

Amano Green Procurement Guidelines

- Raw Materials and Components -

Created on October 15, 2003
Implemented on March 28, 2019
Rev. 16



Edited by Green Procurement Promotion Committee

TABLE OF CONTENTS

- 1. INTRODUCTION 3
- 2. SCOPE 3
- 3. DEFINITIONS AND DESCRIPTIONS OF TERMS..... 4
- 4. PRINCIPLES OF GREEN PROCUREMENT GUIDELINES 6
 - 4.1 REQUIREMENTS 6
- 5. OPERATION 8
 - 5.1 OUTLINE OF SURVEY 8
 - 5.2 CONDUCT OF SURVEY AND TIMINGS OF REPORT 10
 - 5.4 HANDLING AND USE OF DOCUMENTATION AND PERSONAL INFORMATION 13
 - 5.5 REVISION OF THE GUIDELINES 13
 - 5.6 INQUIRIES ON THE GUIDELINES..... 13

1. Introduction

Amano Corporation (‘Amano’) set out its corporate environmental philosophy in March 2004 to guide its environmental policy for corporate activities in order to contribute to building a sustainable society, and now we have a basic policy and action guidance in place.

The guidelines have the objective of identifying chemical substances present in the raw materials and components that make up of our products and of complying with the relevant environmental laws and regulations, including the RoHS Directive.

Environmentally friendly raw materials and components are required to be procured from suppliers in order to design and manufacture environmentally friendly products and eliminate chemical substances that may have an adverse effect on the environment.

Traditionally, Amano relied on JGP files to identify chemical substances throughout the supply chain. In July 2019 Amano turned to chemSHERPA, an information sharing scheme that complies with IEC 62474, the international standard for the electrical and electronic industry, to ensure smoother information transmission throughout the supply chain.

We hope that our business partners understand the purpose of the guidelines and cooperate with us. Please visit our website to review our environmental philosophy and policy.

2. Scope

The guidelines shall cover the following:

- Raw materials and components of the products designed, manufactured, and sold by Amano

- Products designed and manufactured on behalf of Amano and labeled with its trademark for sale

- Products designed and manufactured by Amano as contract manufacturer (except for the components and materials specified by client contractors)

*Containers, packaging materials and components, supplied instructions for use and documentation, and service components for the products to be covered as listed above are also included.

The guidelines also cover the containers and packaging materials for components shipped from Amano for service use.

*The survey also includes use of ozone-depleting substances in the manufacturing process.

*The survey does not cover raw materials and components provided by Amano.

*The survey does not cover returnable boxes, containers, and packaging materials used for transportation and storage between our suppliers and Amano.

The products delivered to Amano by primary suppliers without directly manufacturing or processing them should be subjected to surveys by their final

manufacturers, while primary suppliers are responsible for reporting the surveys to Amano.

Note that data and documents compiled by the final manufacturers should be transferred through primary suppliers.

Any substances or uses prohibited or restricted under the relevant national or regional laws, regulations, ordinances, or agreements should be handled in compliance with such legal instruments even if the prohibitions or restrictions are not explicitly stated in the guidelines.

3. Definitions and Descriptions of Terms

① Chemical substances

Chemical substances are a collective designation for chemical elements and their compounds (e.g., lead [chemical element], lead oxide [compound], and polyvinyl chloride [compound]). Registry Number (RN), (CAS Number) of the American Chemical Society Chemical Information Search System or European Chemical (EC Number) is attached to all chemical elements and most of their compounds.

Substances prohibited from use

Substances and their uses are prohibited immediately or at specific date and later.

③ Controlled substances

Controlled substances are defined as substances whose use should be monitored and considered for elimination or reduction in order to comply with the changing regulations and to address environmental challenges. Note that the substances are prohibited from use if any prohibitions of use are applicable to them.

④ Presence

The term means that any chemical substances are present as in the form of ingredients or contents in the components, materials, or products. Chemical substances may be naturally present as impurities or left unremoved during common industrial refining processes (e.g., impurities, residual solvents, and residues, such as unreacted monomers).

Materials

A material consists of one or more chemical substances. For example, an alloy, which is a material, itself is made of many different chemical substances.

