

Report

IAEG Work Group 9

**Japan Chemical Management
Regulations and Implications for the
Aerospace and Defense Industry**



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DEFINITIONS

Term	Definition
A&D	Aerospace and Defense
CHRIP	Chemical Risk Information Platform
CSCL	Chemical Substances Control Law
ENCS	Existing and New Chemical Substances
EU	European Union
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IAEG	The International Aerospace Environmental Group
ISHL	Industrial Safety and Health Law
J-CHECK	Japan Chemicals Collaborative Knowledge Database
JIS	Japanese Industrial Standard
JPY	Japanese Yen
kg	Kilograms per year
LC-PFCAs	Long-chain perfluoroalkyl carboxylic acids
LVE	Low-volume exemption
MCCPs	Medium-chain chlorinated paraffins
METI	Ministry of Economy, Trade and Industry
MHLW	Ministry of Health, Labor and Welfare
MOE	Ministry of the Environment
MRO	Maintenance, Repair, and Overhaul
PACs	Priority Assessment Chemical Substances
PDSCS	Poisonous and Deleterious Substances Control Law
PFHxS	Perfluorohexanesulfonic acid
PFOA	Perfluorooctanoic acid
PLC	Polymers of low concern
POPs	Persistent Organic Pollutants
PPE	Personal protective equipment
PRTR	Pollutant Release and Transfer Register
R&D	Research and Development
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
SDS	Safety Data Sheet(s)
t/y	Tonnes per year
UN	United Nations
w/w	Weight by weight

EXECUTIVE SUMMARY

Japan governs chemicals through a multi-layered regulatory framework designed to manage every stage of a chemical's lifecycle. This report focuses on the two primary pillars of this system: the [Chemical Substances Control Law](#) (CSCL) and the [Industrial Safety and Health Law](#) (ISHL).

Unlike unified frameworks such as the European Union (EU) REACH, Japan relies on a "dual-gate" system. A chemical must independently clear both the CSCL (focused on environmental and public health) and the ISHL (focused on occupational safety) before it can be legally utilized. Passing one regulation does not guarantee compliance with the other.

Core Regulatory Frameworks

- » **CSCL:** Jointly enforced by the Ministry of Economy, Trade and Industry (METI), Ministry of Health, Labor and Welfare (MHLW), and Ministry of the Environment (MOE), the CSCL aims to prevent environmental pollution by regulating persistent, bioaccumulative, toxic chemicals. It serves as Japan's mechanism for enforcing global treaties (like the Stockholm Convention) by banning or restricting high-risk substances.
- » **ISHL:** Exclusively managed by the MHLW, the ISHL is designed to protect factory and workplace employees from acute hazards and occupational diseases. It mandates mutagenicity, strict exposure limits, risk assessments, and adherence to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (UN GHS) and Safety Data Sheet (SDS) standards.

Interplay Between CSCL & ISHL

- » **Separate Inventories:** A chemical may be listed as "existing" on the CSCL's Existing and New Chemical Substances (ENCS) inventory but considered "new" under the ISHL, triggering unexpected mutagenicity testing requirements.
- » **Divergent Volume Thresholds:** Low-volume exemptions (LVEs) scale differently. A facility importing for example 500 kilograms (kg) of a specialized resin is exempt from CSCL testing (threshold: 1 tonne/year nationally) but triggers full ISHL notification (threshold: 100 kg/year per facility).

Impacts on the Aerospace & Defense Industry

- » **Supply Chain Disruption:** The CSCL ban on specific chemicals directly disrupts the procurement of products/materials such as aerospace coatings, lubricants, and water/oil-resistant fabrics.
- » **MRO and Assembly Burdens:** Maintenance, Repair, and Overhaul (MRO) facilities must manage intensive administrative workloads to ensure every chemical component utilizes compliant Japanese SDSs, hazard labels, and localized risk assessments.
- » **Penalties:** Non-compliance can result in business interruptions, including customs seizures of imported articles, immediate workplace shutdown orders by labor inspectors, corporate fines up to three million Japanese Yen (JPY), and imprisonment.

Horizon Scanning

- » The chemical regulatory landscape in Japan is evolving. Over the next few years, companies face CSCL-driven bans on emerging global pollutants and increased scrutiny on trace impurities. The CSCL requirements may change based on persistent organic pollutants added to the Stockholm Convention in the future and more PFAS-related substances will likely be evaluated. Under the ISHL, the mandatory SDS list will continuously expand as new substances are added. Companies face a strict **24 December 2030** deadline to completely transition all workplace documents to the UN GHS Revision 9 framework.

Disclaimer

This report aims to capture the major chemical regulations in Japan for priority laws as defined by IAEG WG9. This analysis is for informational purposes only, does not constitute legal or technical advice, and applicability can vary. Deadlines and thresholds may change through amendments and regulator updates. Users should verify final applicability and submission details using the official links provided, particularly when preparing filings for a specific reporting year. Regulatory compliance expectations are dynamic and as such this report should be treated as a living reference with periodic refresh and confirmation against official sources prior to submissions. Because the regulatory landscape is subject to change and interpretation by local authorities, please consult with your legal counsel or regulatory specialist regarding compliance obligations.

