

Export Control of Triethanolamine and Related Items: Policies and Difficulties

Deming Zhao*

Abstract: The export control of triethanolamine is important for eliminating the non-proliferation risks regarding certain controlled items. Such control also extends to triethanolamine-related items such as triethanolamine hydrochloride or industrial mixtures containing a certain proportion of triethanolamine. Among others, the control scope of such mixtures has always been a cornerstone, and the main determining standard seems to be the threshold of triethanolamine in mixtures as developed by international regimes. China may draw some experience from international control practice to maintain a more flexible and effective control scheme in the future.

Keywords: Triethanolamine, Export Control, Chemicals, Non-proliferation

I. INTRODUCTION

As one of the most traded chemicals applied both commercially and industrially, triethanolamine (CAS: 102-71-6, TEA) is used in many sectors as a corrosion inhibitor in metal-cutting fluids, a curing agent for epoxy and rubber polymers, a copper-triethanolamine complex to control freshwater algae on lakes and ponds, or a neutralizer-dispersing agent in agricultural herbicide formulations. It is also extensively used in emulsifiers, thickeners, and wetting agents to formulate consumer products such as cosmetics, detergents, shampoos, and other personal care products.¹

However, the TEA is also a precursor to the chemical warfare agent

* Deming Zhao, Partner, Global Law Office; Adjunct Professor, Shanghai University of International Business and Economics. Email: zhaodeming@glo.com.cn.

1 Bergfeld W. F. et al., Final Report on the Safety Assessment of Triethanolamine, Diethanolamine and Monoethanolamine, *Journal of the American College of Toxicology*, Vol. 2, No. 7, 1983, pp. 183-235; Santa María A. et al., Toxicity of Potential Irritants in Mammalian Cells in Vitro, *Ecotoxicology and Environmental Safety*, Vol. 34, No. 1, 1996, pp. 6-58.

HN3 (a nitrogen mustard) capable of inflicting severe burns and blistering, and subject to strict export control in multilateral control mechanisms and many jurisdictions. This control sometimes extends to TEA-related items like triethanolamine hydrochloride (TEA HCl) or mixtures containing a certain proportion of the TEA.

This article will first present the multilateral export control of TEA and its related items regarding policies of the Chemical Weapons Convention, the Australia Group, the US, and the EU. It also further seeks to identify the motivation underlying China's TEA export control rules and practices. The difficulty lies in the control of TEA mixtures, especially in determining the specific concentration threshold for license exemption of these mixtures, if any.

II. INTERNATIONAL EXPORT CONTROL OF TEA AND RELATED ITEMS

A. The Chemical Weapons Convention

Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (the Chemical Weapons Convention or CWC) is the first multilateral disarmament agreement to provide for the elimination of an entire category of weapons of mass destruction within a fixed time frame and provides a strict verification mechanism.² For implementing the CWC, three schedules are maintained to identify chemicals to apply verification and other measures.

In Table 1, TEA is listed under Schedule 3 of the CWC as precursors of toxic chemicals.³

Table 1: Schedule 3 of the CWC

B. Precursors:	(CAS Registry Number)
(17) Triethanolamine	(102-71-6)

² The history of Organization for the Prohibition of Chemical Weapons and the CWC, <https://www.opcw.org/about-us/history> (Last Visited on July 2, 2024).

³ According to Article II of the CWC, "precursor" means any chemical reactant that takes part at any stage in the production by whatever method of a toxic chemical. This includes any key component of a binary or multicomponent chemical system.

The control of TEA under the CWC is mainly implemented through national measures adopted by State Parties, such as penal legislation or national export control mechanisms. These Parties are obliged to ensure complete and effective prohibition of the development, production, acquisition, stockpiling, retention, transfer, and use of TEA, and its destruction except for purposes not prohibited under the CWC.

Regarding export control, the TEA is subject to a two-layer control mechanism under the CWC. The first layer relates to direct export control, while the second layer relates to subsidiary requirements that may assist with export control.

