

NISSEI GROUP GREEN PROCUREMENT STANDARD Ver.21

NISSEI ELECTRIC CO., LTD

Quality Environmental System Department

1. Purpose

This standard is established to promote green procurement by delivering environmentally friendly products to our customers and aim to contribute to the preservation of the global environment.

To achieved this purpose, for environmental management substances are used for manufacturing or contained in components that constituting NISSEI products, we clarified prohibited substances and controlled substances, established management method for materials, parts, products and services, communicate throughly to suppliers and defined procedure to manage prohibited substances will not be mixed when purchased materials.

2. Application scope

2.1. Applied sites

This standard is applied to whole collectively NISSEI Group, including:

NISSEI ELECTRIC CO., LTD (NEJ)

NISSEI ELECTRIC VIETNAM CO., LTD (NEV)

NISSEI ELECTRIC MY THO CO., LTD (NEM)

NISSEI ELECTRIC HANOI CO., LTD (NEH)

NISSEI ELECTRIC (THAILAND) CO., LTD (NET)

NISSEI ELECTRIC (ZHONGSHAN) CO., LTD (NEZS)

NISSEI ELECTRIC (KUNSHAN) CO., LTD (NEKS)

2.2. Scope applicable to materials/parts/products

Application scope of target materials/parts/products.	
①	Semi-finished products: assembly parts such as functional units, modules, Assy board...
②	Parts: electrical parts, mechanical parts, semiconductor devices, printed-wiring boards, individual boxes and packing boxes are re-used by customer at the time of their shipment
③	Materials: rubber compounds, pigments, resins, ink, wire, metal core...
④	Products: OUT-IN and OUT-OUT...
⑤	Instruction Manual
⑥	Packaging materials to be used for protect and deliver NISSEI Group's products when delivered to customers: Such as: crates, trays, reels, sticks, bags, cushions, staples, sheets, wraps, cardboards, tapes, binding bands, labels, printing ink, paint, individual boxes and packing boxes are not re-used by customer at the time of their shipment...
⑦	Auxiliary materials and consumables (solvent, chemical, abrasive,etc...) to be used in the production

with the exception of the above ⑥.

Materials contact to equipments, equipment mold, auxiliary materials made inside.

2.3. Exemption

It is excluded for the articles which are sale outside such as office equipments, building materials.

3. Definition of terms

Table 3-1 Terms

	Term	Definition
①	Environmental management substances	Substances contained in parts and devices, have significant environmental-impact on both humans and the global environment are determined and notified to suppliers by NISSEI Group .
		Prohibited substances: Substances that are prohibited from intentional use, refer Table 4-1-1
		Controlled substances: Substances that are not prohibited substances but are required to investigate the content, refer Table 4-1-2
②	Contain	Mean that substances are added to, filled in, mixed in or adhered to parts or materials constituting products regardless of whether or not intentional (Including case of unintentionally mixed or attached to product in the process)
③	Impurities	Substances that are contained in natural material and can not be removed by the current industrial technologies in the production process or substnaces that are can not be removed by the current industrial technologies in the process of synthesis.
④	Quarantine operation	Based on the performance or customer requirement, if must be using materials containing environmental management substances (prohibited substances), should be ensure that the materials from receiving process to shipping process will not be mixed with other materials or products.
⑤	MSDS	Products containing Class I and II Designed Chemical Substances more than 1% by weight (or Specified Class I Designed Chemical Substances more than 0.1% by weight) of Japan PRTR Law must submit an MSDS. In addition, chemicals, dyes, paints, solvents...also required to submit.
⑥	High precision analysis data	For high precision analysis data, refer item 4.2. Analysis method.
⑦	Controlled value	Is standard value for determing the notify to suppliers for correction if it has been exceeded during incoming inspection or periodic inspection process.