1. Chemical Management Regulations

Japan's chemical regulatory framework is a multi-layered system designed to govern every stage of a chemical's lifecycle, from initial import and manufacturing to workplace handling and final environmental release. The framework relies mainly on four primary laws:

1. **Chemical Substances Control Law (CSCL):** The [CSCL](#) focuses on preventing long-term environmental pollution and protecting public health from persistent, bioaccumulative, and toxic chemicals. **[Section 1.1]**
2. **Industrial Safety and Health Law (ISHL):** The [ISHL](#) aims to protect workers from occupational diseases, acute hazards, and unsafe exposure during manufacturing and handling. **[Section 1.2]**
3. **Pollutant Release and Transfer Register (PRTR) Law:** The [PRTR Law](#) requires businesses to track and report the exact volumes of specific hazardous chemicals released into the environment or transferred as waste.
4. **Poisonous and Deleterious Substances Control Law (PDSCL):** The [PDSCL](#) regulates chemicals with acute toxicity. It demands strict licensing, specialized storage, and secure transfer standards for designated poisons.

While all four laws work together to ensure national safety, this report focuses exclusively on CSCL and ISHL. The PRTR Law and PDSCL may be covered in future versions of this report.

1.1 Chemical Substances Control Law

Official Name: 正 式 名 称 – The Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Act No. 117 of 1973).

Governing Authority: Jointly enforced by three government bodies: the Ministry of Economy, Trade and Industry (METI); the Ministry of Health, Labor and Welfare (MHLW); and the Ministry of the Environment (MOE).

Status: Effective.

Key Compliance Date: Companies that manufacture or import one tonne or more per year of a general chemical substance must submit an annual notification covering the previous fiscal year's quantities and uses. The reports must be submitted to the METI between 1 April and 30 June for regulated quantities manufactured or imported during the preceding fiscal year.

Objective: The primary objective of the CSCL is to prevent environmental pollution caused by chemical substances that pose a risk of harming human health and the environment. The primary vehicle for the law to meet this objective is to evaluate new chemical substances before they are manufactured or imported into Japan, and to regulate existing chemicals.

Summary

The CSCL establishes a regulatory framework for evaluating the properties of new chemical substances before they can be manufactured or imported in Japan. It places direct obligations on manufacturers and importers of both new and existing chemical substances to prevent environmental pollution and protect human health. The law establishes a continuous risk-management system that categorizes existing chemicals into specific classes based on their persistence, bioaccumulation, and toxicity. This framework effectively enforces strict usage restrictions, volume caps, or total manufacturing bans on dangerous chemicals to maintain strict national and global environmental safety standards.

To ensure compliance with the CSCL, the status of substances through the Japanese [List of Existing and New Chemical Substances](#) (ENCS) must be tracked. While finished articles are generally exempt, the Aerospace and Defense (A&D) industry must monitor supply chains for restricted substances, as importing products and articles containing Class I Specified Chemical Substances is strictly prohibited.

Context and Background

Enacted in 1973 due to widespread contamination from polychlorinated biphenyls (PCBs), the CSCL is designed to prevent environmental pollution caused by chemical substances that pose long-term risks to human health and/or the environment. The law categorizes substances based on their persistence, bioaccumulation, and toxicity, applying regulatory measures proportionate to each category's risk profile. To verify inventory classifications and specific compliance information, the chemical search platforms Japan Chemicals Collaborative Knowledge database ([J-CHECK](#)) or the Chemical Risk Information Platform ([CHRIP](#)) can be utilized.¹

The CSCL integrates international chemical conventions, including the Stockholm Convention on Persistent Organic Pollutants (POPs), ensuring that global organic pollutant restrictions are integrated into Japan's domestic enforcement actions.

Scope and Applicability

- » **Affected Materials:** Applies to general chemical industrial products - new substances (not listed on the ENCS) and existing substances manufactured or imported into Japan.
- » **Articles Exception:** Finished articles are generally exempt from the CSCL. However, the import of specified products and articles containing designated Class I Specified Chemical Substances is prohibited, whereas articles containing Class II Specified Chemical Substances are generally exempt. For Class II Specified Chemical Substances as chemical products, importers are required to report planned and actual import volumes in accordance with CSCL requirements.
- » **General Exemptions:** The CSCL completely exempts the following:
 - natural substances or elements, impurities present at < 1% weight by weight (w/w),
 - substances manufactured or imported strictly for research and development (R&D) purpose
 - substances regulated by other specific Japanese laws, such as pharmaceuticals, cosmetics, and medical devices (regulated by the PMDA); food, food additives, and toys (regulated by the Food Sanitation Law), pesticides (controlled by the Pesticides Control Law), and radioactive substances

To check if specific raw materials or substances fall under these categories, reference the official ENCS from the National Institute of Technology and Evaluation. Note that the 1 April 2026 [Notice Concerning the Handling of Chemical Substances Containing Class I Specified Chemical Substances as Impurities](#) does not create blanket exemptions but instead specify conditions under which trace impurities are not treated as prohibited Class I Specific Chemical Substance.