Regarding the first export control layer under the CWC, the key element is an end-use or end-user certificate requirement. When transferring the TEA to a non-party State, each State Party shall adopt measures to ensure that the transferred chemicals shall only be used for purposes not prohibited under the CWC. This Party shall further require from the recipient State a certificate stating, regarding the transferred TEA: (a) that the TEA will only be used for purposes not prohibited under the CWC, (b) that the TEA will not be re-transferred, (c) types and quantities, (d) the TEA's end-use(s), and (e) the name(s) and address(es) of the end-user(s).

Two exemptions from the end-use or end-user certificate requirement have been set up by the Conference of the States Parties. Firstly, certificates are not required for mixtures containing 30% or less of TEA. Secondly, certificates are also not required for TEA mixtures identified as consumer goods packaged for retail sale for personal or individual use.

Regarding the second control layer, additional obligations for indirect control of TEA have been exerted on State Parties. These obligations mainly refer to data monitoring and on-site verification pursuant to Article VI of the CWC.

B. The Australia Group

The Australia Group (AG) is a multilateral control arrangement which seeks, *inter alia*, to ensure that exports of materials, equipment, and technology do not contribute to the development of chemical or biological weapons (CBW) by

harmonizing export control measures of participant states.⁴ The Guidelines for Transfers of Sensitive Chemical or Biological Items (Guidelines) and the five regularly reviewed AG Common Control Lists constitute the main body of AG export control arrangements.

Under the Guidelines, AG participant States undertake to control items outlined on these lists through national legislation and export licensing procedures. Although these States are expected to deny export license requests for items on the lists when there is a concern that the items might be used in a CBW program,⁵ an export is denied only if there is particular concern about potential diversion for CBW purposes.⁶

TEA and TEA HCl have long been the targeted chemicals of the AG. Dating back to 1996, TEA and TEA HCl were listed in the Control List of Dual-use Chemicals: Commercial and Military Application, Australia Group Export Controls on Materials Used in the Manufacture of Chemical and Biological Weapons. In 2023, the AG updated the export control list of Chemical Weapons Precursors (CW precursor control list, an AG Common Control List), which listed both TEA and TEA HCl as precursor chemicals, as in Table 2.⁷

Table 2: CW Precursor Control List

Precursor Chemical	CAS No.	CWC-Schedule
Triethanolamine	(102-71-6)	3B
Triethanolamine Hydrochloride	(637-39-8)	Not Listed

Included on the AG Common Control Lists, the transfer of TEA and TEA HCl could be subject to the Guidelines and export licensing measures taken by participant States, and the exporter may have to apply for licenses for transfers of TEA and TEA HCl. As AG arrangements are not legally binding, the States

4 Introduction on the Australian Group, <https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/introduction.html> (Last Visited on July 2, 2024).

5 The Australia Group at a Glance, <https://www.armscontrol.org/factsheets/australiagroup#:~:text=Established%20in%201985%2C%20the%20Australia%20Group%20is%20a,preventing%20the%20spread%20of%20chemical%20and%20biological%20weapons> (Last Visited on July 2, 2024).

6 Australia Group, https://www.wto.org/english/res_e/booksp_e/int_exp_regs_part3_4_e.pdf (Last Visited on July 2, 2024).

7 Export Control List: Chemical Weapons Precursors, <https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/precursors.html> (Last Visited on July 2, 2024).

have discretion on those licensing procedures. According to the Guidelines, in a manner consistent with national legislation and practices, these States should, before authorizing a transfer of TEA or TEA HCl, either (1) confirm that goods are not intended for reexport; (2) confirm that, if reexported, the goods would be controlled by the recipient government pursuant to these guidelines; or (3) obtain satisfactory assurances that their consent will be secured prior to any re-transfer to a third country.⁸