IEC 62474

The international standard is an electrical and electronic industry substance list published in March 2012 by the International Electrotechnical Commission (IEC) in order to build and promote more efficient information sharing mechanisms through standardizing survey efforts, including substance terms and survey formats.

chemSHERPA

The scheme for transferring information on chemical substances contained in

products was developed by the Ministry of Economy, Trade and Industry as an effort to comply with the international standard (IEC 62474). The scheme has two types of files for transmission methods:

- chemSHERPA-CI file: Chemicals
- chemSHERPA-AI file: Molded product

More information on chemSHERPA (information transmission of chemical substances contained in products) are given in the URL below:

http://www.meti.go.jp/policy/chemical_management/other/cip_index.html

4. Principles of Green Procurement Guidelines

Our policy requires suppliers to meet the requirements set out in 4.1 below in regard to the raw materials and components to be procured that they manufacture.

In principle, any raw materials and components that fail to meet the requirements provided in Section 4.1 will not be procured.

4.1 Requirements

Surveys should be conducted on each raw materials and components to be procured for the presence of regulated chemical substances.

[See the appendix "Amano Corporation List of Regulated Chemicals" (TDD31002) for regulated chemical substances.]

- Raw materials and components should not contain any prohibited substances listed by Amano.
- Information on presence and contents of controlled substances listed by Amano in raw materials and components should be available.
- Suppliers should ensure that surveys on regulated chemical substances are reported without falsification or fabrication.
- Suppliers should cooperate with surveys on regulated chemical substances.
- Suppliers should ensure that surveys are conducted on the lead-free soldering of surface mounted devices, and the heat resistance in components to be soldered are reported without falsification.

Suppliers should ensure that in-process use of the substances prohibited from use in the manufacturing processes listed by Amano is surveyed and abolished on a voluntary basis.

[See the appendix "Amano Corporation List of Regulated Chemicals" for substances prohibited from use in the manufacturing process.]

The following uses of the substances are exempted from the prohibitions:

- Reagents used in small quantities for comparison or calibration purposes in research and development activities
- Chemical substances contained in equipment and devices that are not involved in the manufacturing processes

Examples: CFCs contained as refrigerants in air-conditioning equipment and halons contained as extinguishing materials in firefighting equipment.

Suppliers should submit the "Certificate of Non-Use of Prohibited Substances in Manufacturing Process" (ABR6114).

Suppliers should certify that no substances prohibited from use in the manufacturing process as specified by Amano are or will be used in the manufacturing process of the raw materials and components to be delivered to Amano at present and in the future.

Suppliers should provide relevant details on the request from Amano for the survey on regulated chemical substances present in components. Additionally, Amano may demand certificates on raw materials and components as specified by Amano at the time of delivery.

5. Operation

5.1 Outline of Survey

Survey on regulated chemical substances for components and raw materials

- (1) The survey should focus on the information on presences of chemical substances according to the Amano list of regulated chemical substances.
- (2) The survey should be reported in the appropriate chemSHERPA file formats for delivery modalities depending on the supplier types.

Supplier types	chemSHERPA file formats	Information required
Material suppliers	CI file format	· Ingredient information: Mandatory
Unit/Module/Distributors	AI file format	· Ingredient information: Mandatory · Compliance information: Mandatory
Component processors	AI file format	· Ingredient information: Mandatory · Compliance information: Mandatory

Declaration in chemSHERPA-CI file

- Ingredient information is mandatory.

Declaration in chemSHERPA-AI file

- Ingredient information is mandatory.
- Compliance information is mandatory.

- (3) chemSHERPA data entry support tools and associated manuals are available at <https://chemsherpa.net/tool>.

Survey on lead-free soldering of surface mounted devices and heat resistance in components to be soldered

- (1) Components to be soldered should be surveyed for heat resistance in order to help determine whether the use of lead-free solder is justifiable. The survey should be reported by completing and forwarding the Inquiry Sheet of Surveillance of Heat Resistance of the Parts to Mount by Lead-free Soldering (ABR6115).

Survey on substances prohibited from use in the manufacturing process

- (1) Raw materials and components should be surveyed to confirm the nonuse of ozone-layer depleting substances listed in the Certificate of Non-Use of Prohibited Substances in Manufacturing Process (ABR6114), which lists substances prohibited from use in the component manufacturing processes and should be

examined for nonuse. Please complete the Prohibited substances Non-inclusion statement in the use of manufacturing process and submit it to us.

5.2 Conduct of Survey and Timing of Report

The survey should be organized and reported according to the instructions below:

When transactions with a new supplier are started

When a new supplier enters into a procurement contract, the supplier should submit the following documents according to the requirements set out in Section 4.1.

Submission: Amano Nonuse Certificate of Substances Prohibited from Use
in the Manufacturing Processes

When procurement of new components is decided

When procurement of new components is decided or proposed, the following survey reports should be submitted according to Section 4.1.

