

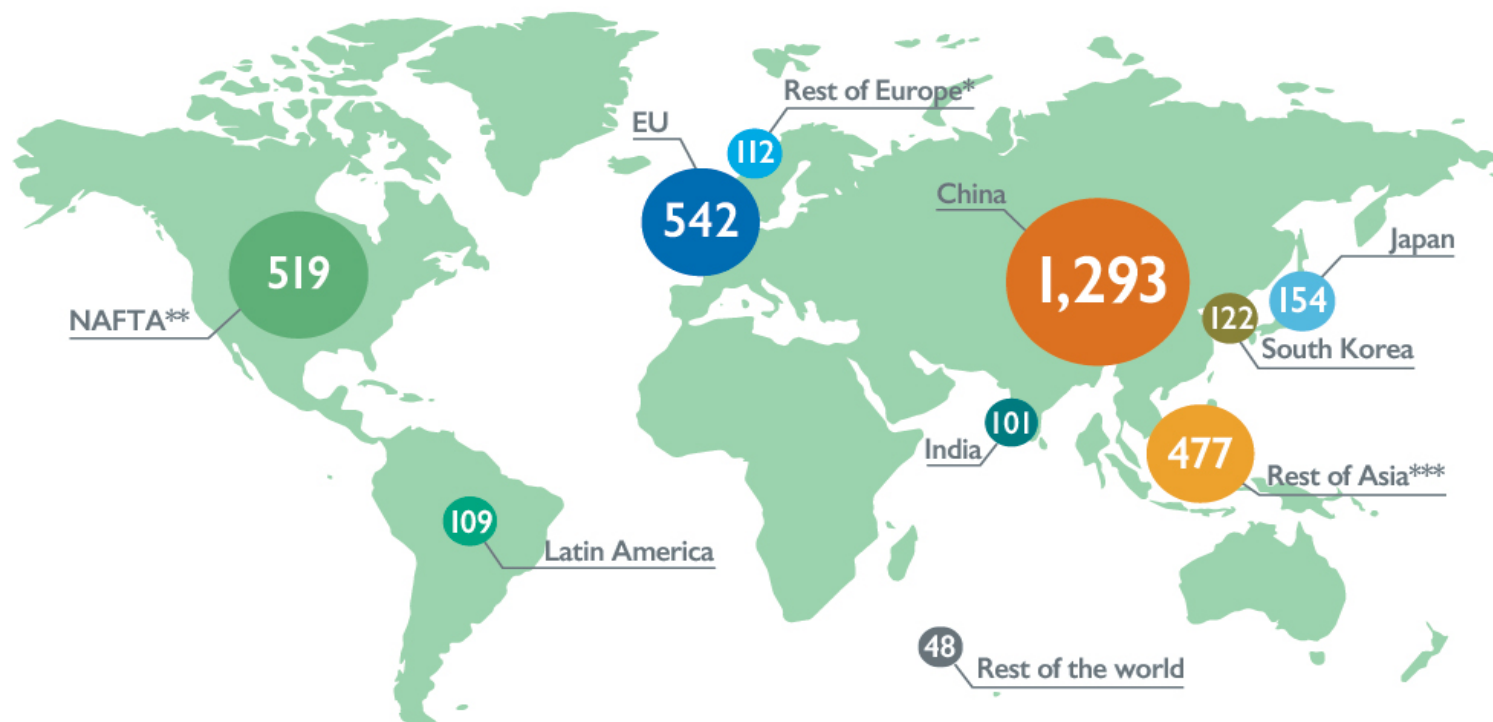


ASEAN: Chemical Outlook

May 14 ,2019

Maria Ruiz-Cuevas
mcu@cefic.be

World chemical sales (€3,475 billion)



Source: Cefic Chemdata International 2018

* Rest of Europe covers Switzerland, Norway, Turkey, Russia and Ukraine

** North American Free Trade Agreement

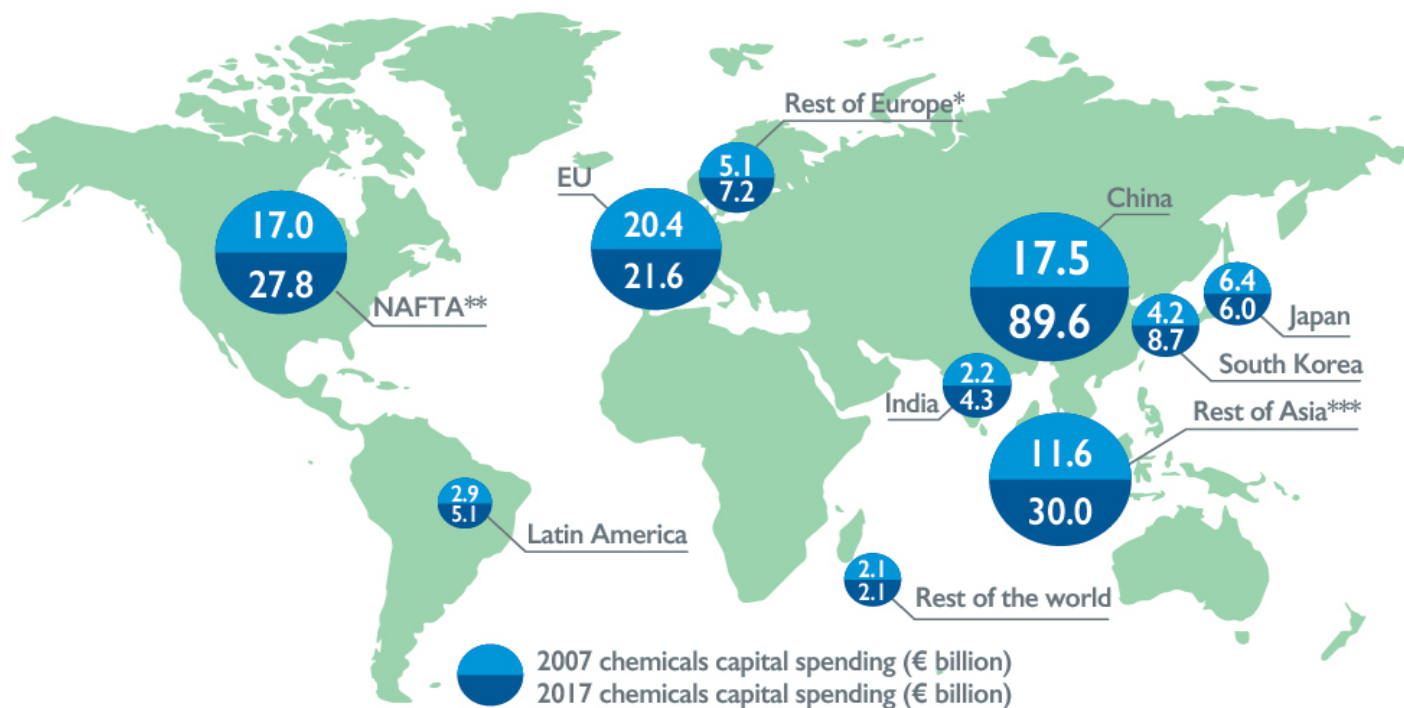
*** Asia excluding China, India, Japan and South Korea

Unless specified, chemical industry excludes pharmaceuticals
Unless specified, EU refers to EU 28