Accordingly, the following non-exhaustive specific factors shall be considered when evaluating whether the export is permitted: (1) information about proliferation and terrorism involving CBW, including any proliferation or terrorist activity, or about involvement in clandestine or illegal procurement, of the parties to the transaction, (2) the capabilities and objectives of the chemical and biological activities of the recipient state, (3) the significance of the transfer in terms of (i) the appropriateness of the stated end-use, including any relevant assurances submitted by the recipient State or end-user, and (ii) the potential development of CBW, (4) the role of distributors, brokers or other intermediaries in the transfer, including, where appropriate, their ability to provide an authenticated end-user certificate specifying both the importer and ultimate end-user of the item that is transferred, as well as the credibility of assurances that the item will reach the stated end-user, (5) assessment of the end-use of the transfer, including whether a transfer has been previously denied to the end-user, whether the end-user has diverted for unauthorized purposes any transfer previously authorized, and, to the extent possible, whether the end-user is capable of securely handling and storing the item transferred, (6) the extent and effectiveness of the export control system in the recipient state as well as any intermediary states, (7) the applicability of relevant multilateral agreements, including the Biological and Toxin Weapons Convention (BTWC) and CWC, and (8) the risk of controlled items falling into the hands of terrorist groups and individuals.⁹

It remains unclear whether any non-controlled items containing TEA (i.e., TEA mixtures) are deemed as controlled items under the AG scheme. However, State participants might control transfers of mixtures where TEA is

⁸ Guidelines, para. 5.

⁹ *Ibid.*, para. 4.

the principal element and can feasibly be removed or used for purposes other than the stated one. In judging whether the controlled TEA is considered as the principal element, the participant will generally consider the factors of quantity, value, and other special circumstances.¹⁰

C. The US

The US mainly relies on the Chemical Weapons Convention Regulations (CWCER) and the Export Administration Regulations (EAR) to control TEA export. These regulations aim to implement the provisions of the CWC and monitor the trade of chemicals that could potentially be used as precursors for chemical weapons.

CWCER provided declaration and reporting requirements. For instance, §714.2 of the CWCER requires an annual reporting scheme for exports and imports of any single Schedule 3 chemical. As such, any person subject to the CWCER, including declared plant sites, undeclared plant sites, trading companies, or any other person subject to the CWCER, that exported from or imported into the US more than 30 metric tons of TEA during the previous calendar year, has a reporting duty. The rule specifies that only mixtures with a TEA concentration of 80% or more by volume or weight must be reported. This concentration limit does not apply to determine whether the export of mixtures to a non-State Party requires an End-use Certificate or to determine whether someone needs an export license from the Bureau of Industry and Security (BIS) under the Department of Commerce.

The EAR, administered by BIS, controls the export, re-export, or in-country transfer of certain items subject to the EAR. The Commerce Control List (CCL) of the EAR sets out a technically focused list of goods, software, and technology with multiple levels of controls based on various national security and foreign policy reasons and the country of destination.¹¹

In CCL, TEA, and TEA HCl are specifically assigned the Export Control Classification Number (ECCN) 1C350, which governs chemicals that can serve as precursors for toxic chemical agents. This control extends to mixtures

¹⁰ *Ibid.*, para. 6.

¹¹ Meredith Rathbone and Hena Schommer, Export Controls in the United States, In: Rachel Barnes et al. (Eds.), *The Guide to Sanctions*, Global Investigations Review, 2022, p. 210.

where TEA or TEA HCl constitutes 30% or more by weight. Mixtures in which concentrations by weight of TEA or TEA HCl are below 30% are controlled by ECCN 1C395 or 1C995 and subject to the licensing requirements specified in those ECCNs.

ECCN 1C395 controls medical, analytical, diagnostic, and food testing kits that contain TEA in an amount not exceeding 300 grams per chemical, while ECCN 1C995 controls mixtures containing less than 30%, by weight, of TEA, or TEA HCl, as well as medical, analytical, diagnostic, and food testing kits that contain TEA HCl in an amount not exceeding 300 grams per chemical.