Key Regulatory Obligations

The table below shows how the CSCL divides chemical substances into distinct categories, where each carries specific obligations for manufacturers and importers:

¹ Note that Japan compliance is CAS based (need to be publish into National Institute of Technology and Evaluation [NITE] database) vs EU REACH where in many cases a complete CAS list is not provided.

Category	Definition	Requirement
Class I Specified Chemical Substances	Highly hazardous materials that are persistent, highly bioaccumulative and toxic. Examples are PCBs, perfluorohexanesulfonic acid (PFHxS), perfluorooctanoic acid (PFOA) -related compounds, long-chain perfluorocarboxylic acids (LC-PFCAs), chlorpyrifos, and medium-chain chlorinated paraffins (MCCPs).	» Manufacture and import are prohibited unless prior permission is obtained for essential use. » Products and articles containing these must not be imported into Japan. » Mandatory labeling is required. » Manufacturing and handling must conform to technical standards. » Exemptions are for essential medical devices, pharmaceutical, and narrowly defined industrial uses (e.g., optical fiber coatings).
Class II Specified Chemical Substances	Substances with a risk of long-term toxicity to humans, predator animals, or local flora and fauna.	Chemical products containing these have the following requirements: » Annual reporting of planned quantities (which must not be exceeded) and actual manufactured/imported volume. » Japan government may enforce manufacture/import volume quotas. » Must comply with technical guidelines and recommendations. » Businesses must implement strict handling and labeling controls
Priority Assessment of Chemical Substances (PACs)	Substances whose long-term toxicity or environmental impact are unclear but are suspected of causing long-term toxicity to humans, flora, or fauna.	» Annual reporting if the volume manufactured or imported is ≥ 1 tonne per year (t/y).² » Authorities may request more hazard data.
Exempt Substances	Substances that have been exempt from CSCL reporting and evaluation, especially if they are already controlled by parallel, specialized regulations.	» See list of exemptions above – applicable regulations for these exempt substances may apply.
Monitoring Chemical Substances	This category is a waiting list for chemicals that are highly persistent and highly bioaccumulative, but whose long-term toxicity is not yet officially proven.	» Annual reporting if the volume manufactured or imported is ≥ 1 kg per year. » Authorities may order investigations into long-term toxicity to humans or predator animals at higher trophic levels. » Companies are legally required to pass along information regarding the presence of these chemicals to downstream operators and supply chain partners.

² When calculating whether the volume hits this 1-metric-ton threshold, you must follow strict composition rules:

- » The 1% Mixture Rule: If the PACS chemical is an ingredient in a mixture, blend, or formulation, you must include its weight in your calculation if it makes up 1% or more of the total mixture by weight.
- » Corporate Aggregation: You cannot split volumes across different ports, shipments, or internal subsidiaries. The 1-metric-ton threshold applies to the cumulative total of the entire corporate entity operating in Japan.

Category	Definition	Requirement
General Chemical Substances	Existing and newly announced substances not classified under higher-risk categories. (i.e., <i>all substances other than Class I & II Specified Chemical Substances, PACs, Monitoring Chemical Substances, and Exempt Substances.</i>)	» Annual reporting if the volume manufactured or imported is ≥ 1 t/y.
New Substances	Substances not listed on the ENCS inventory. (<i>Substances other than existing chemical substances and newly announced chemical substances.</i>)	» Notification or confirmation prior to import. » See table below (New Substances Notification & Confirmation) for further information.

Annual Reporting:

Manufacturers and importers must submit their annual reports to the METI **between 1 April and 30 June each year**. Submissions are strictly handled by METI, which releases optimized reporting manuals and procedure updates through the METI portal every March. Data requirements scale according to the chemical's risk classification:

- » **General Chemical Substances:** The annual report must be submitted to METI if the total manufactured or imported volume reaches 1 metric ton or more within a single fiscal year (April 1 to March 31). Reports must:
 - » detail the unique registration number of the chemical as listed on the ENCS,
 - » provide the official Japanese name mapped to that number,
 - » specify the quantity manufactured or imported volume (you cannot split imports across multiple ports or separate corporate subsidiaries to try and stay under the 1-metric-ton threshold; the volume is calculated based on the *total legal entity* importing or manufacturing the substance in Japan), and
 - » describe how the chemical will be used using Japan's standardized industrial application taxonomy; this involves picking a specific "Use Number" (e.g., plasticizer, solvent, surfactant).
- » **Monitoring Chemical Substances: Reporting for these substances involves stricter oversight and more detailed data than General Chemical Substances. Requirements include:**
 - » provide all baseline data (ENCS number, Japanese name, exact quantity, and specific Use Number),
 - » report if the manufactured or imported volume reaches just 1 kilogram or more within a single fiscal year, and
 - » submit further hazard and toxicity data if requested by the authorities.
- » **PACs:** PACs require more detailed information, including the exact manufacturing amounts produced in each Japanese prefecture, import volumes broken down by country or region of origin, and the specific shipment amounts sorted both by prefecture and use category. Businesses handling PACs are expected to communicate PAC status downstream. When a PAC is transferred to another business entity, the supplier is expected to inform the recipient that the substance is a Priority Assessment Chemical and provide relevant information to support safe handling and risk management.