China dominates world chemicals investment



Capital spending by region



Source: Cefic Chemdata International 2018

* Rest of Europe covers Switzerland, Norway, Turkey, Russia and Ukraine

** North American Free Trade Agreement

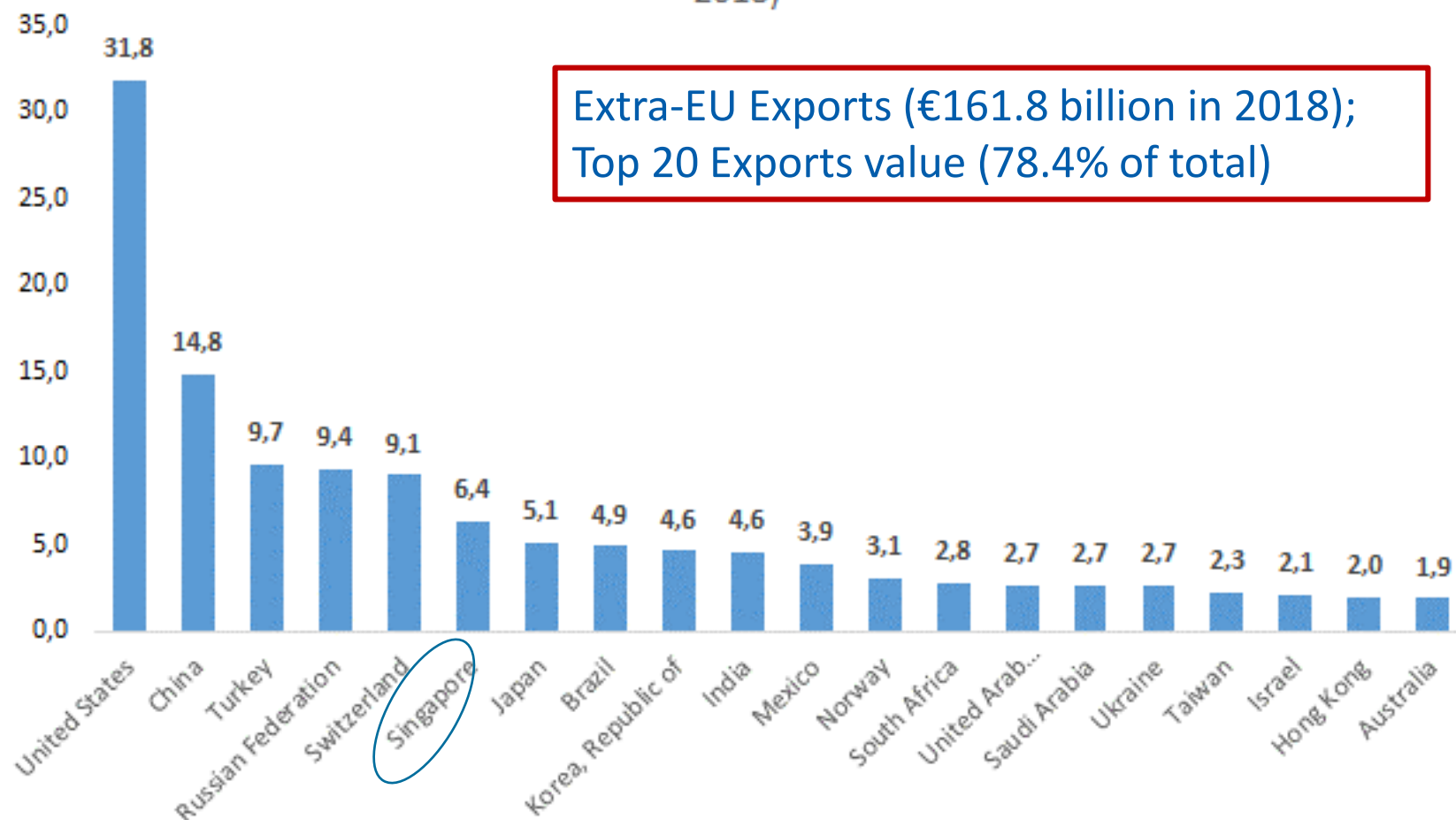
*** Asia excluding China, India, Japan and South Korea

Unless specified, chemical industry excludes pharmaceuticals
Unless specified, EU refers to EU 28

Top20: The largest EU chemicals exporting markets to non-EU area (€ billion, 2018)



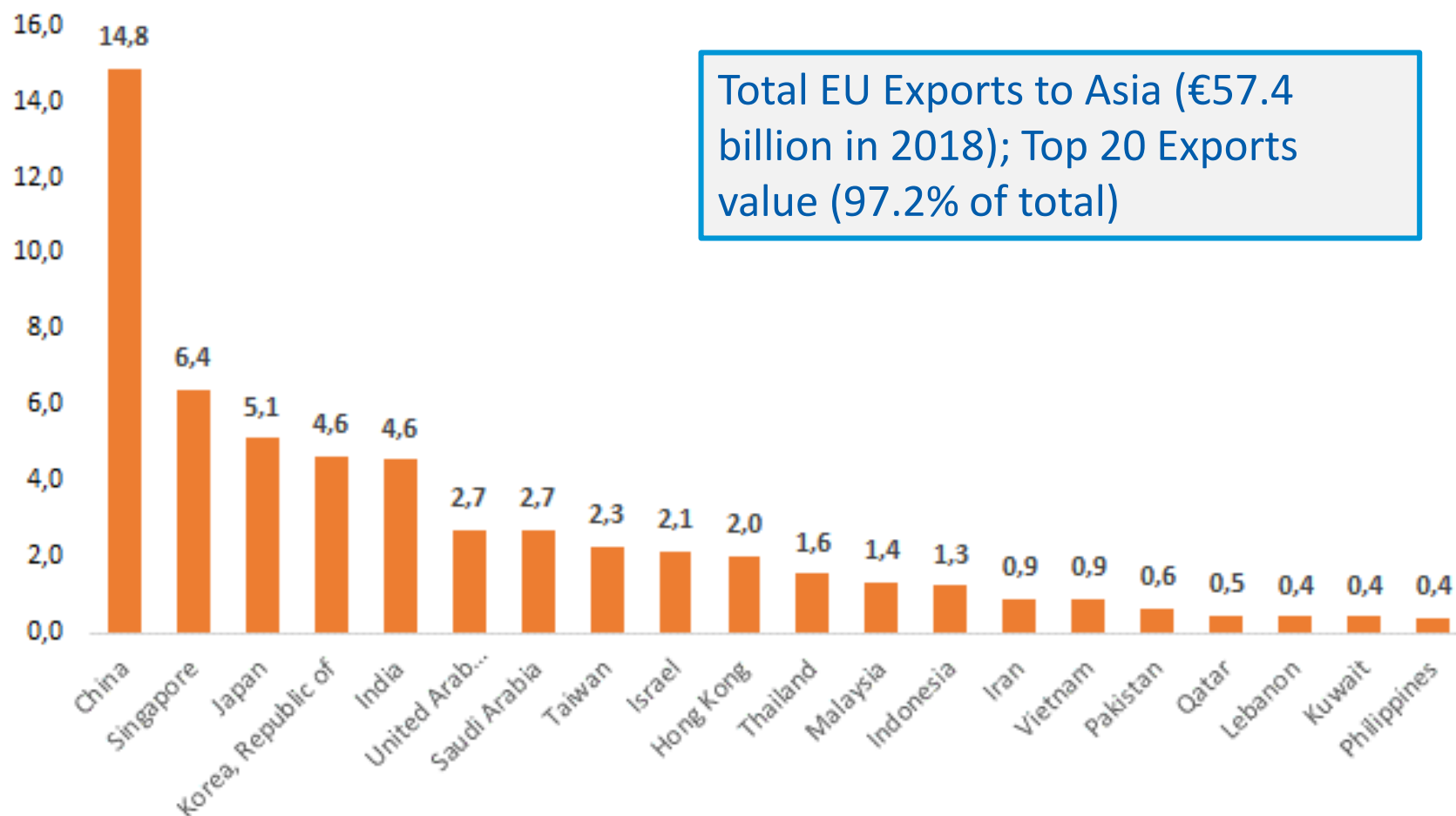
Top20: The largest EU chemicals exporting markets to non-EU Area (€ billion, 2018)



Top20: The largest EU chemicals exporting markets to Asia (€ billion, 2018)