According to License Requirement Notes 2.b of ECCN 1C350, a license is not required under ECCN 1C350 for a mixture, when TEA or TEA HCl in the mixture is a normal ingredient in consumer goods packaged for retail sale for personal use. These goods are designated EAR99. However, a license may be required for reasons set forth elsewhere in the EAR.

Table 3: List of Items Controlled under ECCN 1C350

C. Australia Group-controlled Precursor Chemicals also Identified as Schedule 3 Chemicals under the CWC, As Follows, And Mixtures in Which at Least One of the Following Chemicals Constitutes 30 Percent or More of the Weight of the Mixture:

c.10. (C.A.S. #102-71-6) Triethanolamine;

...

D. Other Australia Group-controlled Precursor Chemicals Not also Identified as Schedule 1, 2, Or 3 Chemicals Under the CWC, As Follows, And Mixtures in Which at Least One of the Following Chemicals Constitutes 30 Percent or more of the Weight of the Mixture:

d.48. (C.A.S. #637-39-8) Triethanolamine Hydrochloride;

It can be concluded that the US legal regime related to the export control of TEA is multi-faceted, consisting of mandating declarations, annual reports, and advance notifications for production increases. It integrates with international obligations under the CWC and involves coordination with other regulatory bodies to ensure that the trade of this precursor chemical aligns with non-proliferation objectives. However, it does open a door to the convenience of business where diversion risk is low.

D. The EU

The EU, through Regulation (EU) 2021/821 of the European Parliament and the

Council of May 20, 2021 setting up a Union regime for the control of exports, brokering, technical assistance, transit and transfer of dual-use items (EU Dual-use Regulation), has established a comprehensive regime governing the control of exports, brokering, technical assistance, transit, and transfer of dual-use items, including sensitive chemicals like TEA.

Specifically, TEA and TEA HCl are listed under Annex I of the EU Dual-use Regulation, i.e., List of Dual-use Items Referred to in Article 3 of this Regulation, under control number 1C350. Same as the CCL of the EAR, 1C350 under the EU list does not control chemical mixtures containing one or more of the chemicals specified in entries 1C350.46 (i.e., TEA) and 1C350. 53 (i.e., TEA HCl) in which no individually specified chemical constitutes more than 30% by the weight of the mixture, or products identified as consumer goods packaged for retail sale for personal or individual use.

Table 4: Annex I (List of Dual-use Items Referred to in Article 3 of the EU Dual-use Regulation)

1C350 Chemicals, Which May Be Used as Precursors for Toxic Chemical Agents, As Follows, And Chemical Mixtures Containing One or More thereof:
46. Triethanolamine (CAS 102-71-6);
53. Triethanolamine Hydrochloride (CAS 637-39-8);

In essence, the EU regulatory framework related to the exportation of TEA and related items underscores a commitment to preventing the proliferation of sensitive materials that could contribute to weapons development while facilitating legitimate trade through a structured and controlled authorization process.

III. CHINA'S EXPORT CONTROL OF TEA AND RELATED ITEMS

A. Legal Framework of China's Export Control

The Export Control Law (ECL) of China effective as of December 1, 2020, is the fundamental law under Chinese legal framework of export control. Items subject to ECL include dual-use items, military items, nuclear items, and other

items that relate to the maintenance of national security or interests or fulfilment of non-proliferation and other international obligations.¹² The term “dual-use items” under ECL refers to items that can be used for civil or military purposes or for helping improve military potentials, especially goods, technologies, and services that can be used for the design, development, production, or use of weapons of mass destruction.

Prior to the enactment of ECL, given that the dual-use items China controls mostly originate from multilateral export control regimes, with a small portion of unilateral nature, it has been a practice to regulate distinct categories of export controls through separate regulations or departmental rules.

