Dangerous Goods” (Department of Communications Order No. 4, 2012)

§ (5) “Public Notice on the inspection and supervision of imported/exported hazardous chemicals and their packing” (Notice No. 30, 2012, General Administration of Quality Inspection and Quarantine)
### 2.1 The Main Changes of Decree No. 591

（1）Articles have been extended from 74 to 102, with many changes in the contents

<table>
<thead>
<tr>
<th></th>
<th>General Rules</th>
<th>Safety of manufacture and Storage</th>
<th>Usage Safety</th>
<th>Operation Safety</th>
<th>Transportation Safety</th>
<th>Registration of hazardous chemicals and emergency rescue</th>
<th>Legal Responsibility</th>
<th>Supplemental Provision</th>
<th>Total</th>
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<tr>
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<td>17</td>
<td>5</td>
<td>10</td>
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<td>22</td>
<td>6</td>
<td>102</td>
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<tr>
<td>Old</td>
<td>6</td>
<td>20</td>
<td>8</td>
<td>12</td>
<td>8</td>
<td>16</td>
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</table>

国家安全生产监督管理总局化学品登记中心
（2）Reform of National Institutions

State Economic and Trade Commission

Ministry of Industry

State Administration of Work Safety

国家安全生产监督管理总局化学品登记中心
Decree 591 defined the responsibilities of departments of Work Safety

1. Responsible for comprehensive work of supervision and management of hazardous chemicals
2. To identify, announce and adjust the list of hazardous chemicals
3. Inspect the safety conditions of projects of newly construction, renovation, expanded production and storage of hazardous chemicals (including use of long-distance pipeline for the transportation of hazardous chemicals)
4. Issue safe production permit, safety use permit and operation permit of hazardous chemicals
5. Responsible for the registration of hazardous chemicals
(3) Establish the policy on Safe Use Permit

- Restriction Condition

1. Chemical Industries

2. Use of hazardous chemicals with the specified tonnage reached.
Adjust the Definition of Hazardous Chemicals

Old definition under Decree No.344 (Article 3) Hazardous chemicals include the explosive chemicals, compressed and liquefied gas, flammable liquids, flammable solids, spontaneously combustible and water-react substances, oxidizers and organic peroxides, toxic and corrosive substances, etc.

New definition (article 3) Hazardous chemicals refer to the highly-toxic chemicals or other chemicals of toxic, corrosive, explosive, flammable, and comburent properties, which will cause health or environmental hazards.
(5) Work out the mechanism on establishment and adjustment of inventory of hazardous chemicals

Inventory of hazardous chemicals is established, released and adjusted timely, according to the identification and classification of hazardous properties of chemicals by the State Administration of Work Safety, Industry and Information of State Council, the Ministry of Public Security, MEP, etc. (10 Departments).

“List of Hazardous chemicals ” 2002
“List of highly-toxic chemicals ” 2002
(6) Improve the measures on hazardous chemicals registration

- Adjust the scope of the chemicals subjected to hazardous chemicals registration
- Adding new requirements of registration, e.g., Chemicals classification and labeling information, physical and chemical properties, main uses, hazardous characteristics, requirements of safety storage, usage and transport, emergency measures in urgent situations.
- Dynamic registration
(7) Improve the transportation policy in the inland river

Article 54 Prohibit the transportation of highly-toxic chemicals and other hazardous chemicals specified by the government through closed inland river.

Prohibit the transportation of highly-toxic chemicals and other hazardous chemicals specified by the government through the inland river not included in the above Article.
(8) Purchase and Transportation of highly-toxic chemicals

Article 38 Entities could only purchase highly-toxic chemicals with safe manufacture permit, safe use permit and business permit of hazardous chemicals.

Entities not mentioned in the above Article can purchase highly-toxic chemicals by applying for the purchase permit from the policy department of peoples’ government of the local county. (Note: The original article used proof of purchase and purchase permit).

Article 50 The consignees transport highly-toxic chemicals on road should apply for the road transportation pass from the policy department of the people’s government from the origin and arrival counties.
### 2.2. Summary of Decree No.591

(1) Five Lists/Inventories Announcement Policies

<table>
<thead>
<tr>
<th>Inventory of hazardous chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of the hazardous chemicals of priority environmental management</td>
</tr>
<tr>
<td>List of Hazardous Chemical substances susceptible to explosion (Released)</td>
</tr>
<tr>
<td>Usage Tonnage standard of hazardous chemicals (Draft for Comments)</td>
</tr>
<tr>
<td>List of highly-toxic chemicals and other hazardous chemicals prohibited to be transported though inland rivers.</td>
</tr>
</tbody>
</table>
(2) Four Record Policies

1. Fulfillment Record of the safety assessment report and reform proposal (Safety Supervision or Harbor Administrative Department of the County) (Article 22).