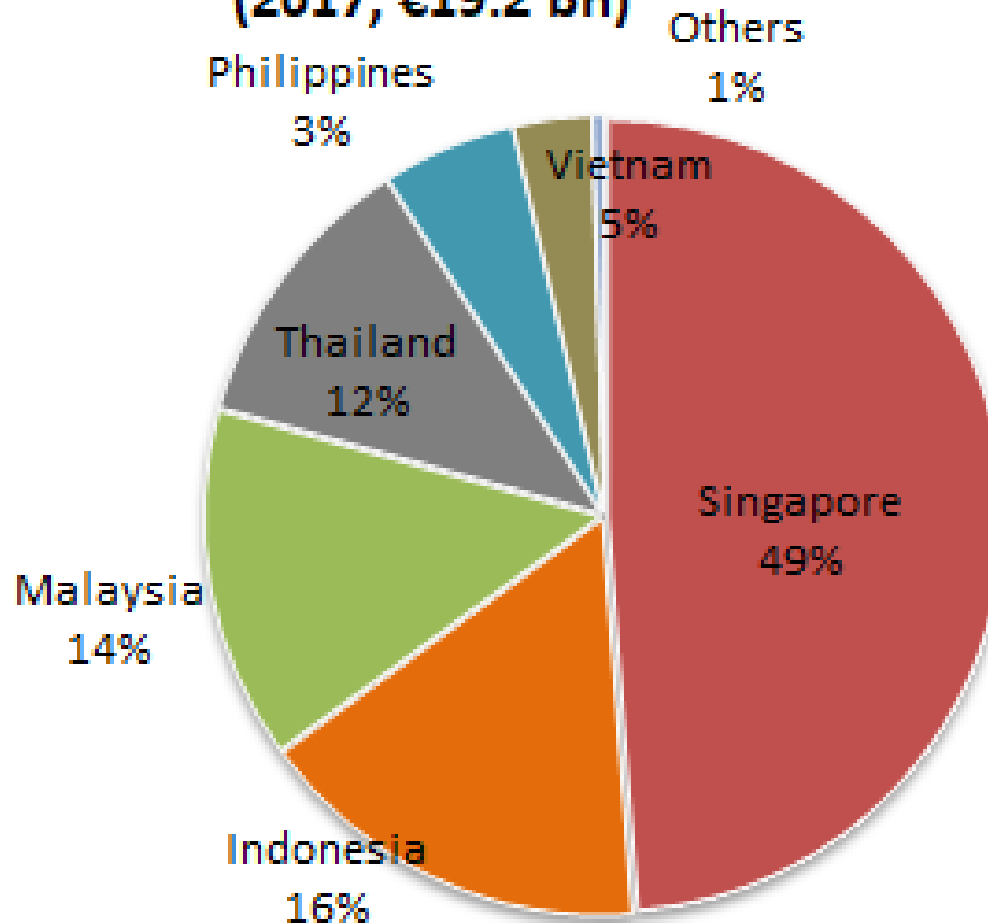
Top20: The largest EU chemicals exporting markets to Asia (€ billion, 2018)



EU chemicals trade with ASEAN by country

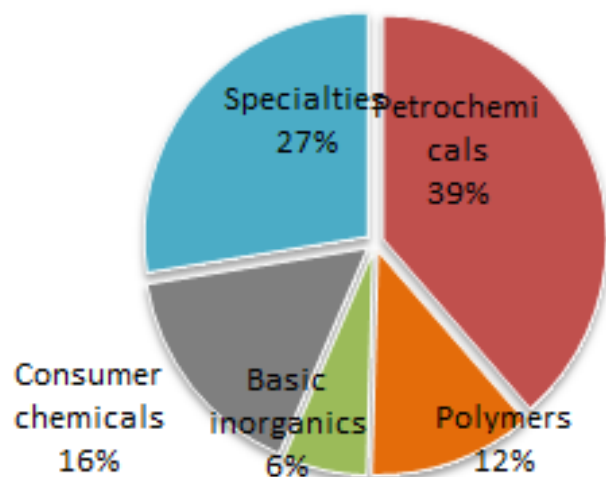


EU Chemicals trade with ASEAN by country (2017, €19.2 bn)

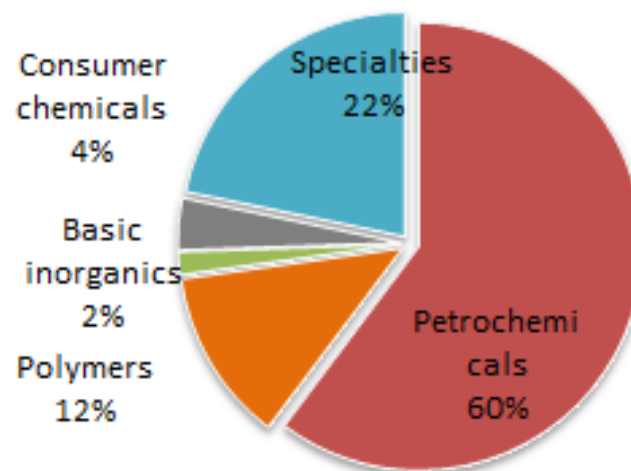


EU chemicals trade flows with ASEAN by sector

EU Exports to ASEAN 2017: €11.2 billion



EU Imports from ASEAN 2017: €8.0 billion



EU chemicals trade surplus with ASEAN (€3.2 bn)

Chemical Associations in ASEAN



Thailand

FTI CIC (FEDERATION OF THAI
INDUSTRY-CHEMICAL INDUSTRY
CLUB)



Malaysia

CICM (CHEMICAL INDUSTRIES
COUNCIL OF MALAYSIA)



Vietnam

CSV (CHEMICAL SOCIETY OF
VIETNAM)



Indonesia

FIKI (FEDERATION OF THE
INDONESIAN CHEMICAL
INDUSTRY), RCI (RESPONSIBLE
CARE INDONESIA)



Philippines

SPIK (CHEMICAL INDUSTRY
ASSOCIATION OF PHILIPPINES)

Myanmar

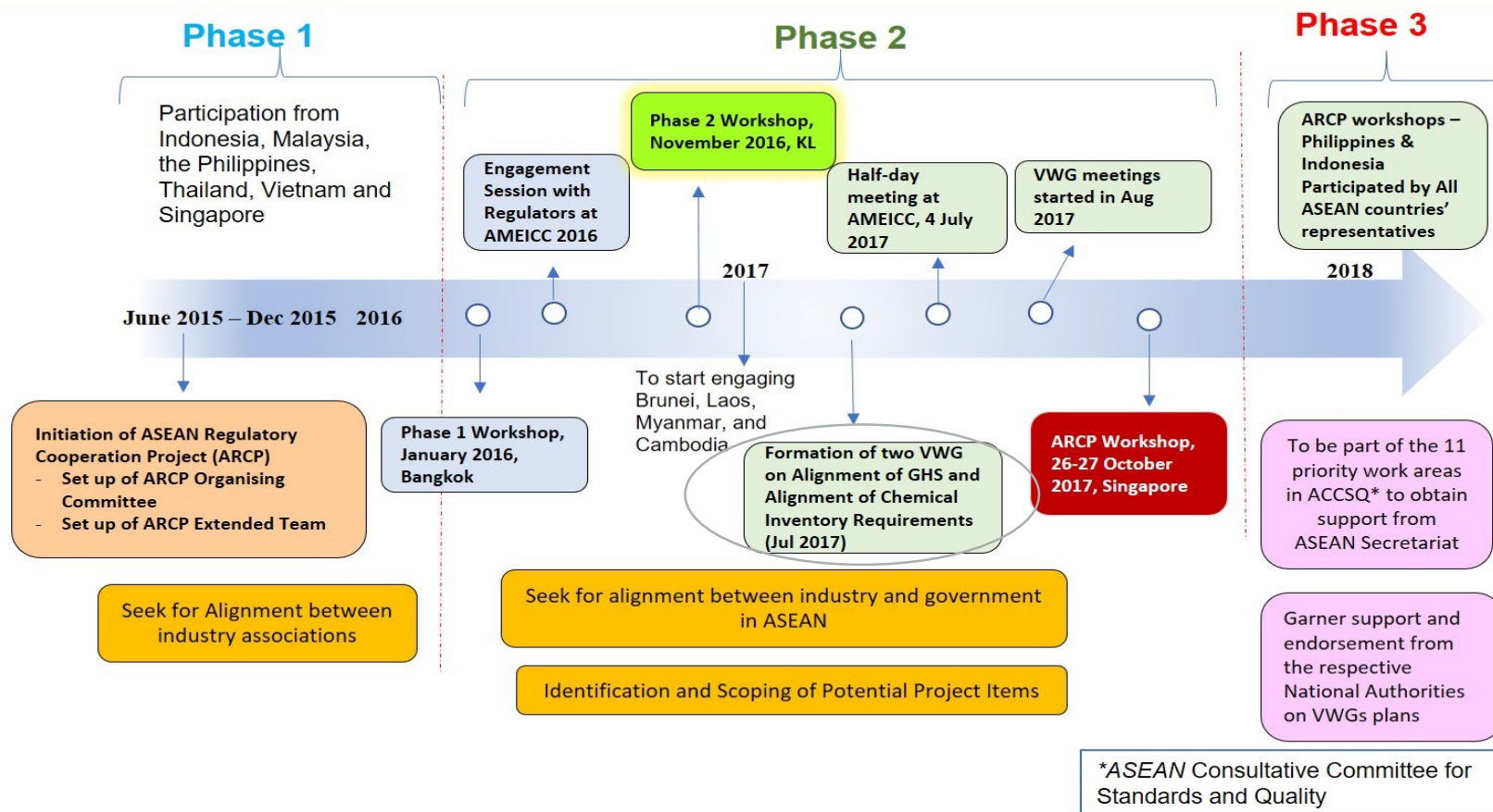
MCIA (MYANMAR CHEMICAL
INDUSTRY ASSOCIATION)

