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(JPI/JSA)

**Packaging — Environmental  
terminology**

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## Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from Japan Packaging Institute (JPI)/Japanese Standards Association (JSA), with a draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

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# Packaging—Environmental terminology

## Introduction

This Japanese Industrial standard was established in 2008.

In addition, no corresponding International Standard has been established at present.

## 1 Scope

This Standard specifies main terms relating to environmentally conscious packaging.

NOTE : Annex A shows relationships between main general terms of environmentally conscious packaging for information.

## 2 Classification

The classification of terms shall be as follows.

- a) General terms of environmentally conscious packaging
- b) Packaging materials
  - 1) Concerning to paper and cardboard
  - 2) Concerning to plastics
  - 3) Glasses, metals, etc.

## 3 Terms and definitions

The terms and definitions shall be as follows.

In addition, their corresponding English terms are shown for information.

NOTE : If two or more terms are put down in one column of the term, the preceding term shall be preferentially used in the disclosed order. In addition, a term in parentheses shall not be used as far as possible.

a) General terms of environmentally conscious packaging

| No.  | Term<br>(Japanese character) | Reading                          | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | English equivalent<br>(Informative) |
|------|------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1001 | 包装                           | HÓSÔ                             | a technique for providing the suitable materials, containers, etc. for protection of the value or the state where those are provided at the time of transport, storage, transaction, using, etc., or a state where these have been provided<br>This is grossly classified into three types of individual packaging, inner packaging and outer packaging (see <b>JIS Z 0108</b> ).<br>In addition, packaging includes containers and packaging (see 1100).                                                                                                                                                                                        | packaging                           |
| 1002 | 環境配慮設計,<br>(DfE)             | KANKYÔ HAIRYO<br>SEKKEI<br>(DfE) | development and designing of environmentally conscious products to reduce burdens on whole life style of products on environment (see <b>JIS Q 0064</b> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | design for the environment          |
| 1003 | 環境配慮包装                       | KANKYÔ HAIRYO<br>HÓSÔ            | packaging designed for the purpose of reducing the environmental load (see <b>JIS Z 0108</b> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | environmentally conscious packaging |
| 1004 | 適正包装                         | TEKISEI HÓSÔ                     | a rational and fair packaging taking saving resources, saving energy and waste disposability into account<br>In transport packaging, an appropriate packaging to the actual state of distribution so as not to bring lowering of article value and state by vibration, impact, compression, water, temperature, humidity, etc. in distribution process.<br>In the consumer packaging, a packaging appropriate also to protective property, safety, marking, volume, unit, packaging charge, etc. in order to correct over quality packaging, false packaging, etc. and at the same time to exclude defective packaging (see <b>JIS Z 0108</b> ). | appropriate packaging               |
| 1005 | 過剰包装,<br>過大包装                | KAZYÔ HÓSÔ,<br>KADAI HÓSÔ        | packaging given, such as a protective functions of the contents and volume ratio in packaging to the contents excessively beyond a range of appropriate packaging (see <b>JIS Z 0108</b> )                                                                                                                                                                                                                                                                                                                                                                                                                                                       | over quality packaging              |
| 1006 | 包装廃棄物                        | HÓSÔ HAIBIBUTU                   | disposed packaging materials and containers after use (see <b>JIS Z 0108</b> )<br>In addition, the packaging waste includes containers and packaging waste (see 1103).                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | packaging waste                     |