4. Environmental management substances

Table 4-1-1 ①Environmental management substances – List of prohibited substances

Major classification	Prohibited substances (substances that are prohibited from intentional use)	Allowable concentration (less than ppm)	Controlled value (less than ppm)	Laws and regulations
Metals and metal compounds	1 Cadmium and its compounds (Packaging materials: refer to table 4-1-3)	5 (*1)	5 (*2)	RoHS Directive
	2 Hexavalent chromium compounds (Packaging materials: refer to table 4-1-3)	1000	800	RoHS Directive
	3 Lead and its compounds (Packaging materials: refer to table 4-1-3)	Table 4-1-1②		RoHS Directive
	4 Mercury and its compounds (Packaging materials: refer to table 4-1-3)	1000	800	RoHS Directive
	5 Beryllium oxide CAS No. 1304-56-9	Prohibited from intentional use		Customer demand
	6 Cobalt dichloride CAS No. 7646-79-9	Prohibited from intentional use		REACH Authorization ANNEX XIV
	7 Tributyltin compounds, triphenyltin compounds, bis(tributyltin) oxide (more than 0.1wt% of tin conversion)	1000		REACH Restricted substances
	8 Dibutyltin compounds, Dioctyltin compounds *3 (more than 0.1wt% of tin conversion)	1000		REACH Restricted substances
	9 Nickel and its compounds *3	0.5µg/cm ² /week		REACH Restricted substances
Halogenated Organic Compounds	10 Polybrominated biphenyls (PBBs)	1000	800	RoHS Directive
	11 Polybrominated diphenyl ethers (PBDEs)	1000	800	RoHS Directive
	12 Polychlorinated biphenyls (PCBs)	Prohibited from intentional use		Class 1 Chemical substances control law
	13 Polychlorinated naphthalenes (PCN) (more than 1 chlorine atoms)	Prohibited from intentional use		POPs Regulation
	14 Polychlorinated terphenyl (PCT)	50		REACH Restriction
	15 Short chain chlorinated paraffins (C10-C13, more than 50% Chlorine)	Prohibited from intentional use 1000		EU POPs Regulation IEC62474
	16 Hexabromocyclododecane	Prohibited from intentional use 100		Class 1 Chemical substances control law
	17 Hexachlorobenzene	Prohibited from intentional use		Class 1 Chemical substances control law
	18 Polyvinyl Chloride (PVC)	Prohibited from intentional use		Customer demand
	19 Chlorinated organic solvent	Prohibited from intentional use		Customer demand
Others	20 Tris (2-chloroethyl) phosphate (TCEP) Tris (1-methyl-2- chloroethyl) phosphate (TCPP) Tris (1,3-dichloro-2-propyl) phosphate (TDCPP)	1000		US Vermont State Law
	21 Asbestos	Prohibited from intentional use 1000		REACH Restricted Substances Safety & Hygiene Law
	22 Azocolourants and azodyes which from certain aromatic amines *3 (refer to table 4-1-4)	30		REACH Restricted Substances

23 Perfluorooctane sulfonate (PFOS) and its salts	Prohibited from intentional use 1000	Class 1 Chemical substances control law POPs Regulation	
24 Perfluorooctanoic acid (PFOA), its salts and esters	Prohibited from intentional use *6	Customer demand REACH Restricted Substances *6	
25 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl) CAS No.3846-71-7	Prohibited from intentional use	Class 1 Chemical substances control law	
26 Formaldehyde *4	Less than 0.1 in aerial density	Germany Chemical Prohibition Rule	
27 Dimethylfumarate	0.1	REACH Restriction	
28 Perchlorate	6ppb	US California State Law	
29 Radioactive substances	Prohibited from intentional use	Reactor Regulation Law	
30 Fluorinated greenhouse gases PFC, SF6, HFC (Kyoto Protocol)	Prohibited from intentional use	Kyoto Protocol	
31 Ozone-depleting substances (All substances described in Montreal Protocol as CFC substances, 1,1,1-Trichloroethane, Carbon tetrachloride substances, Halon, HBFC substances, Methyl bromide, Bromochloromethane, HCFC substances)	Prohibited from intentional use	Montreal Protocol	
32 Benzenamine, N-phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST) *5	Prohibited from intentional use	Canada Certain hazardous Substances Regulation	
33 Yellow phosphorous	Prohibited from intentional use	Industrial Safety and Health Law	
34 Polycyclic aromatic hydrocarbons (PAHs) *3	0.5	REACH Restricted Substances	
35 Phthalate ester (DINP, DIDP, DNOP) *3 *7	1000	800	REACH Restricted Substances
36 Dibutyl phthalate (DBP), Di(2-ethylhexyl)phthalate (DEHP), Benzylbutylphthalate (BBP), Diisobutyl phthalate (DIBP) *7	1000	800	RoHS Directive (REACH Restricted Substances)
37 REACH Authorization Substances ANNEX XIV (refer to attached sheet REACH SVHC list)	1000	REACH Authorization Substances	

△ : PVC is excluded for purchased materials that are specified by NISSEI Group

In case of exclusion, must be specified clearly in the purchasing specifications when transaction with suppliers

*1 is show the threshold of plastics, gums, paints/ink, glasses;

solders is 20ppm, otherwise are 75ppm

*2 is show the threshold of plastics, gums, paints/ink, glasses;

solders is 20ppm, otherwise are 60ppm

*3 In Annex XVII of REACH Restricted Substances, the following substances are prohibited to use