SCIC
SINGAPORE CHEMICAL
INDUSTRY COUNCIL

ICCA's Global Regulatory Cooperation: ASEAN



Milestone (2015 to 2018)



Chemical Regulations in ASEAN



Image: ASEAN

<https://www.chemsafetypro.com/>

SINGAPORE



Singapore has adopted the **GHS** in workplace since 2008. Under the Work Safety and Health Regulations administered by the Ministry of Manpower (MOM)

➤ Deadline of implementation for substance/ mixture:

Manufacturers/Suppliers Timeline	Timeline
Single Substances	
All hazardous substances except ozone depleting substances, chemically unstable gases, aerosols, sensitisers (based on GHS purple book Rev 2)	Feb 2012
Ozone depleting substances, chemically unstable gases, aerosols, sensitisers (based on GHS purple book Rev 4)	1 Jul 2015
Mixtures	1 Jul 2015

Users	Timeline
Single Substances	
All hazardous substances except ozone depleting substances, chemically unstable gases, aerosols, sensitisers (based on GHS purple book Rev 2)	End 2012
Ozone depleting substances, chemically unstable gases, aerosols, sensitisers (based on GHS purple book Rev 4)	1 Jul 2015
Mixtures	1 Jul 2016

SINGAPORE



SS 586:(2014) Standard on hazard communication for hazardous chemicals and dangerous goods, which consists of the following three parts:

- Part 1: Transport and storage of dangerous goods,
- Part 2: GHS of classification and labelling / Singapore's adaptations
- Part 3: Preparation of SDS.(processes , handling and storage , exposure control personal protection disposal consideration and transport information)

It does not cover pharmaceutical substances and preparations during its intended use, but the industrial production of the substances are covered.

Chemical suppliers must provide SDS for their hazardous chemical products, and any occupier of a workplace must label the containers of hazardous substances.

SINGAPORE : GHS



Tripartite Alliance for
Workplace Safety and Health



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Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Chemical Management and GHS Hazard Communication Taskforce

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Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Globally Harmonised System of Classification and Labelling of Chemicals (GHS)



What is GHS?

The Globally Harmonised System of Classification and Labelling of Chemicals (GHS) is a system for chemical classification and hazard communication through harmonised provisions for standardised labels and safety data sheets (SDS) developed by United Nations.

Singapore has adopted GHS in 2002, and it is important that GHS forms an integral part of chemical management[®] at the workplace. Chemical manufacturers and suppliers are required to classify and label their products, prepare SDS and make related product information available to their

wshc.sg/ghs



Environmental Protection And Management Act EPMA (Chapter 94A)

- (Part III -V); specifies requirements of the Air Pollution Controls, the Water Pollution Controls; the Land Pollution Controls
- **(Part VI); the Hazardous Substances Controls**
- Part IX specifies the conditions for Licences and Industrial Plant Works.
- Part X contains the description of the Environmental Pollution Control Measures. Enforcements
- (Part XI), Compensation, Damages, Fees, Costs and Expenses

Second Schedule contains the List of Hazardous Substances and exemptions. A license/permit is required prior to import, export, sales, purchase, storage, transport and/or use of these hazardous substances

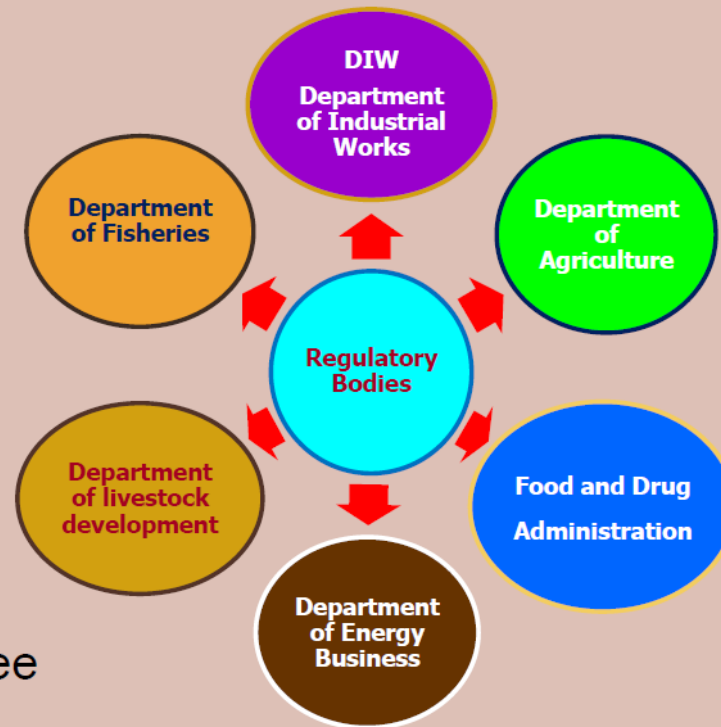
Authority : **National Environmental Agency (NEA)**

THAILAND



Hazardous Substances Act, B.E. 2535

- Implemented since 1992 / latest revised in 2008 (rev.3)
- 6 relevant regulatory bodies from 4 Ministries
- Hazardous substances committee



Hazardous Substance Act (HSA)

The purpose is to regulate the importation, production, marketing, and possession of all hazardous chemicals (including industrial chemicals, pesticides and biocides)

THAILAND



Hazardous Substance Act (HSA)

The Hazardous Substances List in Thailand includes over 1,500 chemicals . This list is further divided into 6 annexes based on responsible authorities.

- ANNEX V under Department of Industrial Works (DIW)

Hazardous substances are regulated in Thailand following this classification

Type 1	<ul style="list-style-type: none">• Hazardous substances that require monitoring due to their low degree of hazard;• Compliance with the rules, procedure and conditions as prescribed by responsible Ministry;• For example, DIW requires the notification of the production and import of >1t/y hazardous chemicals (type 1).
Type 2	<ul style="list-style-type: none">• Hazardous substances that that are subject to both monitoring and controlling;• Registration required;
Type 3	<ul style="list-style-type: none">• Hazardous substances that are subject to stricter control because of their higher degree of hazard;• Registration & license required;
Type 4	<ul style="list-style-type: none">• Hazardous substances that are considered to pose a vital risk to humans;• Prohibition of production, import, export, or possession;

Note: In Thailand, hazardous substances include both substances and mixtures.