| No.  | Term<br>(Japanese character) | Reading                     | Definition                                                                                                                                                                                                                                                                                                                                                                                  | English equivalent<br>(Informative)    |
|------|------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| 1007 | 環境影響                         | KANKYŌ EIKYŌ                | all impacts on environment wholly or partially caused by environmental aspect of a system regardless of harm or benefit (see <b>JIS Q 14001</b> )                                                                                                                                                                                                                                           | environmental impact                   |
| 1008 | 環境負荷                         | KANKYŌ HUKA                 | burdens on environment caused by human being<br>No harmful influence by a sole burden, however, harmful influence caused by cumulation shall be included.<br>NOTE : The Basic Environmental Law (Law No. 91, 1993) defines the environmental load as “any adverse effects on the environment generated by human activities which may cause interference with environmental conservation”.   | environmental burden                   |
| 1009 | 環境側面                         | KANKYŌ SOKUMEN              | demands of actions of systems, products or services which may interact with environment (see <b>JIS Q 14001</b> )                                                                                                                                                                                                                                                                           | environmental aspect                   |
| 1010 | 環境アセスメント                     | KANKYŌ ASESUMENTO           | prior assessment of environmental impact by business activities in whole areas                                                                                                                                                                                                                                                                                                              | environmental impact assessment        |
| 1011 | 製品アセスメント                     | SEIHIN ASESUMENTO           | prior assessment to provide environmentally conscious products such as resource saving, energy saving and recycle carried out in the steps of development and designing                                                                                                                                                                                                                     | product assessment                     |
| 1012 | 製法アセスメント                     | SEIHŌ ASESUMENTO            | method for assessment of changes on environment by the modifications of production process such as used energy, resources, auxiliary resources and wastes                                                                                                                                                                                                                                   | process assessment                     |
| 1013 | 環境マネジメントシステム                 | KANKYŌ MANEZIMENTO SISUTEMU | a part of organization management system used for planning and enforcement of environmental policy to control environmental aspect (see <b>JIS Q 14001</b> )                                                                                                                                                                                                                                | environmental management system, (EMS) |
| 1014 | 環境報告書                        | KANKYŌ HŌKOKUSYO            | public announcements by business owners summarizing introduction of top management member, policy, aims, action plans, conditions for environmental maintenance (environmental management system, environmental account, compliance to laws, environmental compatible designs and others) and activities to reduce environmental burdens                                                    | environment report                     |
| 1015 | 環境監査                         | KANKYŌ KANSA                | a systematic independent verification process in written form which collects and objectively assesses the audit evidences (relating to audit criteria, verifiable documents, disclosure of facts or other information) to judge the degree of compliance to the audit criteria (a series of policy, procedures or requirements) relating to a special environment (see <b>JIS Q 19011</b> ) | environmental audit                    |

| No.  | Term<br>(Japanese character) | Reading                | Definition                                                                                                                                                                                                                                                                                                                                                                                                              | English equivalent<br>(Informative) |
|------|------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1016 | 環境会計                         | KANKYŌ<br>KAIKEI       | means to quantitatively evaluate activities of business organization for environmental maintenance<br>Investment account, maintenance cost and their effects of manufacturing divisions and environmental division for environmental maintenance expressed as amounts of materials and money.<br>NOTE : They can be practically used as a management index as well as public document out of the business organization. | environmental<br>account            |
| 1017 | 環境保全コスト                      | KANKYŌ HOZEN<br>KOSUTO | costs aiming to suppress burdens on the environment due to business activities such as business organization and related costs<br>Amount of investment costs for environmental preservation and its maintenance.                                                                                                                                                                                                        | environmental<br>preservation cost  |
| 1018 | 環境リスク                        | KANKYŌ<br>RISUKU       | risks affecting ecological system or human health due to human activities accompanying environmental pollution, or monetary risk for the demand of compensation of damages due to environmental pollution                                                                                                                                                                                                               | environmental risk                  |
| 1019 | 3R                           | SURĪ ÂRU               | the acts to reduce, reuse and recycle of the wastes<br>A coined word of the initial letters of Reduce, Reuse and Recycle, “3R” covers over all of them (see <b>JIS Z 0108</b> ).                                                                                                                                                                                                                                        | the three Rs                        |
| 1020 | リデュース                        | RIDŪSU                 | actions to heighten the efficiency in the use of resources relating to the manufacture, distribution and use of products and to reduce the use of resources as far as possible in inevitable forms to be wasted in the course of the activities such as saving resources and lengthening span of life (see <b>JIS Z 0108</b> )                                                                                          | reduce                              |
| 1021 | リユース                         | RIYŪSU                 | actions to make efforts for withdrawing the products once used and giving appropriate treatments as required to reuse as the products, or make efforts for using the parts reusable (see <b>JIS Z 0108</b> )                                                                                                                                                                                                            | reuse                               |
| 1022 | リサイクル                        | RISAIKURU              | actions to make efforts for recovering the products once used and the by-products resulted from the manufacture of the products and for using them as raw materials (material recycle) or using as the energy of incineration heat (thermal recycle) (see <b>JIS Z 0108</b> )                                                                                                                                           | recycle, recycling                  |