Diocetyl compounds:

- ① Textile articles intended to come into contact with skin, gloves, footwear
- ② Wall papers, floor materials
- ③ Children's products and diapers
- ④ Two-component room temperature vulcanization molding kits

Nickel and its compounds:

Products that come into direct and prolonged contact with skin

PAHs:

Rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with skin or the oral cavity

Phthalate ester (DINP, DIDP, DNOP):

Products that are used for children or children's toys that come into direct and contact with children's mouth

Azo dyes and pigments:

Textile, leather goods which may contact with skin and oral cavity for a long time

*4 It is restricted for wood and textile products

*5 Rubber excluding tyre to be out of scope

*6 In the REACH Restricted Substances Annex X VII, the following restrictions are estimated:

“Restrict business in the market & restrict usage in producing molding goods or mixtures goods which contain more than 25 ppb PFOA or contain more than 1000 ppb of substances relating to PFOA”

In case of fluorine group materials, confirming with the manufacturer that there is no risk about the manufacturing method.

*7 About Phthalate ester, please consider the risk about contact and mixture too much of impurities caused by processes such as preservation, packing, transport, parallel production,...

Table 4-1-1② Allowable concentration and judgment standard

Substances name	Allowable concentration and judgment standard. Value under the below standard	Controlled value Value under the below standard
Lead and its compounds	Plastic•Gum 100 ppm	Plastic. Gum 80 ppm
	Lead-free solder, electroplating and material 500ppm	Lead-free solder, electroplating and material 450ppm
	Other metals 1000 ppm	Other metals 750 ppm
	(Exemption)	
	Copper 0.35 wt%	
	Aluminum alloy 0.4 wt%	
	Copper alloy 4.0 wt%	
	Exempted application for lead in high melting temperature type solder (alloys containing 85% by weight or more), or lead in white glasses used for optic, or electrical and electronic components containing lead in a glass or ceramic.	

Table 4-1-2 Environmental management substances - List of controlled substances

Classification	Controlled Substances
Metal and metal compounds	38 Antimony and its compounds
	39 Bismuth and its compounds
	40 Barium and its compounds
	41 Chromium and its compounds
	42 Cobalt and its compounds
Precious metals	43 Copper and its compound
	44 Silver and its compounds
Halogenated organic compounds	45 Chlorine and its compounds
	46 Bromine and its compounds
	47 Fluorine and its compounds (Fluorine resin is excluded)
	48 Tetrabromobisphenol A
Other	49 Red Phosphorus
	50 REACH SVHC (refer to attached sheet REACH SVHC list)
	51 GADSL substances beside the controlled substances mentioned above *1

*1 Substance list reference: <http://www.gadsl.org/>

Table 4-1-3 **Packaging materials** (Handles, plastic bags, cushions, wraps, foils, trays, reels, ties...)

Substances: Heavy metals (Mercury, Cadmium, Hexavalent chromium and lead)	
Target	Effective date of the ban on the delivery
<p>Allowable concentration:</p> <p>"Less than 100 ppm" is determined as the allowable total-concentration of four heavy metals (cadmium, lead, mercury, and hexavalent chromium) contained in each part, ink, or paint that constitutes a package. However, allowable concentration of lead, cadmium in plastics (including rubber), paint, ink part must also satisfied Regulations for "Cadmium and cadmium compounds" and "Lead and lead compounds"</p> <p>(Typical plastic parts: handles, plastic bags, cushions, wraps, foils, trays, reels, tape, magazine sticks (including stoppers), ...</p>	
<p>(1)For hexavalent chromium, first analyze total chromium content and verify that the total concentration of cadmium, lead, mercury and total chromium is less than 100 ppm. When analyzing, the same sample preparation methods as those used for cadmium and lead are applicable.</p> <p>(2)In case of total concentration of 4 elements is more than 100 ppm, verify that total concentration of cadmium, lead and mercury (less than 3 elements) is less than 100 ppm. It will irrelevant if total concentration of 3 elements is more than 100 ppm.</p> <p>(3)In case of total concentration of 3 elements is less than 100ppm, analyze and confirm the present of hexavalent chromium in chromium, it is compatible if no detected hexavalent chromium.</p> <p>Measurement Standard: method of analysis follow the methods specified in item 4.2</p>	