Current Development of a Chemicals Inventory Approx. 18,000 chemicals are collected

- In 2016 DIW launched a preliminary existing chemicals list of Thailand
<http://haz3.diw.go.th/invhaz>



- **Thailand's Hazardous Substance Act revision**

Approved April 30. It will come into force on October 28, 2019

Main changes are :

- Revises the definition of “import” & “export” and adds definitions for “transit,” “re-import,” “re-export,” “packaging,” “advertisement,” and “liability” (regarding damages occurring from chemical products)
- On international shipments of hazardous substances, the rules seek to differentiate imports and exports from other transboundary shipments Registration will not be required for transboundary shipments.
- Registration for the production or importation of hazardous substances (Type 2 and 3), valid for ten years.

Other changes include:

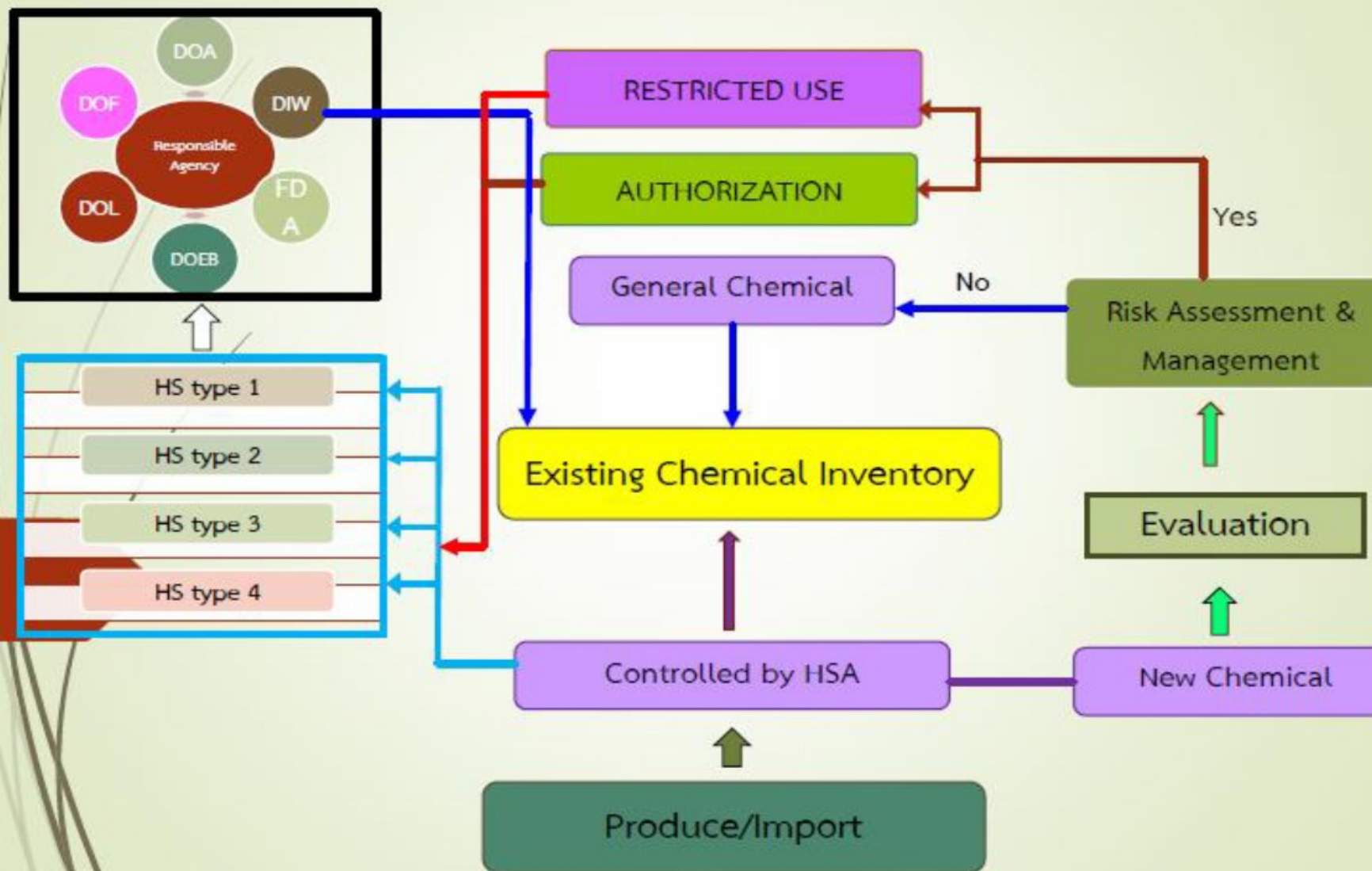
- Updating the national hazardous substance committee's organization structure and duties.
- Adding an exemption for R&D
- Updating the criteria for advertisement and sales promotion. (

- **GHS** based on UN 3rd revision (2012) applies to chemicals under the authority of DIW. The deadline for substances is March 13, 2013 and for mixture, March 13, 2017. SDS standard 16 section in Thai

THAILAND



CHEMICAL MANAGEMENT OVERVIEW



INDONESIA



GHS : UN GHS 4th Revised edition Depending on Ministry of industry
Implementations Single substances 2013 Mixtures 2016

Government Regulation number 74 /2001 (PP 74/2001);

Concerning Management of Dangerous and Toxic Substances . It covers production, storage, packaging, symbol and labelling, transportation, export - import and disposal.

Some important points under regulation PP 74/2001 are:

- 1. Hazardous and Toxic substances (B3; Bahan Berbahaya dan Beracun).** 3 categories
 - Allowed to use/ Usable B3 (209#), Requires registration prior to production/import for the first time .If not listed but hazardous will require notification for 1st import
 - Restricted/Limited Use B3 (10#), Requires both registration and notification prior to export/import for the first time
 - Forbidden/ Banned B3 (45#) Banned for import and use

Registration at the Ministry of Environment to get a registration number which is valid for 1 year.

Everyone who produces Hazardous and Toxic substances must produce SDS (article 11).
Transportation, storage and distribution activities also need an SDS.

INDONESIA



Indonesia will have a new Chemical regulation called “**Chemical Act**”.

Now there are several chemical regulations controlled by different Ministries (Health, Industry, Labor, Environmental, and Agriculture) as well as Food and Drug Control Agency. This Act would reduce overlaps amongst authorities.

There are some important points covered in this Act:

- Hazard Communication: Classification and Labelling will adopt GHS, Labels and SDS are a must.
- All parties who use hazardous chemical substances should possess permit/license. For industrial purpose the responsible is Ministry of Industry
- Storage and Distribution of chemicals are regulated. Technical details would be available under separate regulation of related Ministry.

Currently no further progress has been reported.



Malaysia's Occupational Safety and Health Act (Osha) 1994 stipulates the general provisions for managing chemicals in the workplace.

Osha is the overarching law, enforced by DOSH for the following underlying regulations:

- Classification, Labelling and Safety Data Sheets of Hazardous Chemical Regulations 2013 (CLASS Regulations);
- Use and Standard of Exposure of Chemicals Hazardous to Health Regulations, 2000 (USECHH Regulations);
- Control of Industrial Major Accident Hazards Regulations, 1996 (CIMAHA Regulations);
- Occupational Safety and Health (prohibition use of substances), Order 1999 (Osh).

Malaysian authorities are acting to revise regulations and streamline existing chemical legislation



Malaysia officially introduced GHS by its **CLASS Regulations** in 2013 Full enforcement began on April 2015. It is based on the 3rd revision of UN GHS.