| No.  | Term<br>(Japanese character) | Reading                | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | English equivalent<br>(Informative) |
|------|------------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1023 | 適正処理                         | TEKISEI SYORI          | actions for appropriate treatment of wastes in accordance with the law<br>NOTE : Actions to collect, transport, hygienically dispose and reclaim wastes for general wastes in accordance with “Waste Management and Public Cleansing Law” so as not to cause trouble in maintenance of living environment. Actions to properly treat them in accordance with the standard of industrial waste disposal method and disposal facilities, etc., defined in “Waste Management and Public Cleansing Law” for industrial wastes.                                                                                                                   | appropriate treatment               |
| 1024 | 減容                           | GENYÔ                  | conditions reducing volumes after treatment in comparison to those of before the treatment<br>NOTE : For example, methods for volume decrease of waste plastics are roughly classified in a mechanical compression method and a heating, fusing and solidifying method.<br>The compression method reduces volume to about 1/10 without great volume reducing effect, however, some contamination with foreign materials can be performed without trouble.<br>The fusion and solidification method shall avoid contamination with metals, etc. as far as possible. However, the effect of the volume decrease will be great and 1/15 or over. | volume decrease                     |
| 1025 | マテリアルリサイクル                   | MATERIARU<br>RISAIKURU | material recycling means to reuse wastes as raw materials and materials<br>The procedure may be called “resource recovery” or “reutilization”.<br>NOTE : Practically, this means recovery of used products and wastes generated in manufacturing process, treatment to give easily usable materials and use of the materials as raw materials of new products.                                                                                                                                                                                                                                                                               | material recycling                  |

| No.  | Term<br>(Japanese character) | Reading                                       | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | English equivalent<br>(Informative)         |
|------|------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| 1026 | ケミカル<br>リサイクル,<br>化学リサイクル    | KEMIKARU<br>RISAIKURU,<br>KAGAKU<br>RISAIKURU | means to recycle used resources after composition conversion by chemical reactions without leaving as it is<br>NOTE : The recycle mainly means conversion into oil, gasification and conversion into chemical fuel for coke oven.                                                                                                                                                                                                                                                                                         | chemical recycling                          |
| 1027 | 油化                           | YUKA                                          | a method of chemical recycling for producing oils by thermal decomposition of waste plastics<br>NOTE : Waste plastics are processed with a dechlorination apparatus to remove chlorine components, thermal decomposed of the residual hydrocarbon components and fractionated to obtain oils. The formed oils are composed of light oils, medium gravity oils and heavy oil. The chlorine components shall be recovered as hydrochloric acid.                                                                             | liquefaction                                |
| 1028 | 原料・モノマー化技術                   | GENRYÔ<br>MONOMÂKA<br>GIZYUTU                 | a monomerization method of chemical recycling for reproducing resins by returning waste plastics to materials or monomers<br>NOTE : At present, the method is adopted for recycle of recovered PET bottles and includes two methods of returning to the raw materials by depolymerization (DMT: dimethyl terephthalic acid, or further PTA: terephthalic acid) and returning to a monomer (BHET: bis-2-hydroxyethyl terephthalate) to produce resin.                                                                      | monomerization                              |
| 1029 | 高炉原料化                        | KÔRO GENRYÔKA                                 | a method of chemical recycling of plastics by shredding to obtain fluff, blowing in a blast furnace as an alternative of cokes and using as reducing agent<br>NOTE : Iron ores, cokes (carbon components) and auxiliary materials are blown in a blast furnace and the iron ores are melted to produce pig iron. Cokes are blown in the bottom of blast furnace as the reducing agent. Plastic fluff is used as an alternative of cokes and amount of carbon dioxide exhausted in the iron-making process can be reduced. | deoxidizing materials for the blast furnace |