New Substances Notification & Confirmation:

Step 1: Determine if the substance is considered new by confirming that it is not listed on the ENCS inventory.

Step 2: Chose the applicable notification route:

Category	Requirement	Description ³
> 10 t/y	Standard notification	This is the full registration route. Typical data requirements include biodegradability, bioaccumulation, mammalian toxicity, and ecotoxicity. After review by the authorities, manufacture or import may proceed without volume restrictions. The substance is generally published and added to the inventory after a period (typically five years).
≤ 10 t/y	Low volume notification	Reduced data requirements compared to standard notification. Generally, requires biodegradation and bioaccumulation assessments. Approval is volume-limited and must be renewed/confirmed annually.
≤ 1 t/y	Small amount confirmation	No hazard testing is normally required. Confirmation must be obtained before manufacture or import.
Polymers of low concern (PLC) ⁴ Intermediates Export only	Confirmation	Prior confirmation required. For polymers, data must be submitted showing it meets the criteria for PLC .

This [flowchart](#) from METI ⁵ helps determine whether procedures under the CSCL are necessary.

Critical Timeline and Deadlines

- » **Ongoing (three Months Prior to Activity):** Manufacturers and importers must notify authorities at least three months prior to the manufacture or import of a new chemical substance.
- » **Annual (1 April to 30 June):** The recurring annual reporting window for manufacturers and importers of General Chemical Substances, PACs, and Monitoring Chemical Substances.
- » **17 June 2026:** Technical standards and mandatory labeling amendments for Dechlorane Plus officially enter into force.
- » **17 June 2026:** Ban effective on manufacture and import of PFHxS-related substances and mixtures and import of products that contain these substances such as fire extinguishers, firefighting foams, semiconductor etching agents, and water/oil-repellent textiles.
- » **22 November 2026:** Ban effective on manufacture and import of chlorpyrifos, MCCPs, LC-PFCAs, and their related substances.⁶

Recent updates can be found under the Latest and featured information under the [CSCL webpage](#).

Impact on A&D Industry

- » **Supply Chain Disruption:** The ban on Class I Specified Chemical Substances heavily disrupts A&D supply chains by restricting access to specialized performance chemicals and formulations. For example, the restriction on PFOA related compounds directly disrupts the availability of specialized fabrics treated for water or oil resistance, paints, varnishes, cleaning

³ Approval of manufacture or import of new substances must be obtained at least 3 months prior.

⁴ Polymer of Low Concern (PLC) (sometimes informally called a "polymer of no concern") is a new polymer that is considered unlikely to pose a risk to human health or the environment because of its physical and chemical properties. A polymer that receives PLC confirmation can generally be manufactured or imported without undergoing the full new chemical notification process, although a PLC confirmation must still be obtained before manufacture or import.

⁵ The flowchart is available in Japanese, but one can hit the "translate" option after opening the page.

⁶ For the A&D industry, this ban applies to products containing these substances including lubricants, hydraulic fluids, coatings, adhesives, sealants, and water/oil-repellent textiles.

agents, and anti-reflective agents critical to semiconductor manufacturing. The recent CSCL developments affecting substances such as chlorpyrifos, MCCPs, and long-chain PFCAs illustrate how new restrictions can require manufacturers to identify alternatives and redesign affected products such as:

- wire insulation
 - hydraulic systems
 - specialty lubricants
 - flame-retardant materials
 - surface coatings
 - electronics manufacturing processes
- » **Supply Chain Due Diligence Requirements:** A&D OEMs and suppliers must understand the chemical content of parts sourced globally. CSCL compliance drives supplier declarations, material disclosure programs, chemical inventory management, and tracking of substances in imported components. This is especially important for multinational defense programs where suppliers may operate under multiple regimes such as the CSCL, REACH, and TSCA. Improper due diligence may lead to inaccurate reporting.
 - » **Data Reporting Burdens:** The A&D companies manufacturing or importing PACs ≥ 1 t/y must gather detailed supply chain data, tracking shipment amounts sorted by prefecture and use category.
 - » **Downstream Information Transfer:** Anyone transferring or providing Specified General Chemical Substances, PACs, or Monitoring Chemical Substances to another business operator is legally obligated to provide specific information to the purchaser.

Risks and Penalties

- » **Customs Seizure and Market Exclusion:** Customs border authorities can detain or seize incoming A&D articles or raw chemicals/materials if they fail to meet inventory clearance or are found to contain Class I Specified Chemical Substances. Importing articles containing Class I Substances is strictly prohibited and can risk customs blockage.
- » **Volume Restrictions and Operational Stoppages:** For Class II Specified Chemical Substances, the METI holds the authority to enforce quotas and restrict manufacture or import volumes to prevent environmental harm. Failing to submit accurate pre-calculated planned volumes or exceeding these allocated quotas can result in stop-orders that disrupt operations.
- » **Fines and Imprisonment:** The CSCL enforces penal provisions for compliance failures. Penalties can include imprisonment with work for up to three years, a fine of up to one million Japanese Yen (JPY), or both.
- » **Others:** In addition to the above, if violations or improper actions occur, the Japanese authorities may order suspension of manufacturing or import activities, require corrective actions, revoke permits or approvals, and/or increase regulatory scrutiny and inspections of the company and its product.