Industry code of practice on chemical classification and hazard communication **ICOP 2014**: Guidance to comply with CLASS

Part I: list of classified chemicals; **Part I is revised every year.**

Part II: chemicals classification;

Part III: hazard communication: labelling and SDS (in Malay and English)

Part IV: confidential business information.

The authorities plan to revise parts II-IV next year.

CLASS regulations require mandatory notification to DOSH of hazardous chemicals imported or supplied for 1 ton per year or above for each calendar year.

Product identifier; Name of each hazardous chemical; Composition and ingredients of each hazardous chemical; Hazard classification; Total quantity of each hazardous chemical supplied

➤ on line via Chemicals Information Management System (CIMS)

GHS for consumer products to be implemented very soon.

MALAYSIA



A voluntary **Environmentally Hazardous Substance Notification and Registration (EHS N&R)** is currently in place under the jurisdiction of the Department of Environment. DOE

- Objective of EHSNR is to collect information from industry about the hazardous substances that are on the Malaysian market by introducing a notification requirement for such substances manufactured in or imported to Malaysia.

EHSNR help the DOE to establish the Malaysian Chemicals Register and work with other agencies to identify substances of concern

DOE is concurrently drafting regulations to make this mandatory in the country

PHILIPPINES



Republic Act 6969 (Toxic Substances and hazardous and Nuclear Waste Control Act) .Department of Environment and Natural Resources (DENR) .It is a risk based system

Administrative Order No. 29 (DAO 29) 1992. Outlines the implementing rules of RA 6969.

Title I:	General Provisions and Administrative Procedures
Title II:	Toxic Chemical Substances
Title III:	Hazardous and Nuclear Wastes
Titles IV:	Common Provisions
Titles V:	Prohibited Acts and Penalties

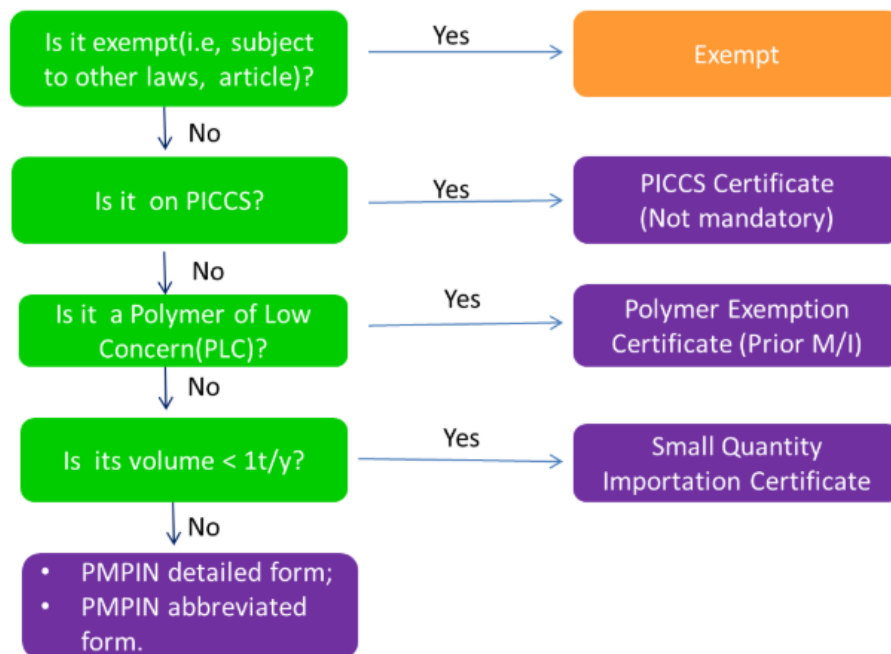
Title II :

- Establishment of Philippines Inventory of Chemicals and Chemical Substances (**PICCS**)(**updated annually**) ~**47000 chemicals**
- Regulate the phase out/ban those chemicals that pose unreasonable risks to public health and environment through **Chemical Control Orders (CCO)**. Mercury ,asbestos, cyanide...
- Develop the Philippines **Priority Chemicals List (PCL)** 48 substances with restrictions
- Require prior notification of new chemical substances manufactured or imported, report significant new uses of certain existing chemicals; and develop a **Pre-Manufacturing and Pre-Importation Notification (PMPIN)** process and procedure.
- Evaluate the safety of notified new chemicals and chemical substances through the PMPIN process.

PHILIPPINES



- Pre-Manufacture and Pre-Importation Notification (PMPIN) of New Substance



Updates to the new chemical registration process . Several important issues surrounding **polymers, low volume chemicals(SQI)** and some of the issues at hand will undermine current **CBI policies**.

- GHS :

UN GHS 5th Revised edition

Implementations Single substances and Mixtures 2015

DENR's timelines for priority chemicals and toxic chemicals are different :2016 to 2019

PHILIPPINES



POLICY FORMULATION AND AMENDMENTS

PMPIN for
New
Chemicals

PCL and its
Exemption

New CCOs and
Its Amendments

Other
policies

PICCS - 47,139
As of 2017

DENR AOs and
Memorandum Circulars^r

DENR & EMB AOs & MCs
for Cyanide, Mercury

Formulation and
Implementation of GHS, SDS,
etc.

Coordination with Notifiers,
Suppliers and US CAS
Office

Inventory of volume and use of
PCL for good management

Controls, Restrictions, Phase-
out and Substitution

In support of ACEH on
Chemical Safety and
DTI/PNP/PDEA/BOC

Draft EMC for PMPIN Policy,
EMC for Polymers

3rd Version of PCL

CCO for Arsenic, CCO for
Chromium6 & CCO for
Revised CCO for Mercury

MEAs/UNE/SAICM

Public Consultation in the formulation and amendment of chemical policies, partnership and linkages with stakeholders at the local & international levels for its workability, effective and efficient implementation



Law 6/2007/QH12 – Law on Chemicals

- **Decree 113/2017/ND-CP** Details and guidance on the implementation of a number of articles of the Chemical Law (Published 9 October 2017; *Effect on 25 November 2017*)
 - Revokes Decree 108/2008/ND-CP and Decree 26/2011/ND-CP

Providing overall chemical management framework

Sets control for certain chemicals

Reset the framework for GHS (classification, labeling, SDS)

- Ministry of Industry and Trade MOIT
- A dedicated agency Vietnam Chemicals Agency (Vinachemia) established in 2009 to overhaul the chemical management in Vietnam.

National Chemical Inventory and New Chemical Registration Law (**currently ongoing**)

- New draft of the national existing chemical inventory (NCI) on September 2018: ~32000 substances
- Developing a registration scheme for new chemical substances (not listed in the inventory).

<http://chemicaldata.gov.vn/cms.xc>

Chemical substances which are not listed in the inventory are considered as new chemical substances. Those need to be registered before they can be used in Vietnam. The process for registration & evaluation of new chemicals is still under development and will be published for public comments in 2019. (SEE back –up slides)



- **Regulated Chemicals:**

Decree No. 113/2017/ND-CP has designated 5 lists of chemicals subject to regulatory control

Substances in lists need to meet prescribed conditions

- Chemicals subject to conditional production or import (annex I); certificates and procedures must be in place to use conditional chemicals. 819 substances
- Chemicals restricted from production or trade (annex II); requires licensing and certain regulations and conditions must be upheld and met. 217 substances
- Banned chemicals (annex III); trading is not allowed other than by special government permission. (POPs). 18 substances and chemical groups
- The list of hazardous chemicals for which chemical incident prevention and response plans are required (annex IV);
- The list of chemicals subject to compulsory declarations (annex V).

All above lists can be found in Vietnam's national chemical database. The database is only available in Vietnamese: <http://chemicaldata.gov.vn/cms.xc>

- **GHS**

Adopted GHS Rev 2 version (2007)

Substances: 30 March 2014 and Mixture: 30 March 2016

SDS in Vietnamese

Thank you!