To strengthen the control of dual-use chemicals and fulfil the CWC obligations, the State Council of China promulgated Regulations on the Administration of Controlled Chemicals (Controlled Chemicals Regulations) in 1995 and subsequently revised it in 2011. Accordingly, the Detailed Rules for the Implementation of the Regulations on the Administration of the Controlled Chemicals (Implementation Rules) were promulgated in 1997 and further revised in 2018.

Under the Controlled Chemicals Regulations, controlled chemicals are classified into four categories (Category I, II, III, and IV). Category I refers to chemicals that can be used as chemical weapons. Category II refers to chemicals that can be used as precursors of chemical weapons. Category III refers to chemicals that can be used as the major raw materials to produce chemical weapons. Category IV refers to specially designated organic chemicals other than explosives and pure hydrocarbons.¹³ The items under each category are further specified in the Controlled Chemicals List, formulated, and maintained by the Ministry of Industry and Information Technology (MIIT).

Please note that the term “controlled chemicals” includes not only their pure forms but also industrial products with different concentrations of these chemicals.¹⁴ Furthermore, when controlled chemicals are below a certain concentration threshold, these products could be exempted from requirements of data declaration and import/export licenses. Pertaining concentration

¹² ECL, Article 2.

¹³ Controlled Chemicals Regulations (2011), Article 3.

¹⁴ Implementation Rules (2018), Article 56.

thresholds are determined and adjusted by the MIIT based on each situation.¹⁵

In China, only exporting business operators (EBOs) as authorized by the Ministry in charge of the chemical industry under the State Council, together with the Ministry in charge of foreign economics and trade under the State Council, are entitled to export chemicals in Category I, and chemicals and related production technology and equipment in Categories II and III. Other EBOs who intend to conduct these exports shall entrust the authorized EBOs as their agents.¹⁶ Currently, to the best of our knowledge, only two companies in China are designated as EBOs, i.e., Sinochem Group Co., Ltd. and China Haohua Chemical Group Co., Ltd.¹⁷

When exporting chemicals in Category I, and chemicals and related production technology and equipment in Categories II and III, it is necessary to acquire a certification issued by the government or governmental agencies of the importing country ensuring that the imported chemicals and related production technology and equipment will not be used to produce chemical weapons or be transferred to a third country, together with the item name, item quantity, end-use, end-user, and address of the end-user of the exported controlled chemicals.¹⁸

B. Controlling List

As mentioned above, TEA was included *per se* in the Controlled Chemicals List in 1996. Subsequently in 1998, the former State Bureau of Petroleum and Chemical Industry (dissolved in 2001), promulgated the List of New Species Included in Category III of Controlled Chemicals (List of New Species). Ten types of controlled chemicals were added to this List, including TEA HCl.¹⁹

In practice, all catalogues or lists of the dual-use items and related technologies are consolidated into a comprehensive catalogue — Catalogue of Dual-use Items and Technologies Subject to Export License (Dual-use Catalogue). The Dual-use Catalogue is maintained by both the Ministry of

¹⁵ *Ibid.*, Article 57.

¹⁶ *Supra* n. 13, Article 14.

¹⁷ Official Letter on Political Review and Approval from the Department of Foreign Trade and Economic Cooperation No. 1311 of 1994, 1994.

¹⁸ *Supra* n. 14, Article 30.

¹⁹ Order No. 1 of State Bureau of Petroleum and Chemical Industry, June 14, 1998.

Commerce (MOFCOM) and the General Administration of Customs (GAC) and is updated annually at the end of December in each calendar year. The export of any items included in the Dual-use Catalogue is subject to the Dual-use Export License.

Currently, there are three specific types of TEA-related items under the Dual-use Catalogue, namely TEA, TEA HCl, and TEA mixtures.

TEA mixtures are not either explicitly on the Controlled Chemicals List or the List of New Species but were directly added to the Dual-use Catalogue in 2018. Only two specific mixtures of chemicals clearly designated onto the Dual-use Catalogue, including TEA mixtures and methylene diethanolamine mixtures, which may reflect the Chinese government's concern over the export of TEA mixtures.