2. Storage Record of highly-toxic chemicals and other hazardous chemicals with storage tonnage large enough to pose as high risks (Safety Supervision, or Harbor Administrative Department, Police Department of the County) (Article 25)

3. Sale Record of highly-toxic chemicals and chemicals susceptible to explosion. (Police Department of the County) (Article 41)

4. Emergency Rescue Measure Record for hazardous chemicals accidents (Safety Supervision Department of the City Level)
Outline

1. Overview of Chemical Management

2. “Regulation on the Control over Safety of Hazardous Chemicals”

3. Implementation and Progress of China
- General rules for preparation of label for chemicals GB 15258-2009
- Safety data sheet for chemicals-Content and order of sections GB/T 16483-2008
- Safety rules for classification, precautionary labeling and precautionary statements of chemicals GB 20576-20599, 20601, 20602-2006
- Announcement of classification and hazards of chemicals General Rules GB 13690-2009
- Classification and hazard pictograms for chemicals—General specifications GB/T 24774-2009
- Labeling rules of chemicals based on GHS GB/T 22234-2008
- Classification and coding of dangerous goods GB 6944-2005
- List of dangerous goods GB 12268-2005
- Packing symbol of dangerous goods GB 190-2009
<table>
<thead>
<tr>
<th>Hazard category</th>
<th>CLP</th>
<th>JIS Z7252</th>
<th>GB13690,GB20576-20599,GB20601,GB20602</th>
<th>GHS2009(rev3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>category 1-3</td>
<td>category 1-4</td>
<td>category 1-4</td>
<td>category 1-4</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>category 1-4</td>
<td>category 1-4</td>
<td>category 1-5</td>
<td>category 1-5</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>category 1(1A1B1C)-3</td>
<td>category 1(1A1B1C)-3</td>
<td>category 1(1A1B1C)-3</td>
<td>category 1(1A1B1C)-3</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>category 1-2</td>
<td>category 1,2A2B</td>
<td>category 1,2A2B</td>
<td>category 1,2A2B</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>1(1A1B),1(1A1B)</td>
<td>1(1A1B),1(1A1B)</td>
<td>1,1</td>
<td>1(1A1B),1(1A1B)</td>
</tr>
<tr>
<td>Specific target organ toxicity—single exposure</td>
<td>category 1-3</td>
<td>category 1-3</td>
<td>category 1-2</td>
<td>category 1-3</td>
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<tr>
<td>Aspiration hazard</td>
<td>category 1</td>
<td>category 1-2</td>
<td>--</td>
<td>category 1-2</td>
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<tr>
<td>Hazardous to the aquatic environment</td>
<td>Category: acute 1-3, chronic 1-4</td>
<td>Category: acute 1-3, chronic 1-4</td>
<td>Category: acute 1-3, chronic 1-4</td>
<td>Category: acute 1-3, chronic 1-4</td>
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<tr>
<td>Hazardous to the ozone layer</td>
<td>category 1</td>
<td>--</td>
<td>--</td>
<td>category 1</td>
</tr>
</tbody>
</table>
General rules for preparation of labels for chemicals

- The second revised edition of GHS (2007)
- One year transitional period
危险

极易燃液体和蒸气，食入致死，对水生生物毒性非常大。

【预防措施】
- 远离热源，火花，明火，热表面。使用不产生火花的工具作业。
- 保持容器密闭。
- 采取防止静电措施，容器和接收设备接地/连接。
- 使用防爆电器、通风、照明及其他设备。
- 戴防护手套/防护眼镜/防护面罩。
- 操作后彻底清洗身体接触部位。
- 作业场所不得进食、饮水或吸烟。
- 禁止排入环境。

【事故响应】
- 如皮肤（或头发）接触：立即脱掉所有被污染的衣服，用水冲洗皮肤/淋浴。
- 食入：催吐，立即就医。
- 收集泄漏物。
- 火灾时，使用干粉、泡沫、二氧化碳灭火。

【安全储存】
- 在阴凉、通风良好处储存。
- 上锁保管。

【废弃处置】
- 本品及其容器采用焚烧法处置。

请参阅化学品安全技术说明书。

供应商：xxxxxxxxxxxxxxxxxxxxxxxxxx  电话：xxxxxxxxxx
地址：xxxxxxxxxxxxxxxxxxxxxxxxxx              邮编：xxxxxxxxxx
化学事故应急咨询电话：xxxxxxxxx
Appendix A: Provides the samples of safety label and simplified label

化学品名称：

危险：

极易燃液体和蒸气，食入致死，对水生生物毒性非常大。

【预防措施】：
- 远离热源、火源和热表面。禁止吸烟。使用不产生火花的工具作业。
- 保持良好通风。
- 采取防止静电措施。容器应接地并使用接地良好的设备。
- 使用防爆电器、通风、照明及其他设备。
- 穿戴防护服和防护眼镜。操作后彻底清洗身体接触部位。
- 工作场所不得进食、饮水或吸烟。
- 禁止放入排水沟。