BACK-UP SLIDES



GHS in Asia



Country	Timeline		Revision of Purple Book
	Substance	Mixture	
Taiwan	2009	2009	2 => 4 (Dec'14)
South Korea	2010	2013	4
Japan	2006	2006	4
Philippines	2011 (July 2015)	2011 (July 2015)	5 => most recent
Thailand	2012 (2013)	2012 (2017)	3 => 4
Vietnam	2012 (2014)	2012 (2016)	4
Malaysia	Oct 2013 (April 2015)	Oct 2013 (April 2015)	3
Singapore	2008 (2012)	2008 (July 2015/2016 for users)	4
China	2011	2011	4
Indonesia	2010 (2013)	2010 (2016)	4

Dates in green indicate end of mandatory phase



Signed, ratified, accession :

Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction,

The Minamata Convention on Mercury,

The Stockholm Convention on Persistent Organic Pollutants

The Montreal Protocol on Substances That Deplete the Ozone Layer,

Vienna Convention for the Protection of the Ozone Layer;

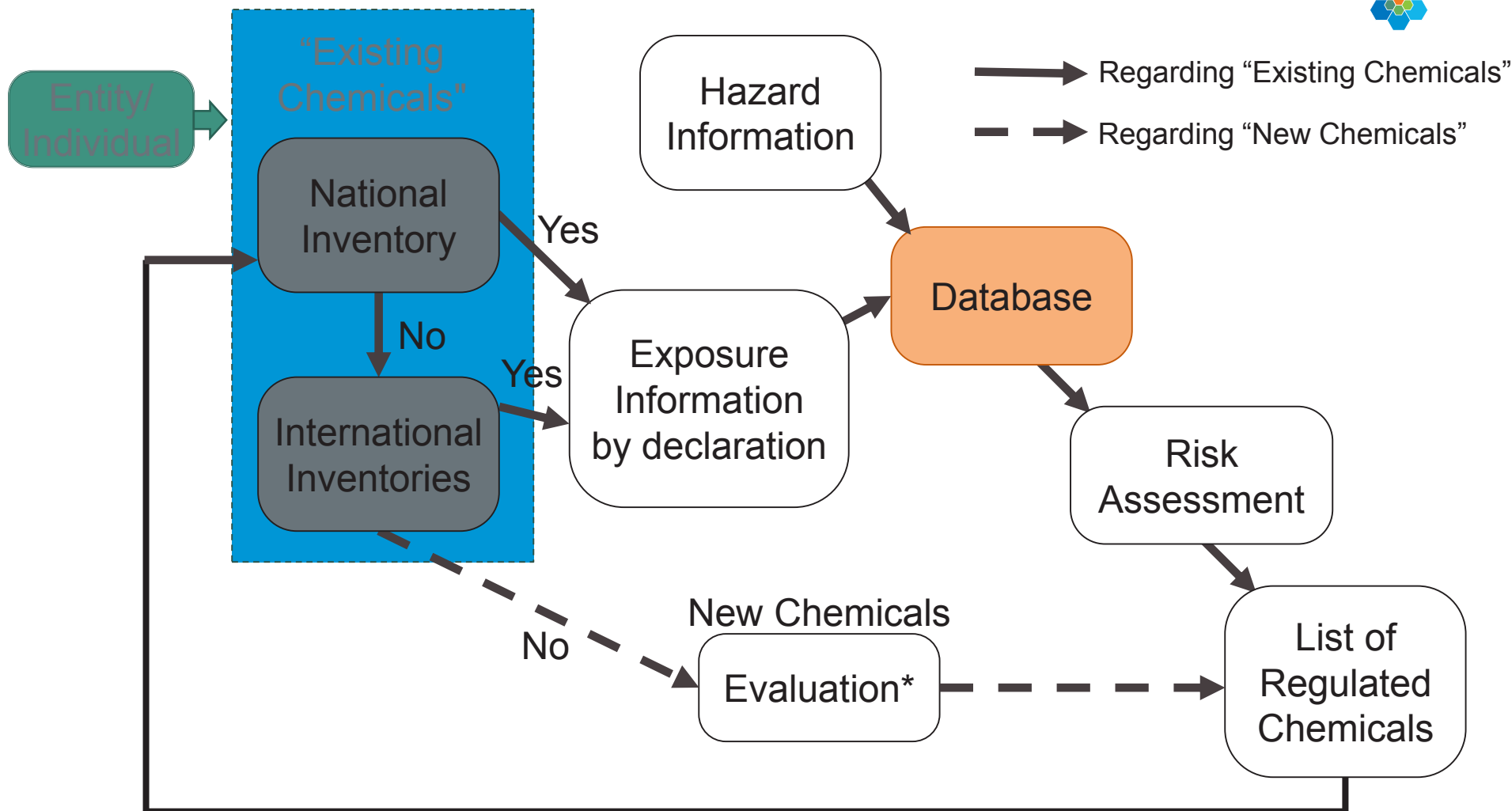
United Nations Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol;

United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988;

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;

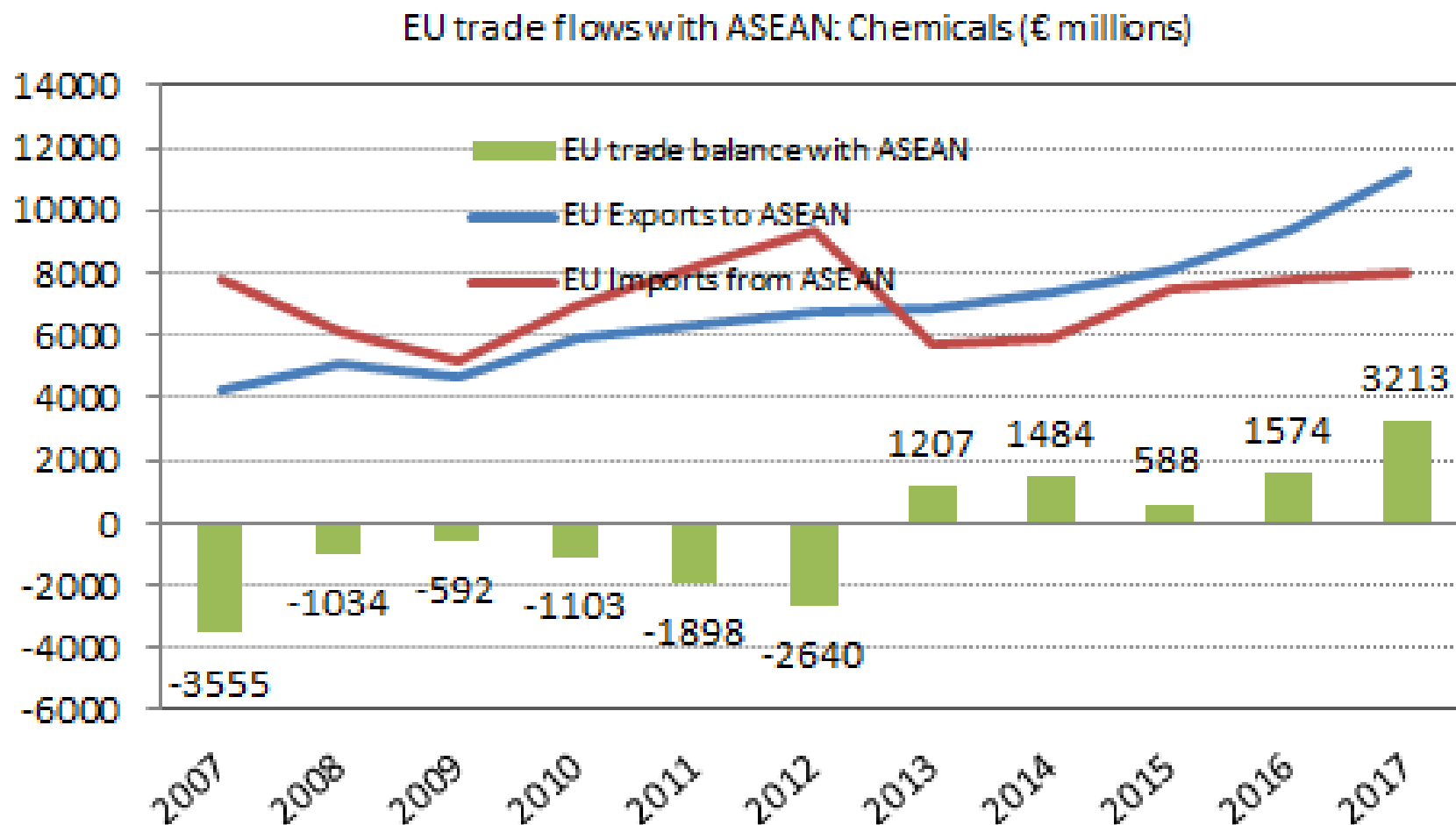
The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

VIETNAM: Concept of Risk-based Chemicals Management System



* “**Evaluation system of brand-new chemicals in the world**” shall be introduced in the future after both the National Inventory and the International Inventories have been available in Vietnam.