Submission: chemSHERPA file

Response Form for Survey on Lead-free Soldering of Surface Mounted Devices and Heat Resistance in Components to Be Soldered:
The document is required only for the components that are soldered with lead solder.

When Amano submits a list of survey subjects to a supplier for a survey

Suppliers should survey components identified in the list of survey subjects for the use of regulated chemical substances and report the survey.

Survey report deadline: The report deadlines will be specified when the lists are given. The reports should be submitted by the deadline.

If the survey report deadlines are not likely to be met, please contact Amano using the contact information provided in Section 5.6 "Inquiries on the Guidelines."

Submission: chemSHERPA files

Response Form for Survey on Lead-free Soldering of Surface Mounted Devices and Heat Resistance in Components to Be Soldered:
The document is required only for the components that are soldered with lead solder.

If suppliers make changes to any of the following elements for unilateral reasons, suppliers should survey the proposed changes before delivery and report the details on the changes and the survey to Amano for approval.

- (1) Suppliers
- (2) Country or place of production, including addition of country or place
- (3) Materials
- (4) Secondary treatments including, not limited to, printing, painting, plating, and heat treatment

(5) Adhesives, lubricants, solders, and reinforcing agents

(6) Chemical substances contained

(7) Manufacturing processes

In addition, any findings leading to corrections or changes to the survey report should be reported every time they are obtained.

5.3 Survey Procedures

The survey procedures are described below.

	Steps	Suppliers	Amano
	Provide documentation		Green Procurement Guidelines and List of Regulated Chemical Substances are provided to suppliers.
	Request a survey		Amano will email ChemSHERPA files and the Response Form for Survey on Lead-free Soldering of Surface Mounted Devices and Heat Resistance in Components to Be Soldered to suppliers.
Sent back	Conduct surveys	Review the survey request and conduct the survey according to the guidelines. (Details are separately provided in Section 4.1) Complete chemSHERPA files to report the survey. Complete the Response Form for Survey on Lead-free Soldering of Surface Mounted Devices and Heat Resistance in Components to Be Soldered (only for the components that are soldered).	
	Report the surveys	Submit completed chemSHERPA files. Submit the completed Response Form for Survey on Lead-free Soldering of Surface Mounted Devices and Heat Resistance in Components to Be Soldered (only for the components that are soldered).	
	Preliminarily check the reports		Preliminarily checks the submitted documents for deficiencies and sends them back as necessary.
	Evaluate the surveys		Amano evaluates the survey.
	Forward feedback		If the judgment is rejection, we will request that suppliers use alternative materials or equipment.
	Find alternative substances	Please consider whether the proposed alternative is feasible.	

5.4 Handling and Use of Documentation and Personal Information

The survey reports and personal information submitted will be shared within the Amano Group to inform the selection of suppliers and the procurement of raw materials and components.

Note that the knowledge obtained from submitted materials and through the survey and personal information will not be shared for any purpose other than the intended purpose.

5.5 Revision of the Guidelines

The guidelines may be revised in terms of prohibition deadlines, uses to be reported, and more without prior notice to comply with the developments of national and international regulations on chemical substances and industry landscapes. Amano will communicate any updates as the guidelines. Please check the information and take any necessary action.

5.6 Inquiries on the Guidelines

·Amano Yokohama Procurement Dept.

Tel: 045-439-1521 (direct) Fax: 045-439-1161 (G-IV)

·Amano Corporation Hosoe site Procurement Dept.

Tel: 053-523-0838 (direct) Fax: 053-527-0005 (G-)