Horizon Scanning

- » **Tighter Scrutiny on Trace Impurities (April 2027):** Upcoming CSCL revisions will tighten regulations on Class I substances present as unintentional trace impurities in chemical mixtures. Instead of allowing blanket exemptions, the MHLW, METI, and MOE will require manufacturers and importers to apply the Best Available Technology (BAT) principle. A&D manufacturers may need to conduct more detailed supply chain audits to prove that restricted trace contaminants fall below strictly mandated thresholds.
- » **Global Convention Alignment:** Japan aligns the CSCL directly with global conventions such as the Stockholm Convention on POPs. The CSCL requirements may change based on POPs added to the Convention in the future.

- » **PFAS:** More PFAS-related substances will likely be evaluated. There is an increased scrutiny of fluorinated coatings, sealants, lubricants, wire insulation, and firefighting foams.
- » **Enforcement Rules:** In 2025, Japanese ministries proposed revisions affecting how impurities and trace amounts of regulated substances are handled under CSCL. While technical, these changes can have significant compliance implications because they affect how companies assess materials and mixtures. Future amendments are likely to focus on clarifying impurity treatment, updating exemption criteria, refining notification procedures, and improving enforcement consistency.

1.2. Industrial Safety and Health Law

Official Name: 労働安全衛生法 - Industrial Safety and Health Act (Act No. 57 of 1972).

Governing Authority: Ministry of Health, Labor, and Welfare.⁷

Status: Effective.

Key Compliance Date: As additions of newly classified hazardous substances to the mandatory Safety Data Sheet (SDS) and labeling scope often take effect annually on 1 April, regular supply-chain compliance reviews are needed to identify products affected by new regulatory requirements.

Objective: The primary objective of [ISHL](#) is to protect workers from chemical and workplace hazards by requiring employers to prevent occupational injuries and illnesses, assess and control workplace chemical risks, industrial accidents, communicate chemical hazards to workers, conduct health surveillance where necessary, and implement engineering and administrative controls.

Summary

The ISHL is Japan's primary occupational health workplace chemical safety law. It establishes a framework for regulating workplace handling and chemical exposure, mandating that manufacturers and importers provide Globally Harmonized System (GHS)-compliant labels and SDSs for designated substances. Whereas the CSCL focuses on environmental and public health, the ISHL regulates workplace safety by requiring employers to conduct formal risk assessments and enforce exposure controls.

This framework is key for A&D manufacturing, assembly, machining, and MRO operations. Under Japan's "autonomous chemical management" system, A&D operators and suppliers must independently manage a list of regulated substances found in common chemical formulations like aerospace solvents, sealants, and coatings. While articles are generally exempt, the exemption does not apply to components undergoing physical workplace modification (such as cutting or machining) that release hazardous dust or vapors.

In general, the ISHL key requirements include the following:

- » New chemical substance notification (separate from CSCL)
- » Hazard classification and labeling according to Japan's implementation of the GHS
- » Safety data sheets
- » Chemical risk assessment of hazardous substances in the workplace

⁷ The Japan National Institute of Occupational Safety and Health (a.k.a. JNIOOSH) is a government research institute. It conducts toxicity testing and supports safe exposure limits; the MHLW then provides recommendations for "Concentration Standard Values" under ISHL.

- » Minimization of worker exposure
- » Worker training
- » Medical surveillance

Context and Background

Enacted in 1972 and effective from 1973, the ISHL establishes the regulatory basis for protecting Japan's industrial workforce. Initially the ISHL focused primarily on preventing industrial accidents. As Japan's economy evolved and chemical manufacturing expanded, the law broadened its scope to address occupational exposure to hazardous substances. This evolution reflects a shift from a largely prescriptive regulatory model toward one that places greater responsibility on employers to identify and control workplace risks. As such, the framework has transitioned into a mandatory "autonomous chemical management" model. Under this system, the government sets the baseline performance target by establishing strict Concentration Standard Values (exposure limits) for hazardous substances. Employers are given regulatory flexibility and the legal responsibility to design, validate, and maintain their own localized technical controls and protective measures to stay below these safety thresholds.