Table 5: China's Dual-use Catalogue

Sub-catalogue 4: Controlled Chemicals List				
Number	Commodity Name	Description	Tariff Code	Unit
65	Triethanolamine	Category III: Chemicals That Can Be Used as the Major Raw Materials to Produce Chemical Weapons	2922150000	kg
66	Triethanolamine Hydrochloride	Category III: Chemicals That Can Be Used as the Major Raw Materials to Produce Chemical Weapons	2922199041	kg
71	Triethanolamine Mixtures	Category III: Chemicals That Can Be Used as the Major Raw Materials to Produce Chemical Weapons	3824999950	kg

C. Further Issues

Pursuant to Article 57 of the Implementation Rules (2018) and in parallel with international provisions, controlled chemicals are exempted from data declarations and import and export licensing schemes if below certain concentration thresholds. However, for a lengthy period, these thresholds in China have not yet been officially announced. Without a clear indication of these thresholds, no administrative exemption is practically available. As a result, industrial products like detergents containing a minimal or very low TEA content are all deemed as controlled items and subject to the Dual-use Export License when exported.

In February 2023, Gongbei Customs imposed a fine of CNY 85,000 on

a company in Zhuhai, Guangdong Province, which continuously declared to export eleven shipments of detergents and laundry gels containing 10% TEA from March 20, 2020 to December 9, 2021. Gongbei Customs decided that the TEA in these products was a controlled chemical subject to the Dual-use Export License. Therefore, the export of these products was also subject to this license.²⁰

In response to these industries' complaints, the MIIT has already adjusted its position regarding this issue. On September 10, 2021, the MIIT cooperated with the Industry Cleaning Association of China to launch a research meeting on the topic of the use of TEA in detergents. This meeting aimed to map data of the amount of TEA used in all kinds of detergents, further facilitating the determination of exempted concentration thresholds.²¹

In late 2022, the Department of General Operation of GAC reportedly issued an internal letter (Letter), according to which, for industrial products like detergents, and cosmetics containing TEA, if the TEA content is already neutralized and cannot be extracted as a monomer, the export of these products is exempted from the Dual-use Export License. Otherwise, a license is still required even if the content of controlled TEA is extremely low.²² This was a remarkable progress on the TEA export control, which was seemingly based on the fact that TEA is usually added to cosmetics, detergents, and other commodities to act as a pH regulator. Moreover, a neutralization reaction generally occurs for TEA with the acids in these mixtures, which means that sometimes TEA cannot be separately extracted from the final products. However, this Letter was only an internal document without legally binding effects.

Accordingly, EBOs are still not satisfied with this adjusted standard of ECL enforcement since they must prove that the TEA content of their exported products cannot be extracted, which could be costly and time-consuming. Meanwhile, according to their industrial experience and knowledge, although

20 Gongdou Pass Customs Violation Notice No. 0003 of 2023, February 14, 2023.

21 The Kick-off Meeting of the Research on the Use of Triethanolamine in Detergents Was Successfully Held, http://www.ccia-cleaning.org/content/details_18_36526.html (Last Visited on July 2, 2024).

22 Letter of Department of General Operation of the General Administration of Customs on the Clarification of Import/Export License Regulatory Requirements of Mixtures Containing Triethanolamine, October 28, 2022.

most of the TEA added to these products is indeed neutralized, there is always a small amount of residue making it possible to extract TEA monomers, which means it is highly likely that a license will be required for their products after they pass an expensive identification test.