History of revisions and abolitions

Responsible department		Green Procurement Promotion Committee, Head office
Rev	Revision / abolition dates	Descriptions of revisions and regular updates
2	Dec. 2, 2003	· Added CAS No. column to page 22.
3	Dec. 5, 2003	Corrected the numbers within the table in 7. Exemption of substances on page 32. Corrected copper content from 0.4 wt% to 4 wt% in entries for lead exclusion
4	Nov. 2, 2005	<ul style="list-style-type: none"> · The guidelines were updated with the following changes and officially published by the Green Procurement Working Group, Yokohama Site. · Changed the designation "Regulated Chemical Substance Survey Guidelines" to "Green Procurement Guidelines." Additionally, the phrase "electrolyzed water business product field" was added in the business field description on the cover page. · Changed the phrase describing the editor from "Ed. Environmental Regulation-Compliant Product Preparation Project" to "Ed. the Green Procurement Working Group, Yokohama Site." · 3. Principles of the guidelines for survey on regulated chemical substances · 3.1 Requirements · 4.1 Outline of survey · 4.2 Timing for survey · 4.3 Survey procedures · 5. Definitions of terms Revised and , added statements to (JCIA website), and added , , and . · Appendix 2: Mainly regulatory values were changed. · Changed the control rank of methyl bromide, an ozone layer depleting substance, to the prohibited substance rank in order to align with the scheduled date in 2005 or later for completely abolishing the use of the substance. · Changed "Appendix 1 Amano Certificate of Nonuse of Prohibited Substances" to "Form 1 Amano Certificate of Nonuse of Substances Prohibited from Use or Scheduled for Complete Abolishment." · Created "Form 2 Survey Report on Substances Prohibited from Use or Scheduled for Complete Abolishment." · Changed the existing "Appendix 2 Amano Certificate of Nonuse of Substances Prohibited from Use or Scheduled for Complete Abolishment" to "Form 3 Amano Certificate of Nonuse of Substances Prohibited from Use or Scheduled for Complete Abolishment." Its content remains unchanged. · Created statements on the survey of lead-free soldering of surface mounted devices and heat resistance in components to be soldered.

Rev	Revision /abolition dates	Descriptions of revisions and regular updates
5	May 22, 2007	<p>Corrected the text on the supplier that is a trading company on page 2.</p> <p>Added the text ‘bn the Products Delivered to Amano, Products delivered by primary suppliers without directly manufacturing or processing them ’in the box “ Submit the certificate per transaction batch ”in Section 3.1 ‘Requirements ’on page 3.</p> <p>Added "use former Ver. 2 survey response tool from JGP files "to "(6) Submissions "on page 4.</p> <p>In addition, added "4.1 Survey Outline (7) Principles of the survey; validity. "</p> <p>Changed the control rank of six substances subject to the RoHS Directive from Scheduled for Complete Abolition to Prohibited. Along with this, deleted "Substances Scheduled for Complete Abolition" from the title of the certificate form. Forms 1 and 2 listed on pages 36 to 37 were also accordingly changed.</p> <p>Assigned and added the form control numbers ABR6112 to ABR6114 to the following certificate forms:</p> <ul style="list-style-type: none"> · Amano Certificate of Nonuse of Prohibited Substances · Amano Survey Report on the Presence of Prohibited Substances · Amano Certificate of Nonuse of Substances Prohibited from Use in the Manufacturing Process <p>Added the handling of personal information to Section 4.4 on page 9.</p> <p>Removed the Technical Management Department from 4.7 Inquiries on the guidelines on page 9.</p> <p>Added 91/157/EEC (+98/101/EC) (Battery Directive) to the relevant laws and regulations column in Attached Table 2 on page 13.</p> <p>Added “9 Batteries should comply with the European Battery Directive 91/157/EEC (+98/101/EC) ”on page 14.</p> <p>Added the following additional exemptions according to 2005/747/EC, 2006/310/EC, 2006/691/EC, 2006/692/EC, and 2006/690/EC in “7. Exemption of subject substances ”on page 19. Also added ‘Exemptions for batteries comply with the EU Battery Directive. ’</p> <ul style="list-style-type: none"> · Added paragraphs 2 and 3 for cadmium. · Added paragraph 2 for hexavalent chromium. · Deleted “exempted until 2010 ”in paragraph 3 and added paragraphs 6 to 23 for lead. · Added paragraphs on exemption for polybrominated diphenyl ethers (PBDEs).