Scope and Applicability

- » **Affected Materials:** The ISHL applies to chemical elements, compounds, and industrial mixtures manufactured, imported, or handled within a Japanese workplace. This includes "New Chemical Substances" not listed on the ISHL Inventory:
 - Existing chemical substances under CSCL (on the Japanese market before 1973) and ISHL inventories; and
 - New substances notified under ISHL and published in the government Gazette.For the A&D industry, affected materials are generally those used in production, maintenance, and repair processes rather than the finished aircraft or defense systems themselves. This includes chemicals used in solvents, paints and coatings, adhesives and sealants, composite materials, metal treatment, metalworking fluids, welding and soldering, batteries, and laboratories.
- » **Articles Exception:** Finished solid articles, such as completed aircraft structures, fasteners, and interior components, are generally exempt from ISHL labeling and SDS requirements. However, this exemption does not apply if an article undergoes workplace physical modification such as cutting, grinding, or machining that releases hazardous dust, fumes, or vapors. In these cases, the manufacturing process becomes fully subject to ISHL risk assessment obligations.
- » **General Exemptions:** While research and development substances, polymers of low concern, and consumer goods are exempt from standard notification protocols, the ISHL diverges from the CSCL regarding overall scope. Natural substances, elements, and products regulated by alternative laws are not exempt under the ISHL. They must be evaluated if they present occupational hazards or mutagenic risks to employees handling them in the workplace.

You can refer to the [Safety of Workplace](#) website to determine whether a substance is an existing substance or new substance under the ISHL.

Key Regulatory Obligations

The table below shows how the ISHL divides chemical substances into distinct categories, where each carries specific obligations for manufacturers and importers:

Category	Requirement	Description
Standard New Chemical	Full new chemical substance notification to MHLW:	Notify before manufacturing or import.

Category	Requirement	Description
Notification (> 100 kg/year per site) ⁸	» Submission of hazard data (typically includes mutagenicity screening such as Ames test)⁹ » Information on manufacturing processes, use conditions, exposure potential in the workplace » Worker exposure risk evaluation » SDS and labeling preparation (if applicable under hazard classification rules) » Implementation of workplace controls before use	The following data must be submitted: » Ames study report (Good Laboratory Practice required) » manufacturing process » materials used » reaction formula » molecular weight » appearance, boiling point/melting point » volume planned to be manufactured/imported; » uses of the substance » country of origin (for imported substances only).
Small Quantity New Chemical Substances (≤ 100 kg/year per site)	Low volume notification to MHLW: » Apply for small quantity confirmation (exemption-type procedure) » Submit basic identification information » No toxicological testing required in most cases » Limited review focused on worker exposure risk » Notify before manufacture or import	» Fast-track / simplified review. » Designed for R&D, pilot use, and very small-scale trials. » The following data must be submitted: — period of import — volume manufactured or imported — uses of the substance — human health hazard data, if available
Chemicals Requiring Labeling & SDS (ISHL Articles 57 and 57-2)	Article 57: Proper labeling on the container or packaging if the company manufacture, import, transfer, or supply designated hazardous chemical substances or mixtures. When supplying designated hazardous chemicals, the supplier must provide an SDS to the receiving business.	The label must include: » chemical name » hazard classification information » GHS hazard pictograms (Japan-adopted format) » signal word (e.g., “Danger”, “Warning” where applicable) » hazard statements (health/physical hazards) » precautionary statements (safe handling, storage, personal protection equipment [PPE] guidance)¹⁰ The SDS must include structured hazard and safety information such as: » chemical identity and composition » hazard classification (GHS-based) » physical and chemical properties » health hazards and toxicological information » fire and explosion hazards » safe handling and storage conditions » exposure controls (ventilation, PPE) » first aid measures » spill and emergency response measures

⁸ Note that the thresholds are per site not per company globally.

⁹ The Ames test is a biological safety screening that exposes bacteria to a chemical to see if it causes genetic mutations, indicating whether the substance may be a carcinogen.

¹⁰ Note that in Japan, GHS labeling under the ISHL requires ALL applicable precautionary (P) statements must be included on the label.

Category	Requirement	Description
		» disposal considerations » regulatory information SDS and label required if substance above cut-off level.¹¹ Must be in accordance with Japanese Industrial Standards JIS Z 7252 and JIS Z 7253.¹²
Substances Requiring Permission (ISHL Article 56)	A company must obtain prior permission from MHLW before it can manufacture certain highly hazardous chemical substances and manufacture preparations containing those substances.	Article 56 applies only to a very limited list of extremely dangerous chemicals, such as: » carcinogenic substances (historically including benzidine-type compounds) » strong systemic toxicants » other substances designated by Cabinet Order due to severe occupational health risks Manufacturing equipment and methods must comply with MHLW standards.
Prohibited Substances (ISHL Article 55)	Certain highly hazardous chemical substances and prohibited from manufacturing or import. Applies to articles when they are processed, heated, or otherwise treated under conditions that may generate substances prohibited under ISHL Article 55.	Mixtures containing the prohibited substances above specific concentration limits are also prohibited. For covered substances, you cannot: » manufacture them » import them » supply or distribute them » use them in workplaces » transfer ownership or possession The prohibition does not apply if the substance is used for research or examination purposes.

Carcinogenic Substances:

Carcinogenic substances are covered in the ISHL through the general chemical hazard control framework of ISHL, primarily based on GHS classification and workplace chemical safety rules. Carcinogenic substances are defined under Japan's adoption of the GHS Carcinogenicity category:

- » Category 1A / 1B → known or presumed carcinogens
- » Category 2 → suspected carcinogens

This classification, as well as the concentration cut-offs¹³ in a substance or mixtures, are the trigger point for ISHL controls typically under Articles 57 (labeling), 57-2 (SDS) and 57-3 (Mandatory Risk Assessment).