【事故响应】：
- 如皮肤（或头发）接触：立即脱掉所有被污染的衣服，用水冲洗皮肤、淋浴。
- 食入：应时，立即呼救毒物控制中心或就医。
- 收集泄露物。
- 火灾时，使用干粉、泡沫、二氧化碳灭火。

【安全储存】：
- 在阴凉、通风良好处储存。
- 上锁保管。

【废弃处置】：
- 本品及其容器采用焚烧法处置。

生产商：******************************************* 电话：**********

化学事故应急咨询电话：0532-83389090

国家安全生产监督管理总局化学品登记中心
Safety data sheet for chemicals - Content and order of sections

- ISO 11014
- GHS, the second revised edition (2007)
- Abolished the claims of [A], [B], [C]
1. Identification of the chemicals and the suppliers
2. Hazards identification
3. Ingredients/Composition information
4. First aid measures
5. Firefighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information
Safety rules for classification, precautionary labeling and precautionary statements of chemicals GB 20576-20599, 20601, 20602-2006

GHS Implementation:
Department of Industry and Information: GHS Website:
http://ghschina.miit.gov.cn/n11293472/n11293877/n14505342/index.html
Safety Supervision: Registration of Hazardous Chemicals
Inspection and Quarantine: Import/Export
MEP: Notification of New Chemicals

STATE COUNCIL LEGAL SYSTEM OFFICE:
HTTP://WWW.CHINALAW.GOV.CN/
Brief Introduction

The National Registration Center for Chemicals of the State Administration Work Safety (NRCC-SAWS) which is originally called National Registration Center for Chemicals, was established as an independent institute under the authority of former Minister of Chemical and Labor in 1997. NRCC-SAWS is a comprehensive technical support agency handling safety control of hazardous chemicals in China. In 2004, it was allocated to the State Work Safety Supervision Administration, approved by the Office of Central Institutional Organization Commission, which is directly affiliated to the SAWS.
Organization Structure

Registration Center for Chemicals

- Registration Management Department
- Identification and Classification
- Emergency Response
- Safety Standard
- Comprehensive Management
1. Emergency response of chemical accidents

National Chemical Accidents Response Hotline: 0532-83889090

Since January 1, 1998, the hotline has been offering 24-hour emergent consulting services for chemical spills, explosions, fires and poisons for its members of 8,000 companies.

Until end of April 18th, 2012, 48,390 consulting calls were received. During 2011, 6,576 consulting calls were received, of which 1237 are for chemicals information and 299 for chemical accidents. The consulting calls involve insecticides such as Lorsban, chlorpyrfos, haloxyfop and Nurelle D505 and other hazardous chemicals such as dichlorobenzene, hydrofluoric acid, sodium hydroxide, dichloromethane, trichlorosilane, MEKP, sulphuric acid, hydrogen peroxide. The consulting contents cover chemicals fire, explosion, leakage disposal, emergent rescue of damaged personnel.
2. Identification the classification of chemicals

Chemical laboratory of identification of hazardous chemicals has obtained class A qualification in inspection and testing by SAWS, approved by National measurement accreditation, qualified of the new name identification by Ministry of Railways.

With advanced equipment and high-quality professional technical team, they can carry out testing of chemical risk parameters, physical and chemical parameters for EU REACH, chemical classification and risk assessment, provide technical support for control of chemicals hazards and analysis of accident cause. Earlier 2009, according to criterion of REACH and standard of GLP, they purchased the equipments and improved the experiment methods and lab management documents according to the REACH and the GLP standard. Currently requirements have been met for the testing of 17 physical and chemical properties, in accordance with EU REACH.
3. Development of Laws, Regulations and Standards

- Participate to revise the “Regulations on the Control over Safety of Hazardous Chemicals”
- Compile an Revise the “Inventory of hazardous chemicals” and “List of highly-toxic chemicals”
- Compile and Revise the “Measures on the registration management of hazardous chemicals”
- Compile the “Measures on the implementation of safe use permit of hazardous chemicals”
- Draft “Measures on the permit of production and operation of non-medicine precursor chemicals”
- Draft the “List of first batch of key hazardous chemicals under priority management”
- Compile “General rules for the evaluation of hazardous chemicals”
- Compile “General rules for preparation of safety data sheet for chemical products”
- Compile “General rules for preparation of precautionary label for chemicals”
- Compile “General regulation for preparation of precautionary label for chemicals in workplace” (About to issue)
- Compile “Rules of security standardization for the hazard chemicals enterprises”, and “Execution guideline of safety standardization (AQ standard) for manufacturers of chloralkali, ammonia, calcium carbide, dissolved acetylene and coating”
- Standards on emergency rescue materials for hazardous chemicals enterprises
Thank you!

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