Rev.	Revision /abolation dates	Descriptions of revisions and regular updates
6	June 22, 2011	Revised so as to be consistent with the list of chemical substance groups subject to surveys in the Material Composition Survey and Response Manual published by the Japan Green Procurement Survey Standardization Initiative (JGPSSI) and the SVHC list compliant with REACH regulations. The list of regulated chemical substances, which was earlier referred to in Rev. 5, was established as a separate document titled the Amano List of Regulated Chemical Substances (TDD31002).
7	Nov. 12, 2012	<ul style="list-style-type: none"> · Revised the guidelines in a way to include a SVHC list-compliant survey form [SVHC-containing the chemical substance entry form (ABR6257)] for the survey because the SVHC survey involved the SVHC list, which covered more substances than the JGP file Ver. 4.20. · Added “(7) If there are changes in the manufacturing process ”in the paragraph “If suppliers make changes to any of the following elements for unilateral reasons ”in Section 5.2 on page 12. · Made the description in Section 5.5 “Revisions of the guidelines ” more detailed. · Revised Forms 1 and 2 in a manner to reflect prohibited substances added resulting from the addition of the SVHC list. · Modified Forms 1, 2, and 3 in a manner to put the Japanese and English texts side by side.
8	Nov. 14, 2013	<ol style="list-style-type: none"> 1) Added Figures 1 to 3 to Forms 1 to 3 (sample of completed forms). 2) Changed Appended Figures 1 and 2 in order to be consistent with the update of Forms 1 and 2 due to the addition of 54 SVHC substances in the 8th SVHC addition and six substances in the 9th SVHC addition.
9	Sep. 29, 2014	<ol style="list-style-type: none"> 1) Changed a description of the survey response tool by changing from Ver. 4.20 to Ver. 4.31. 2) Changed Appended Figures 1 and 2 in order to be consistent with the update of Forms 1 and 2 due to the addition of seven SVHC substances in the 10th SVHC addition and four substances in the 11th SVHC addition. 3) Changed the term “MSDS ”in item of Section 3. “Definitions and Descriptions of Terms ”to “SDS.” 4) Changed the designation of the responsible department from the Yokohama site to the head office site in order to reflect the consolidation of the business offices.
10	Feb. 23, 2015	1) Changed Appended Figures 1 and 2 in order to be consistent with the update of Forms 1 and 2 due to the addition of six SVHC substances in the 12th SVHC addition and four substances in the list of substances scheduled to be prohibited on specific dates. (Two substances added to cadmium compounds, one substance added to dioctyltin compounds (DOT), diarsenic trioxide, diarsenic pentoxide, tris(2-chloroethyl) phosphate (TCEP), and 2,4-dinitrotoluene added.)
11	Jan 29, 2016	1) Changed Appended Figures 1 and 2 in order to be consistent with the update of Forms 1 and 2. (Added ethylene trichloride to the REACH authorization list)

Rev.	Revision /abolution dates	Descriptions of revisions and regular updates
12	Aug. 19, 2016	<p>1) Changed Appended Figures 1 and 2 in order to be consistent with the update of Forms 1 and 2. (Added substances restricted under REACH, polycyclic aromatic hydrocarbons (PAH) (eight substances) as conditionally prohibited substances) Changed ("3 or more " chlorine atoms) for polychlorinated naphthalene to ("2 or more "chlorine atoms).</p> <p>Since decabromodiphenyl ether was an example substance of polybrominated diphenyl ethers (PBDEs), its number was changed to a branch number of polybrominated diphenyl ethers (PBDEs).</p>
13	Mar. 31, 2017	<p>1) Changed Appended Figures 1 and 2 in order to be consistent with the update of Forms 1 and 2.</p> <p>Substances listed in the REACH authorization list: added following four substances</p> <ul style="list-style-type: none"> ·Polymer of formaldehyde and aniline ·Arsenic acid: orthoarsenic acid ·bis(2-methoxyethyl)ether ·Oligomers of chromic and dichromic acids
14	Oct. 5, 2017	<p>1) Changed Appended Figures 1 and 2 in order to be consistent with the update of Forms 1 and 2.</p> <p>Substances listed in the REACH authorization list: added the following substance.</p> <ul style="list-style-type: none"> ·1,2-dichloroethane
15	Mar. 23, 2018	<p>1) Added 10 RoHS regulated chemical substances in the substances survey, including restricted substances such as phthalic acid esters (four types). Added the survey response tool Response Form to Additional Survey on Regulated Chemical Substances (ABR6332).</p> <p>2) Changed Appended Figures 1 and 2 in order to be consistent with the update of Forms 1 and 2 due to the addition of seven SVHC substances in the 18th SVHC addition. (Added three substances to cadmium compounds: cadmium nitrate, cadmium hydroxide, and cadmium carbonate)</p>

Rev.	Revision /abolition dates	Descriptions of revisions and regular updates
16	Mar. 28, 2019	Revised so as to reflect the introduction of chemSHERPA, an information sharing scheme compliant with IEC 62474 ·Revised 3. Definitions and Descriptions of Terms ·Revised 4.1 Requirements ·Revised 5.1 Outline of Survey ·Revised 5.2 Conduct of Survey and Timing of Report ·Revised 5.3 Survey Procedures

Published by
Materials Department, Yokohama Site, Amano Corporation

Head Office: 275 Somatomachi, Kohoku-ku, Yokohama -shi, Kanagawa Kanagawa 222-8558, Japan;

Tel: 045-401-1441 (Representative)