Companies must comply with occupational health standards, particularly for substances designated as "Specified Chemical Substances" under the ISHL. Employers manufacturing or handling pure forms or mixtures containing carcinogens above regulated threshold limits must comply with these requirements:

- » **Risk Assessments:** Employers must conduct mandatory risk assessments (Article 57-3) for any substance requiring an SDS to evaluate worker exposure and implement necessary mitigation measures.
- » **Exposure Controls:** Implement environment management (including substitution), process improvements, containment, local exhaust ventilation, and PPE.

¹¹ Japan sets cut-offs by hazard class, aligned with GHS, but with Japan-specific values.

¹² JIS Z 7252 is the official Japanese Industrial standard on how to classify the hazards of chemicals. JIS Z 7253 is the official Japanese Industrial Standard that defines how GHS chemical hazard information must be communicated through SDSs and labels.

¹³ ≥ 0.1% (w/w) for Categories 1A/1B and 1% (w/w) (typical default) for Category 2.

- » **Safety Training:** Provide specialized occupational health and safety training.
- » **Communication:** Use container labeling and SDSs that explicitly indicate carcinogenicity hazards.
- » **30-Year Records:** Retain workplace air measurements and worker health records for 30 years (this is a strict legal requirement for designated carcinogenic substances).

Mutagenic Substances:

While known mutagens are subject to standard GHS hazard communication rules, ISHL places a unique regulatory emphasis on mutagenicity, particularly during the pre-market evaluation of new chemicals. Requirements include:

- » **New Chemical Testing (Ames Test):** Under the ISHL Article 57-4, before a new chemical substance can be manufactured or imported into Japan, the business must notify the MHLW and submit the results of a mutagenicity test (typically the bacterial reverse mutation test, or "Ames test") to evaluate potential hazards.
- » **Exposure Controls:** If a substance has strong mutagenicity, either through new chemical testing or by being formally listed, companies handling pure forms or mixtures containing more than 1% by weight must comply with the Guidelines for the Prevention of Health Hazards Caused by Chemical Substances with Mutagenicity.¹⁴
- » **Safety Measures and Record Keeping:** The Guidelines impose workplace controls similar to those required for carcinogens, including exposure controls, occupational health and safety training, hazard communication on labels and SDSs, and **endeavoring to retain** both workplace air measurements and worker health records for 30 years.

Critical Timeline and Deadlines

- » **Ongoing:** Employers must notify the MHLW before manufacturing or importing a new chemical substance under ISHL.
- » **1 April 2027:** GHS labeling, SDS provision, and 30-year record keeping become mandatory for 50 newly added carcinogenic chemicals.
- » **1 April 2028:** 36 substances (based on FY2024 GHS classifications) added to the mandatory labeling and SDS list.
- » **24 December 2030:** The five-year transition window closes. All workplace documents must be fully converted from UN GHS Revision 6 to UN GHS Revision 9.

Impact on A&D Industry

- » **MRO and Assembly Compliance:** All chemical products used in Japan, such as specialized aerospace coatings, lubricants, adhesives, and solvents, must be accompanied by compliant Japanese SDSs and GHS labels.
- » **Mandatory Risk Assessments:** Facility managers must evaluate and document workplace risks to ensure worker exposure to harmful dust or vapors stays strictly below official concentration limits.
- » **Supply Chain:** Chemical compliance becomes part of supplier approval. Tier 1–3 suppliers must maintain consistent SDS formats (Japan-specific GHS alignment) and traceable chemical composition data.
- » **Strict Controls on high-hazard materials:** For high-risk substances (e.g. carcinogens or strong mutagens) there are stricter cut-offs (often 0.1% for Category 1 hazards), enhanced SDS requirements, mandatory workplace risk assessments, and engineering control expectations. For the A&D industry, commonly affected materials include chromates (hexavalent chromium coatings), specialty curing agents in epoxy systems, and aerospace surface treatment

¹⁴ These guidelines are often referred to in practice as the MHLW Mutagenicity Guidelines. They are administrative occupational safety guidelines issued under the Industrial Safety and Health Act framework, not a separate binding law.

chemicals. This may result in accelerated pressure to substitute legacy aerospace chemicals (such as chromium VI-based systems).

Risks and Penalties

- » **Supply Chain Disruption:** Japanese downstream partners and MRO operators may reject chemical shipments that lack compliant Japanese labels and SDSs, which may cause delivery delays. Agencies may require correction of the documentation before continued use of the substance.
- » **Workplace Disruption:** Labor inspectors have the authority to require modifications to operations. Inspectors may halt facility operations immediately if a company fails to conduct risk assessments or provide PPE.
- » **High-hazard substance misuse:** This applies typically to carcinogens, mutagens, and reproductive toxicants. Improper procedures may require mandatory engineering upgrades, restrictions on use conditions, and chemical substitutions. Improper exposure increases liability in case of worker illness.
- » **Fines and Imprisonment:** Illegally manufacturing or importing a Prohibited Substance without permission can result in imprisonment with work for up to three years or a corporate fine of up to 3 million JPY. Lesser violations, such as failing to provide an SDS, result in fines up to 500,000 JPY.