Table 4-1-4 Azodyes that form any of the amine compounds listed

CAS No	Amin
60-09-3	4-Aminoazobenzene
90-04-0	o-Anisidine
91-59-8	2-Naphthylamine
91-94-1	3,3'-Dichlorobenzidine
92-67-1	4-Aminodiphenyl
92-87-5	Benzidine
95-53-4	o-Toluidine
95-69-2	4-Chloro-2-Methylaniline
95-80-7	2,4-Toluylenediamine
97-56-3	o-Aminoazotoluene
99-55-8	5-Nitro-o-Toluidine
101-14-4	3,3'-Dichloro-4,4'-Diamino Diphenyl Methane

101-77-9	4,4'-Methylenedianiline
101-80-4	4,4'-Diamino diphenyl ether
106-47-8	p-Chloroaniline
119-90-4	3,3'-Dimethoxybenzidine
119-93-7	3,3'-Dimethylbenzidine
120-71-8	2-methoxy-5-methylaniline
137-17-7	2,4,5-Trimethylaniline
139-65-1	4,4'-Diaminodiphenylsulfide
615-05-4	2,4-Diaminoanisole
838-88-0	4,4'-Diamino-3,3'-Diphenylmethane

4.2 Analysis method of RoHS prohibited substance

About analysis standards, it must be conforms to IEC 62321.

Also, the analytical institution shall be an accredited laboratory responding to the IEC 17025.

5. Survey of chemical substances for purchased material

5.1. Surveyed target substances

Surveyed target substances are prohibited substances and controlled substances that are established by NISSEI Group.

Table 4-1-1 Environmental management substances – List of prohibited substances

Table 4-1-2 Environmental management substances - List of controlled substances

In addition, we may request survey than the above in order to meet our customer requirements.

5.2. Surveyed target product name

Surveyed target product name is product that purchased officially.

In case changed product name or discontinued, please changed the product name that is delivered to NISSEI Group.

5.3. Surveyed form

Please used format 「Non-use certificate and chemical substances survey sheet」. Refer the description in Example sheet for fill out method, information was confirmed through supply chain, intentionally added, other information...

5.4. Contained prohibited substances case

Fill in the column “Entry field for guarantee conditional item” in format 「Non-use certificate and chemical substances survey sheet」 for products containing prohibited substances that were established by NISSEI Group.

If substances possible to eliminate, please added **Date of elimination plan**.

Please fill in 「**During technology adjustment**」for products that are adjusting with Technology Department of NISSEI Group.

For substances that are essential for manufacturing the product and impossible to eliminate, please fill in 「**No plan**」and indicate the reason.

5.5. Type of chemical substances survey

5.5.1. Chemicals investigation for new purchased materials (including sub-materials)

【Necessary document】

- ① Non-use certificate and chemical substances survey sheet

Standard form: NEH-4.4.6-本KK-002 latest version. However, using of similar documents like AIS (MSDS plus) or JAMA or equivalent format...including our surveyed substances is acceptable

- ② High precision analysis data (Necessary only for our specified materials)
- ③ MSDS (Necessary for corresponding materials)

5.5.2. Routine chemical substances investigation (once a year)

【 Necessary document 】 ①Assignment form when having request such as Request for periodical environmental investigation etc

5.5.3. Irregular chemical substances investigation

【Necessary document】•If 4M change that affect the chemical substances, below documents are necessary:

- ① Non-use certificate and chemical substances survey sheet
- ② High precision analysis data (Necessary only for our specified materials)
- ③ MSDS (Necessary for corresponding materials)

5.6. Department in charge of environment investigation

Purchasing Department is responsible for conventional materials

Purchasing Department or Technology Department is responsible for new materials

5.7. Practical use of survey result

Various survey documents were obtained from supplier will be used as objective evidence for our chemical substances management.

Also, it will be used for supplied information to creat chemical substances survey of customer.

6. Requests for management of chemical substances contained in products of suppliers

6.1 Building construction of management system for chemical substances contained in products

In order to accept products that comply with Nissei Electric Green Procurement Standards, we ask suppliers to build, maintain and improve the Chemical Substance Management System (CMS) which help to understand, manage and practical use chemical substances contained in products.

Please refer to "Guidelines for the Management of Chemical Substances in Products (3rd Edition)" on <http://www.jamp-info.com/dl> published by Joint Article Management Promotion Council (JAMP) for implementation item of managing chemical substances contained in products.

6.2. In case that supplier is a trading company

Communicate Nissei Group Green Procurement Standard to the manufacturers whose the items to be handled and comply with the responsibilities of the trading company.