| No.  | Term<br>(Japanese character) | Reading                          | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | English equivalent<br>(Informative)    |
|------|------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| 1030 | ガス化                          | GASU KA                          | a chemical recycling process introducing plastics in gasification process, supplying limited amounts of oxygen and steam required for the gasification, heating them to convert most of plastics into hydrocarbon, carbon monoxide and hydrogen<br>NOTE : The process uses hydrogen, methanol, ammonia and acetic acid, etc. as raw materials for chemical industries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | gasification                           |
| 1031 | ガス化炉                         | GASU KA RO                       | a furnace for thermal decomposition and gasification of wastes under reducing atmosphere<br>NOTE : The gasification fusion furnace has a variety of systems, and their essential functions consist of following processes.<br>1) Dry distillation and thermal decomposition of wastes thrown in at several hundreds °C under reducing atmosphere (almost no oxygen condition).<br>2) Combustion of the obtained carbide and modification of gas by the generated heat under elevated temperatures of 1 200 °C or over together with fusion of char and thrown it in water to separate inorganic components into metals and glass.<br>3) The gas is used for recoveries of metals and heat, and detoxifying of exhausted gas. The recovered gas can be used for raw materials of chemicals and utilization of heat, etc. In addition, incinerated residue is reduced to about 1/200 in comparison to conventional methods and glass component may be utilized as a road bed agent, etc. | gasification furnace                   |
| 1032 | コークス炉<br>化学原料化               | KÓKUSU RO<br>KAGAKU GENRYÓ<br>KA | a method composed of mixing with coal, throwing in the coke oven in a steel plant, using hydrocarbon oils and gas components obtained by the reaction for chemical raw materials or fuel and the residue for coke<br>NOTE : Waste plastics are mainly composed of carbon and hydrogen, and can be used as well as coal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | coke oven chemical feedstock recycling |

| No.  | Term<br>(Japanese character) | Reading                  | Definition                                                                                                                                                                                                                                                                                                                                                                             | English equivalent<br>(Informative) |
|------|------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1033 | メカニカル<br>リサイクル               | MEKANIKARU<br>RISAIKURU  | process of waste materials in a manufacturing process for the same or other purposes (definition in EU)<br>NOTE : The term corresponds to a material recycle used in Japan.                                                                                                                                                                                                            | mechanical recycling                |
| 1034 | ホリゾンタル<br>リサイクル              | HORIZONTARU<br>RISAIKURU | action for recycling of used products for materials of the same kind of products or the same grade of products as those of the original products                                                                                                                                                                                                                                       | horizontal recycling                |
| 1035 | カスケード<br>リサイクル               | KASUKÊDO<br>RISAIKURU    | a recycling without recovering the former grade products and with accompanying deterioration in grade<br>NOTE : At the time of recycling, generally, as the grade declines, effective stepwise recycling shall be performed without forcing to produce the same grade products and with producing products allowable with lower grade raw materials according to the declined quality. | cascade recycling                   |
| 1036 | 有機的<br>リサイクル                 | YÛKITEKI<br>RISAIKURU    | utilization of microorganisms under control to produce stable organic residues or methane with an aerobic process (fertilization) or an anaerobic process (biological methane production) of biodegradable parts of packaging wastes                                                                                                                                                   | organic recycling                   |
| 1037 | エネルギー回収                      | ENERUGĪ KAISYÛ           | action to combust wastes and use generated energy for heat or electric power<br>NOTE : The generated energy is mainly used to obtain warm water, steam and electric power. The system may be called a thermal recycle.<br>Electric power generation using heat generated by combustion of wastes (trash) is called power generation with wastes.                                       | energy recovery                     |
| 1038 | 回収エネルギー                      | KAISYÛ ENERUGĪ           | energy recovered from the material or energy collected through a managed process instead of being scrapped (see <b>JIS Q 14021</b> )<br>NOTE : One of the 12 terms defined in type II environmental label.                                                                                                                                                                             | recovered energy                    |