Horizon Scanning

- » **Continuous SDS Expansion:** The MHLW will continue adding new substances annually to the mandatory risk assessment and SDS list based on ongoing government GHS classifications. The A&D industry must treat SDS authoring as a continuous supply chain monitoring process.
- » **GHS Revision 9 Transition (2025–2030):** The transition to the new JIS Z 7252:2025 and 7253:2025 standards require all A&D hazard classifications, including a newly redefined structure for explosives and flammable aerosols ("chemicals under pressure"), to be completely re-evaluated and updated on Japanese SDSs before the mandatory deadline in December 2030.

2. Regulatory Interplay: The CSCL and ISHL

Unlike the EU, which utilizes a single, unified framework (REACH), Japan relies on a multi-layered system, which involves the CSCL, ISHL, PDSCl, and PRTR laws. A new chemical entering the Japanese market must clear both the CSCL and ISHL regulations independently. Passing one does not guarantee compliance with the other. This interplay is defined by several areas defined below.

Inventory Checks

A major point of interplay is that the CSCL and ISHL maintain entirely separate "Existing Chemical" inventories:

- » The CSCL uses the **ENCS** list; and
- » The ISHL uses the **ISHL Inventory**.

Because these laws were enacted at different times, a chemical might be listed as "existing" on the ENCS but be considered "new" under the ISHL. In this scenario, a company must still file a new substance notification and conduct mutagenicity testing for the ISHL, even though the CSCL considers the chemical cleared.

Divergent Testing and Shared Data

Both laws require pre-manufacture/pre-import notification, but they demand different scientific data based on their distinct goals:

- » **CSCL** requires testing for environmental fate such as biodegradation, bioaccumulation, and ecotoxicity.
- » **ISHL** strictly requires the Ames Test (mutagenicity) to assess severe human health hazards like cancer risk.

While the hazard endpoints differ, the MHLW serves as the primary bridge between the two laws. As a joint authority of the CSCL and the sole authority of the ISHL, the MHLW facilitates the sharing of chemical identity data and human health assessments across both frameworks.

Volume Thresholds and Scaling

The interplay may become challenging as a company scales up production or imports. The laws enforce entirely different low-volume exemption (LVE) limits:

- » **CSCL:** LVE triggers at **1 tonne per year, nationally** (across all importers).
- » **ISHL:** LVE triggers at **100 kg per year, per facility**.

For example, if a facility imports 500 kg of a new specialized resin, they are exempt from standard CSCL testing but must complete full ISHL notification and mutagenicity testing, as they have breached the 100 kg workplace threshold.

Lifecycle

Ultimately, the two laws work in tandem by dividing the chemical lifecycle:

- » **CSCL** mandates if the chemical can enter Japan and in what total volume, actively banning or setting national quotas on substances that build up in the environment.
- » **ISHL** mandates how the chemical is handled once it clears customs, enforcing local exhaust ventilation, PPE, hazard labeling, and SDS distribution on the factory floor.

Global Convention Alignment

Japan uses the CSCL and ISHL to align international treaties into domestic law, ensuring global harmonization:

- » **Stockholm Convention (POPs):** The CSCL serves as Japan's domestic regulation for the Stockholm Convention. When the UN bans a PFAS (like PFHxS or PFOA), Japan categorizes it as a Class I Substance under the CSCL, triggering domestic ban.
- » **Minamata Convention:** The CSCL is also used to enforce global agreements regarding the phase-out of mercury and mercury-added products and chemicals.
- » **UN Globally Harmonized System:** The ISHL is Japan's primary vehicle for implementing the UN GHS framework. The ongoing ISHL expansions and the transition to JIS Z 7253:2025 ensure Japan's workplace labels and SDSs align with the latest international safety communication standards (UN GHS Revision 9).

Relevance to the A&D Industry

The overlapping nature of the CSCL and ISHL creates bottlenecks for the A&D sector:

- » **The Dual-Notification Bottleneck:** Companies may need to budget for double the testing time (environmental persistence for CSCL; mutagenicity for ISHL) before a new proprietary material/product can legally enter Japan.
- » **R&D to Production Scaling:** Pilot programs must monitor chemical usage tightly. For example, scaling a chemical's use from 90 kg to 150 kg abruptly triggers full ISHL notification rules, whereas scaling past 1,000 kg triggers strict CSCL reporting.
- » **Simultaneous Factory and Supply Pressures:** Global POPs bans enforced through the CSCL instantly disrupt the availability of critical materials, like specialized PFAS-treated water-resistant fabrics or firefighting foams. Simultaneously, the ISHL forces MRO facilities to physically upgrade ventilation systems to legally handle the replacement chemicals.

3. Japan Chemical Compliance Overview