In January 2024, the MIIT, MOFCOM, and GAC issued an announcement on the optimization of import and export regulatory measures for mixtures with low TEA concentrations (Announcement).²³ According to this Announcement, non-medical disinfectants, synthetic detergent powder, cosmetics, ink, and other consumer goods that have low TEA concentrations and controllable non-proliferation risks are not controlled items under TEA and TEA mixtures included in the Dual-use Catalogue. Attached to this Announcement is a full list of these products with descriptions and tariff codes for reference. Two reflections relate to this 2024 Announcement. Firstly, a problem is that this Announcement still does not define the accurate content ratio or value of these exempted concentration thresholds. A reasonable interpretation may be that although the specific content of TEA in these products may vary, they are all below a threshold that may require these licenses, such as 20%. In this regard, we noticed that in another announcement on the optimization of regulatory measures for products containing 1,4-butyrolactone, the MOFCOM and five other departments explicitly prescribed that printing ink (including cleaning cartridges) with 1,4-butyrolactone content equal to or less than 20% is exempted from import and export licenses. This clear threshold requirement can effectively prohibit unnecessary ambiguity on whether ink products containing 21% 1,4-butyrolactone are subject to export controls. Secondly, compared with the 2022 internal Letter that focuses on whether TEA can still be extracted, the 2024 Announcement concentrated on the low concentration value of TEA in these mixtures, both of which are not clear-cut standards that can be easily followed.

The reasons for China's reluctance to set exemptions for commodities containing low concentrations of TEA or TEA HCl are complicated. Firstly, China's self-positioning as a globally responsible power may have pushed itself to undertake stricter non-proliferation obligations under CWC. Considering

²³ Official Joint Safety Letter from the Provincial Department of Industry and Information Technology No. 394 of 2023, January 16, 2024.

the precautionary principle in chemicals management, China may prefer more conservative measures to prevent any potential risks. Secondly, the slow progress of legislation and policies, and time as may be needed for awareness of the impact on the market and business may also lead to the lack of these exemptions. Before the concept of reforms to delegate power, streamline administration, and optimize government services (放管服改革 in Chinese, or Reform) was introduced in 2015, there was no provision regarding concentration thresholds in regulations such as Controlled Chemicals Regulations. The Implementation Rules updated in 2018 were the first to explicitly introduce exemption requirements based on concentration thresholds, and designated the MIIT as its authority. With Key Points for the Implementation of the CWC in 2021 mentioned that to promote the Reform and optimize the business environment, the MIIT and other authorities accelerated research on and formulation of the policy on low concentration threshold exemption for licences.²⁴ Considering this history, the evolution from sector-specific needs to legislation and policy is often time-consuming. Coordination across multiple authorities and substantial scientific evidence and risk assessment both exacerbate the complexity of policymaking, potentially slowing the policy formulation process. Thirdly, information asymmetry between regulatory authorities and the industry may also mean that the authorities lack a sufficient understanding of the industry's needs and challenges.

IV. CONCLUSIONS

For a long time, China adopted a one-size-fits-all approach to indiscriminately maintain controls on all mixtures containing TEA, which theoretically conflicts with the threshold exemption provision in the Controlled Chemicals Regulations. In recent years, China has tried to modernize and optimize its supervision and enforcement capacity by issuing new normative documents to lessen the controls of TEA mixtures. The newly issued list of TEA mixture products exempted from the license management is positive progress towards optimization.

²⁴ Key Points for the Implementation of the CWC in 2021, https://www.miit.gov.cn/xwdt/gxdt/sjdt/art/2021/art_b4c98128fd264ddda0070f382d63d8e1.html (Last Visited on July 2, 2024).

Nevertheless, we have not seen any sufficient justification for adopting a control standard different from that of the Australia Group. It is still unclear whether China may consider exempting export control licenses for export of TEA mixtures containing not more than 30% of the controlled chemicals or products identified as consumer goods packaged for retail sale for individual use, on the condition that all the parties to export transactions have established and operated the export control internal compliance program (ICP) based on the MOFCOM guidelines. Otherwise, China may be unable to effectively control re-export of TEA mixtures, as the importing countries most likely do not control their own re-exports of these mixtures, which would make the control by China unilateral and difficult to be enforced in a foreign country. Such unilateral control may also result in relocation of relevant industrial sites from China to overseas.