7. Contact information

Please contact to person in charge of each site as below:

Site	Contact information
NISSEI ELECTRIC CO., LTD (NEJ)	Tel:0538-66-5161
NISSEI ELECTRIC VIETNAM CO., LTD (NEV)	Tel:84-8-8960239/8974753
NISSEI ELECTRIC MY THO CO., LTD (NEM)	Tel:84-733-642-453
NISSEI ELECTRIC (THAILAND) CO., LTD (NET)	Tel:66-044-335-539
NISSEI ELECTRIC (ZHONGSHAN) CO., LTD (NEZS)	Tel:86-760-86653481-160
NISSEI ELECTRIC (KUNSHAN) CO., LTD (NEKS)	Tel:86-512-57714962
NISSEI ELECTRIC HANOI CO., LTD (NEH)	Tel:84-4-9550045

Revision history

<u>Revision number</u>	<u>Revision content summary</u>	<u>Issued date</u>	<u>Issue</u>	<u>Approval</u>
0	New regulation			
1	Change according to revision of environmental impact substances control regulation and environmental impact substances instruction	2006/6/29	Oda	Ito
2	Change according to revision of environmental impact substances control regulation and environmental impact substances instruction Revision parts are marked with red or blue.	2007/5/10	Oda	Ito
3	In case of no changing of component sheet (MSDS) and ICP data, required evidence documentation submission will receive extension of 1- year validity period.	2007/11/23	Oda	Ito
4	③. Clarification of no permission for intentional contain of substances marked with ○ when explaining about use-prohibited list ③ of item 3. Definition of terms. Changing one part of environmental impact non-use certificate.	2007/12/04	Oda	Ito
5	Changing definition of prohibited substances in item of 3. Term definition Initially adding and integrity of item 4.1 Use-prohibited substances Changing to match with changing of item of 4.1 and 4.2	2008/01/21	Oda	Ito
6	Changing definition of prohibited substances in item of 3. Term definition Initially adding and integrity of item 4.1 Use-prohibited substances Changing to match with changing of item of 4.1 and 4.2 Other: Correction of literal (6.1) Changing level basing on purchasing prohibition period	2008/3/03	Oda	Ito
7	Changing definition of prohibited substances in item of 3. Term definition Changing investigation substances and submission documentation. Changing required analysis data and responsible person	2009/03/18	Akai	Suzuki
8	Changing investigation substances	2009/11/24	Akai	Suzuki

9	Changing Nissei Group's prohibited substances. Changing investigation substances according to the second announcement on SVHC substances of REACH regulation.	2010/04/13	Akai	Suzuki
10	Changing Nissei Group's prohibited substances. Changing investigation substances according to the fourth announcement on SVHC substances of REACH regulation.	2011/04/06	Akai	Suzuki
11	Adding Nissei Group's prohibited substances. Changing investigation substances according to the 6 announcement on SVHC substances of REACH regulation.	2012/01/19	Akai	Suzuki
12	Adding investigation substances according to The 7 th announcement on SVHC substances of REACH regulation.	2012/06/22	Akai	Suzuki
13	Adding item 4 - Analysis method of RoHS Directive substance, Remove banned period of delivery and main substances to be displayed on item 7- Environmental impact substances of ver. 12 to prohibited substance table-only analysis method. Adding investigation substances according to The 8 th announcement on SVHC substances of REACH regulation	2012/12/21	Akai	Suzuki
14	Adding phthalate ester, yellow phosphorous, red phosphorous of allowed target substances REACH into use-prohibited substances, sorting and revising investigation target substances Adding 144 SVHC substances of REACH regulation into investigation object	2013/08/05	Akai	Suzuki
15	Moving red phosphorus from use-prohibited substances to investigation target substances Adding 3 substances of Tris phosphate to use-prohibited substances Adding up to 151 substances to SVHC of REACH regulation in investigation target substances	2013/12/18	Akai	Suzuki
16	To review threshold of 6 substances of RoHS	2014/09/04	Akai	Suzuki
17	To added prohibited substances and surveyed substances To added up to 161 substances SVHC of REACH regulation in Surveyed substances	2014/12/25	Akai	Suzuki

18	Table 2.2 To added scope applicable to materials/parts/products. To added content to item 4.Environmental management substances, to reviewed threshold of prohibited substances, to added laws and regulations, to reviewed controlled substances.	2015/09/29	Akai	Suzuki
19	To added limited use of prohibited substances and controlled substances To added controlled substances because of changed of laws and regulations	2016/02/20	Otani	Suzuki
20	Review threshold of prohibited substances and add GADSL to the controlled substances of the exemptions added Regarding RoHS analysis, add CMS request to changed applicable standard notation in the 6. Term	2017/03/07	Otani	Narihara
21	Review the allowable content of Cadmium(Cd) in the solders. Others.	2018/02/28	Otani	Narihara