EU chemicals trade surplus with ASEAN (€3.2 bn)



Source: Eurostat (Comext)

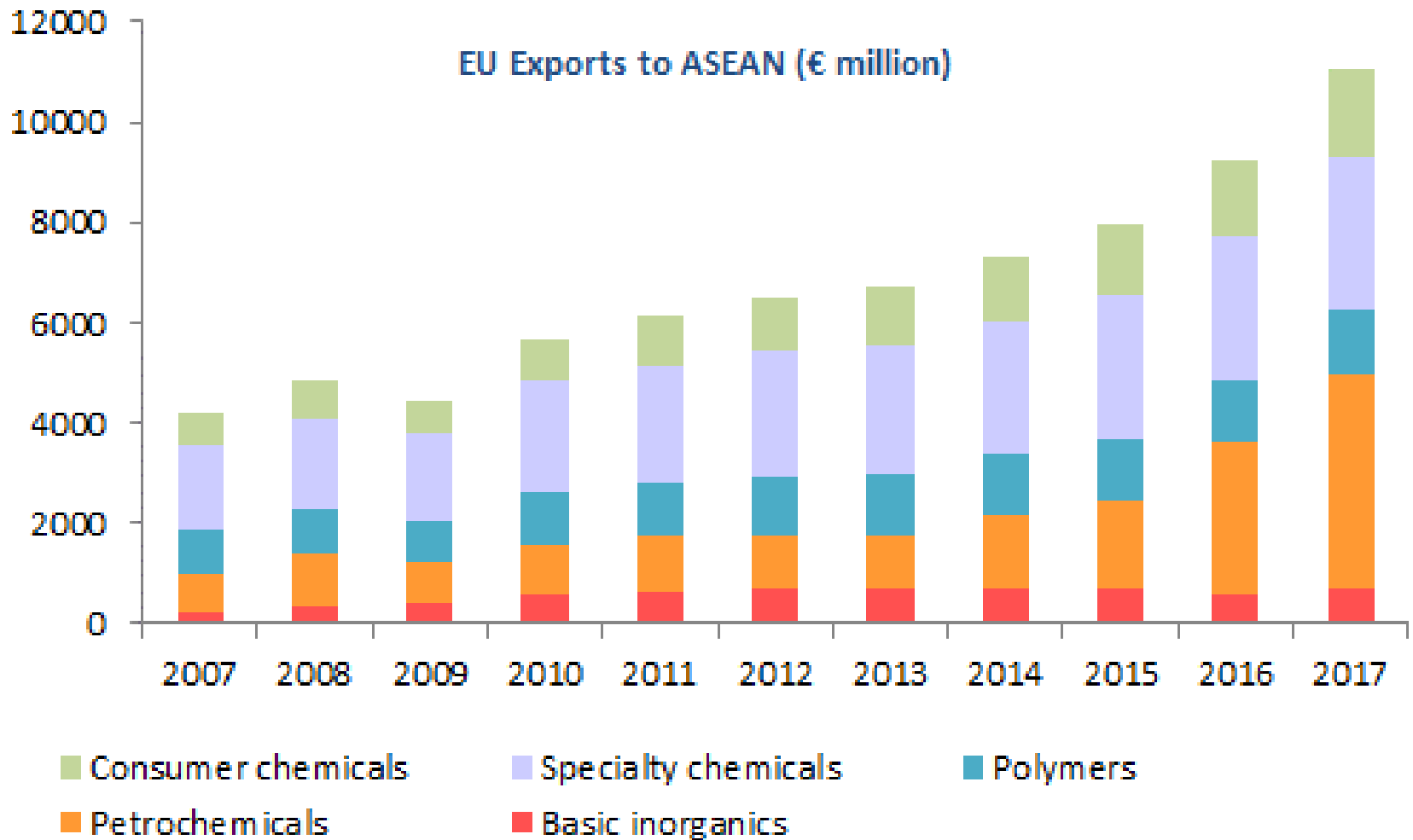
EU chemicals trade with ASEAN by country



	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam	Total
2007	7,6	5,1	1068	1	1395	6	309	7640	1388	310	12131
2008	6,9	7,2	1486	3	1609	13	335	5579	1755	339	11133
2009	6,1	22,2	1201	2	1422	13	300	5144	1328	396	9834
2010	10,8	10,4	1710	4	1819	7	364	6672	1765	495	12856
2011	5,3	8,2	2531	6	2051	8	354	7003	2020	563	14550
2012	5,3	12,6	2732	20	2031	9	420	8287	1985	575	16076
2013	6,8	13,1	2098	26	1943	19	358	5417	2060	636	12576
2014	7,4	12,9	2062	18	2151	30	510	5777	2062	732	13363
2015	5,6	15,5	2041	18	2323	54	525	7618	2062	882	15544
2016	6,2	22,5	2664	8	2309	58	609	8404	2059	921	17061
2017	8,0	33,6	3107	9	2756	35	619	9372	2223	1046	19208

	Singapore	Indonesia	Malaysia	Thailand	Vietnam	Philippines	Myanmar	Cambodia	Laos	Brunei	Total
2007	63,0%	8,8%	11,5%	11,4%	2,6%	2,5%	0,1%	0,0%	0,0%	0,1%	100,0%
2008	50,1%	13,3%	14,5%	15,8%	3,0%	3,0%	0,1%	0,1%	0,0%	0,1%	100,0%
2009	52,3%	12,2%	14,5%	13,5%	4,0%	3,0%	0,1%	0,2%	0,0%	0,1%	100,0%
2010	51,9%	13,3%	14,1%	13,7%	3,8%	2,8%	0,1%	0,1%	0,0%	0,1%	100,0%
2011	48,1%	17,4%	14,1%	13,9%	3,9%	2,4%	0,1%	0,1%	0,0%	0,0%	100,0%
2012	51,5%	17,0%	12,6%	12,3%	3,6%	2,6%	0,1%	0,1%	0,1%	0,0%	100,0%
2013	43,1%	16,7%	15,4%	16,4%	5,1%	2,8%	0,2%	0,1%	0,2%	0,1%	100,0%
2014	43,2%	15,4%	16,1%	15,4%	5,5%	3,8%	0,2%	0,1%	0,1%	0,1%	100,0%
2015	49,0%	13,1%	14,9%	13,3%	5,7%	3,4%	0,3%	0,1%	0,1%	0,0%	100,0%
2016	49,3%	15,6%	13,5%	12,1%	5,4%	3,6%	0,3%	0,1%	0,0%	0,0%	100,0%
2017	48,8%	16,2%	14,3%	11,6%	5,4%	3,2%	0,2%	0,2%	0,0%	0,0%	100,0%

Petrochemicals is the EU largest exporting sector, accounting for about 40% of EU exports to ASEAN



Petrochemicals is the EU largest importing sector (60% of EU imports from ASEAN)

